STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

City of Nashua: Petition for Valuation Pursuant to RSA 38:9

DW 04-048

EXHIBITS TO NASHUA'S OBJECTION TO PENNICHUCK WATER WORKS, INC.'S MOTION FOR SUMMARY JUDGMENT

1.0 Affidavit of Brian S. McCarthy

1.1 July 29, 2005 City of Nashua's Responses to Staff's Public Interest Data Requests

1.2 August 5, 2005 letter to Tom Donovan, Esq. forwarding Nashua's Technical Proposals

1.3 August 10, 2005 Letter to Mark Naylor forwarding Nashua's Technical Proposals

1. 4 September 16, 2005 letter to Steven Camerino, Esq. forwarding Revised Veolia Water and R. W. Beck Proposals

1.5 Veolia Water, N.A., Technical and Price Proposals
[3 volumes, bound separately]

1.6 R. W. Beck, Oversight Technical and Price Proposals
[1 volume, bound separately]

1.7 September 7, 2005 Nashua Pennichuck Water Special Committee Report

1.8 August 19, 2005 Nashua Telegraph Article

STATE OF NEW HAMPSHIRE
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AFFIDAVIT OF BRIAN S. MCCARTHY

NOW COMES, Brian S. McCarthy and states as follows:

I. INTRODUCTION

1. I am the President of the Board of Alderman for the City of Nashua, and also serve as Nashua's representative to the Merrimack Valley Regional Water District ("MVRWD").

2. Pennichuck Water Works, Inc. (Pennichuck), has filed a *Motion for Summary Judgment* alleging that Nashua does not have the technical or managerial capability to operate the water system that is the subject of this proceeding. I strongly disagree with this allegation. I have therefore prepared this affidavit to: (a) document the information concerning Nashua's technical and managerial qualifications that has already been made available to all parties in this proceeding; (b) explain the steps Nashua has taken to ensure that Nashua has the best technical and managerial qualifications for the operation of its water system in New Hampshire and the region; and (c) further explain how Nashua's operation of its water system will ultimately benefit consumers and the public interest.

II. NASHUA HAS MADE ITS TECHNICAL AND MANAGERIAL QUALIFICATIONS AVAILABLE TO ALL PARTIES SINCE ITS JULY 29, 2005 DATA RESPONSES

3. Nashua's intention to rely on the technical and managerial qualifications of its qualified contract operator was set forth in my direct testimony filed on November 19, 2004 in this proceeding. Nashua believes that using contract operators to operate, maintain and manage the assets acquired in this proceeding will allow Nashua to use competitive forces to obtain the highest quality of service at the best price for consumers.

4. As I stated in my direct testimony, Nashua had already received 11 statements of interest and qualifications from potential operators at that time and "intends to have contracts in place when ownership transfers." See pages 10-11. As set forth in this affidavit, Nashua has not been idle since its direct testimony was submitted. Nashua has already selected, subject to successful contract negotiations, its contractors for both the operation and oversight of its water system. It is my expectation that these negotiations will be complete prior to January 12, 2006, at which time Nashua will offer direct testimony from its operations and oversight contractors as part of its valuation and public interest testimony.

5. Nashua has kept the Commission's staff, Pennichuck and all parties fully aware of its steps to select a contract operator. On July 29, 2005, in response to Staff Data Request No. 2-14, Nashua made available to all parties in this proceeding the Technical Proposals submitted on July 14,

2005 by Veolia Water, N.A. ("Veolia Water") and Earth Tech, for the operation of its water system. See Exhibit 1.1.

6. On August 5, 2005, copies of the Technical Proposals for operation and maintenance were forwarded to Pennichuck's legal counsel, Tom Donovan, Esq., as shown in Exhibit 1.2. In addition, on August 10, 2005, the Technical Proposals were hand-delivered to Mark Naylor of the Commission's staff, as shown in Exhibit 1.3.

7. The Technical Proposals referenced in Exhibits 1.1, 1.2 & 1.3 included detailed descriptions of each company's proposal for the operation of Nashua's water system as well as extensive documentation of their technical and managerial qualifications.

8. As shown in Exhibit 1.4, on September 16, 2005, Nashua provided updated copies to Pennichuck, Staff and the Office of Consumer Advocate of the revised Technical Proposals for Veolia Water (Exhibit 1.5) and R.W. Beck (Exhibit 1.6) that were recommended by Nashua's Special Water Committee following its review of the Proposals on September 6th and 7th. These revised Technical Proposals reflected changes made to the July 14, 2005 documents previously made available on July 29, 2005. In addition to the revised Technical Proposals provided with Exhibit 1.4, Nashua also included Veolia Water's and R.W. Beck's formal Price Proposals included in Exhibits 1.5 and 1.6 respectively.

9. As a result, I fundamentally disagree with Pennichuck's argument on page four of its *Motion for Summary Judgment* that "Nashua's direct case on

file with the Commission is completely devoid of any information regarding the entity, experience, capabilities, cost, integrity, local presence or other qualifications of the unknown third parties". To the contrary, Nashua has provided extensive information concerning the technical and managerial qualifications of its proposed contract operators, and has made that information available to all of the parties in this proceeding.

III. REQUEST FOR STATEMENTS OF QUALIFICATION AND INTEREST

10. From the outset, the Nashua Board of Alderman committed to operate the assets acquired in this proceeding through contracts negotiated using competitive forces to obtain the highest quality of service at the best price. In order to ensure that Nashua provide the highest level of service from its contract operator, Nashua elected to seek proposals from qualified firms to (a) operate and maintain the water system acquired in this proceeding; and (b) to provide management oversight and engineering services for the supervision of the operations and maintenance contractor selected by the Nashua Board of Aldermen. This decision was in lieu of establishing a group of City employees to perform the same function.

11. Nashua officially began the process for soliciting bids to operate on May 24, 2004 with the issuance of *Request For Qualifications For Operation And Maintenance Of A Water System In South Central New Hampshire.* This has been referred to as Nashua's RFQ, and is identified as RFQ1305-062404 on Nashua's web site and in the files of the Purchasing Department.

12. The RFQ and other documents referenced, but not attached, to this affidavit, are currently available on the City's web site, under Bid Opportunities at www.ci.nashua.nh.us/purchasing/currentbids.asp.

13. The RFQ provided background information on Nashua's Petition before the New Hampshire Public Utilities Commission, and sought "expressions of interest and qualifications for the operation and maintenance" of the assets to be acquired. The RFQ indicated Nashua's intention to develop "a formal request for proposals for operation and maintenance to be issued within the next six to nine months".

14. In tandem with the RFQ, Nashua's consultant, the firm of George E. Sansoucy, PE, LLC, independently contacted potential respondents to the RFQ in the water industry to provide further information and encourage a broad range of potential bidders to submit responses to the RFQ.

15. On July 29, 2004, Nashua received 11 responses to the RFQ.

16. The 11 respondents included Pennichuck Water Service Co. While Pennichuck ultimately decided not to submit a proposal in response to Nashua's formal requests for proposals, Nashua allowed and indeed encouraged Pennichuck to participate in the competitive process. On one hand, Pennichuck's failure to submit a bid may be due to strategic considerations. On the other, it seems likely that Pennichuck was unwilling to compete against larger, more qualified firms that would likely propose to operate its system at a lower cost. Regardless of the reasons, Nashua fully allowed Pennichuck to participate in the process.

17. The 11 responses to the RFQ were reviewed by Nashua's Special Water Committee, and Nashua's consultant George E. Sansoucy, P.E., LLC. Nashua sought input from the respondents and other interested parties such the MVRWD concerning Nashua's proposal. During this period, Nashua's consultant George E. Sansoucy, P.E., LLC, prepared a draft water ordinance which provided additional guidelines on Nashua's proposal for operation of the system.

18. Nashua did not immediately issue a formal RFP for the operation of its water system for several reasons. Nashua believed that the proceedings before the Commission would help refine the nature and scope of the formal RFPs. In particular, on April 6, 2004 Pennichuck filed a motion to dismiss Nashua's Petition with respect to property owned by Pennichuck East and Pittsfield Aqueduct. In addition, on February 4, 2004, Pennichuck brought the first of several legal actions seeking damages and/or to enjoin consideration of Nashua's Petition.

19. However, on September 1, 2004, Pennichuck's case seeking to enjoin these proceedings was dismissed by the Hillsborough County Superior Court. On September 14, 2004, the United States District Court for the District of New Hampshire dismissed or remanded Pennichuck's claims for damages to the Superior Court, which were ultimately dismissed on December 1, 2004. Finally, on January 21, 2005, the Commission issued Order No. 24,425 which dismissed Nashua's Petition with respect to property owned by Pennichuck East and Pittsfield Aqueduct.

IV. OPERATION AND MAINTENANCE PROPOSALS

20. On March 25, 2005, Nashua issued a formal *Request For Proposals For Operation And Maintenance Of A Water Utility*. This has been referred to as the O&M RFP, and is identified as RFP1305-061505 on Nashua's web site and in the files of the Purchasing Department.

21. Nashua's O&M RFP provided further information regarding proceedings before the New Hampshire Public Utilities Commission, Nashua's intention to transfer ownership of the system to the MVRWD, and described in detail the information to be submitted with proposals. The O&M RFP also included the Draft Water Ordinance prepared by George E. Sansoucy, PE, LLC subsequent to the RFQ that had been reviewed by the City and the District.

22. The O&M RFP required that responses include proposals to address all aspects of the operation of the water system, including a specific list of plans related to technical and managerial aspects of the operation of the system identified by Nashua, including preparation of a Vulnerability Assessment & Emergency Response Plan, Inventories, a Conservation Plan, a Condition Study, Maintenance Plan, and Conversion Plan for automated meter reading. Nashua further required that the proposals address issues such as backflow prevention, the performance of planned and unplanned maintenance activities, billing and customer relations, engineering, record keeping, security, responsibility for capital improvements, staffing, and other issues.

23. Following the issuance of the O&M RFP, Nashua held a series of informational meetings with prospective respondents to the RFP in order to ensure that proposals were consistent with additional information concerning the system, the regulatory process, best interests of customers of the system and other matters. On April 15, 2005, a pre-bid meeting was held to answer questions regarding the detailed O&M RFP. On April 20, 2005, Nashua provided an Appendix B to its O&M RFP entitled *Answers to Questions about Operation & Maintenance RFP* in response to questions raised by bidders. The Appendix addressed concerns and questions raised by bidders, including the status of proceedings before the Commission, the scope and nature of the assets to be acquired by Nashua, the role of the MVRWD, and other matters.

24. On May 12, 2005 an additional Appendix entitled *Answers to Questions about Operations & Maintenance RFP1305-061505* was prepared and provided to bidders addressing issues including billing procedures, customer service locations, customer payment options, collection, backflow prevention, meter reading capabilities, and other matters.

25. On May 17, 2005, based on requests from bidders, Nashua revised the schedule for submission of proposals in response to the O&M RFP in response to requests from bidders.

26. On July 14, 2005, Nashua received responses to its O&M RFP from two companies, Veolia Water, and Earth Tech. By request, the responses to the O&M RFP were divided into Technical Proposals and Price Proposals.

The Technical Proposals were opened for review by Nashua's Special Water Committee and George E. Sansoucy, PE, LLC, and made available for review by third-parties, including the MVRWD, Pennichuck (Exhibits 1.1 & 1.2), and the Commission's staff (Exhibit 1.1 & 1.3).

27. The Price Proposals were received but not reviewed pending evaluation of the Technical Proposals by George E. Sansoucy, P.E., LLC, and Nashua's Special Water Committee. Based on discussions with Nashua's consultants, revisions to the proposals were submitted on or about August 31, 2005.

28. The Special Water Committee, with participation from members of the Board of Aldermen and the MVRWD held public hearings to review the proposal of Veolia Water on September 6, 2005, and the proposal of Earth Tech on September 7, 2005.

29. At the conclusion of the interviews and with the receipt of the consultant's recommendation, the Special Water Committee voted to recommend that the formal negotiations be undertaken to enter into a contract with Veolia Water based on its proposal. Those negotiations have already commenced. It is my expectation that these negotiations will be complete prior to January 12, 2006, at which time Nashua will offer additional direct testimony concerning its operations and maintenance proposal as part of its valuations and public interest testimony.

30. Veolia Water's proposal is attached to this affidavit as Exhibit 1.5. Veolia Water's proposal demonstrates that it is the largest contract operator of

water and wastewater utility systems in the United States and one of the largest in the world. Nashua's consultants have contacted several of the communities in which Veolia operates who have highly recommended the company's operations and have entered into successive contract renewals based on the success of Veolia Water's operations.

31. Volumes I & III of Veolia Water's Technical Proposal (Exhibit 1.5) presents a comprehensive description of its proposal to operate Nashua's water system including its technical and managerial qualifications. For example, Volume I, Section I includes a detailed description of the company's plan for operation of the system. Other sections describe the company's proposal for project management and staffing (Section III), its transition plan (Section IV) and examples of its experience successfully operating similar systems throughout the United States (Section V). Volume III of the proposal includes several appendixes which provide resumes and experience of its management team (Appendix A) and other information.

32. In addition to the detailed technical and managerial qualifications set forth in Volumes I and III of Veolia Water's proposals, it is my expectation that, upon successful contract negotiations, the company's price proposal, set forth in Volume II will result in significant rate reductions to customers which will further benefit the public interest.

33. For example, on September 7, 2005, Nashua's consultant George E. Sansoucy, P.E., presented a preliminary estimate of cost savings that he

expects Nashua will realize under Veolia Water's proposal, which I have included as Exhibit 1.7 to this affidavit. On page 40 of Exhibit 1.7, Nashua's consultants anticipate that operation of the water system under Veolia Water's proposal will result in annual savings of $2 million relative to Pennichuck. These savings will further benefit the consumer and the public interest.

IV. OVERISGHT PROPOSALS

34. On March 28, 2005, in tandem with the O&M RFP, Nashua issued a *Request For Proposals For Water Utility Oversight Services*. This has been referred to as the Oversight RFP and is identified as RFP1306-061505 on Nashua's web site and in the files of the Purchasing Department.

35. The Oversight RFP included detailed specifications for the submission of proposals to oversee the operation and maintenance contractor to be selected by Nashua. These specifications included detailed reviews of plans prepared by the operations and maintenance contractor, including the contractor's maintenance plan, inventory, staffing, condition plan, billing procedures, hydraulic models, long range planning, and other matters.

36. In addition, the Oversight RFP requires the proposals to perform a number of recurring tasks including representing Nashua during technical or other negotiations with the O&M Contractor, audit planned maintenance activities performed by the O&M Contractor, and review and evaluate the

operation and maintenance of the system including requests for unplanned maintenance, operational data, security plans, reports submitted to regulatory bodies such as the N.H. Department of Environmental Services and U.S. Environmental Protection Agency, capital improvement plans, and nearly all aspects of the operation and maintenance of the system.

37. As with the O&M RFP process, Nashua provided a series of meetings and informational updates in order to ensure that proposal received were consistent with the best interests of customers of the system.

38. On July 14, 2005, Nashua received 5 responses to the Oversight RFP. At the direction of the Special Water Committee, George E. Sansoucy, P.E., LLC, reviewed the written materials submitted and conducted informal discussions with the respondents. Based on these discussions, George E. Sansoucy, PE, LLC selected R.W. Beck and Camp Dresser & McKee (CDM) to make formal presentations to Nashua's Special Water Committee.

39. The Special Water Committee interviewed R.W. Beck on September 6, 2005, and with CDM on September 7, 2005, following the presentations of the O&M contractors.

40. At the conclusion of the interviews and with the receipt of the consultant's recommendation, the Special Water Committee voted to recommend that the formal negotiations be undertaken to enter into a contract with R.W. Beck based on its proposal. Those negotiations have already commenced. It is my expectation that these negotiations will be complete prior to

January 12, 2006, at which time Nashua will offer direct testimony concerning its oversight proposal as part of its valuation and public interest testimony.

41. R.W. Beck's Oversight proposal is attached to this affidavit as Exhibit 1.6. R.W. Beck is an internationally known firm that limits its practice to representing owners of projects with project designers, builders and operators and with studies related to financing such projects. R.W. Beck is particularly known for its independence from the design, build and operation side of projects. R.W. Beck's staff includes individuals with almost 20 years of experience overseeing water utility operations, including a major successful relationship with Veolia Water overseeing the operation of a complex water treatment facility serving Tampa Bay, FL.

42. R.W. Beck's technical and managerial qualifications are set forth throughout its proposal. Section 1 describes the company's experience throughout the United States overseeing the operation municipally owned water systems. Section 2 and Appendix B of its proposal document the qualifications and experience of its staff. Section 3 describes the technical approach the company will use to ensure successful operation of Nashua's water system.

VI. CONCLUSIONS REGARDING NASHUA'S TECHNICAL AND MANAGERIAL QUALIFICATIONS

43. Public-private partnerships for the operation and maintenance of water utilities are an established practice in the United States and New Hampshire. Even Pennichuck recognizes that such partnerships can result in significant savings from the traditional utility model employed by it. As recently as August 19, 2005, Stephen Densberger, Executive Vice President of Pennichuck Corp., the parent of PWW, referred to a similar arrangement that Pennichuck Water Service Corp. has with the Town of Hudson as "the perfect example of a successful public-private partnership" that will mean annual savings of 10 to 40 percent for the Town. See Exhibit 1.8. Nashua's decision to utilize a contact operator, rather than City employees, will allow the City of Nashua to use market forces to obtain the highest level of service from the best qualified operators available at the lowest cost to consumers. The benefits of this approach will result in superior service and significant rate reductions.

FURTHER, the Affiant sayeth not.

Brian S. McCarthy

THE STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH **, SS.**

Subscribed and sworn to before me this 5TH day of OCTOBER, 2005, by Brian S. McCarthy.

David R Connell
Justice of the Peace/~~Notary Public~~
My Commission expires: 8-31-10

Seal:

CITY OF NASHUA
Petition for Valuation Pursuant to RSA 38:9
DW 04-048

City of Nashua's Responses to Staff's Public Interest Data Requests – Set 1 Round 2

Date Request Received: July 8, 2005 | Date of Response: July 29, 2005

Request No. 2-9 | Respondent: Brian S. McCarthy

Request: Please indicate whether any assertions, evidence, or arguments proffered by Nashua relative to its managerial, technical and financial capabilities to operate a water system such as Pennichuck's are transferable to the District. And if so, please specify which assertions, evidence, or arguments apply.

Response: Nashua's approach to the acquisition of the water system's assets is designed to provide for the initial management of the system by Nashua through its contract operators and to seamlessly transfer the operation of the system to the District. In that regard:

1. All of the technical and managerial competence required to operate and maintain the system will be embodied in the Oversight and O&M contracts which will be assignable to the District without the consent of the contractors.
2. The District will be able to set rates and enforce their collection. The District will therefore have the financial capability needed to own and operate the system.
3. The District's Board of Directors will retain the essential policy making capabilities required to direct their contractors (or staff if they elect to directly employ managers, engineers, technicians and/or operating personnel).

The City believes that the transfer of the franchises for the water system from Nashua to the District will require a Commission proceeding to determine whether the transfer is in the public interest, at which time the actual transfer of the contracts for management and operation and maintenance may be addressed.

Nashua is also willing to accept as a condition of approval that its transfer of the franchises and assets of the water system will require a prior determination by the Commission that such a transfer is in the public interest.

CITY OF NASHUA
Petition for Valuation Pursuant to RSA 38:9
DW 04-048

City of Nashua's Responses to Staff's Public Interest Data Requests – Set 1 Round 2

Date Request Received: July 8, 2005 | Date of Response: July 29, 2005

Request No. 2-11 | Respondent: Brian S. McCarthy

Request: In numerous data responses Nashua has suggested that its experience operating other municipal entities such as wastewater treatment is irrelevant to the public interest determinations in this proceeding. Staff understands the District is newly formed and has no experience operating water systems or other utilities. Please indicate whether it is Nashua's position that the District's lack of experience in any similar utility operations is also irrelevant to the public interest determination the Commission must consider in this docket.

Response: Nashua's decision to contract for the management and operations and maintenance has taken into account the formation of the District. The contract structure currently being pursued makes it possible to transfer the ownership to a policy making entity with no disruption in service to water customers.

The City believes that the transfer of the franchises for the water system from Nashua to the District will require a Commission proceeding to determine whether the transfer is in the public interest, at which time any concerns regarding the District may be addressed.

Nashua is also willing to accept as a condition of approval that its transfer of the franchises and assets of the water system will require a prior determination by the Commission that such a transfer is in the public interest.

See also the response to Staff Request 2-9.

In light of the foregoing, Nashua does not believe that evaluation of the District's experience is necessary in this proceeding.

CITY OF NASHUA
Petition for Valuation Pursuant to RSA 38:9
DW 04-048

City of Nashua's Responses to Staff's Public Interest Data Requests – Set 1 Round 2

Date Request Received: July 8, 2005 | Date of Response: July 29, 2005

Request No. 2-13 | Respondent: George E. Sansoucy, P.E.

Request: Please provide a copy of the proposed contract that Nashua, or the District, plans to enter in to with respect to operation of the water system.

Response: The actual contracts for oversight and O&M services have yet to be negotiated. Copies will be made available once negotiations are complete.

CITY OF NASHUA
Petition for Valuation Pursuant to RSA 38:9
DW 04-048

City of Nashua's Responses to Staff's Public Interest Data Requests – Set 1 Round 2

Date Request Received: July 8, 2005 | Date of Response: July 29, 2005

Request No. 2-14 | Respondent: George E. Sansoucy, P.E.

Request: Please provide a copy of the qualifications and experience of the entity selected to operate the water system, when they are available.

Response: The qualifications of the entity selected to be the O&M contractor will be provided when a contract has been negotiated. The qualifications of all interested parties are contained in the responses to the Request for Qualifications received this spring. The Technical Proposals from the respondents to the RFPs also contain statements of qualification and experience. Copies of the responses to the RFQs and RFPs are available in the Nashua City Hall.

City of Nashua

Central Purchasing
229 Main Street • PO Box 2019
Nashua NH 03061-2019
(603)589-3330 • Fax: (603)589-3344

August 5, 2005

Tom Donovan, Esq
McLane Law Firm
900 Elm St
PO Box 326
Manchester, NH 03105

RE: Operation & Maintenance of Water System

In response to your request, I am forwarding a copy of each of the two responses that the City of Nashua received against its RFP1305-061505.

Two firms submitted proposals:

Earth Tech, Grand Rapids, MI

Veolia Water, Norwell, MA (includes Volume I and III)

Information related to the qualifications of each firm is included in the individual technical proposals.

Janice Tremblay, C.P.M.

Janice Tremblay, C.P.M.
Purchasing Manager

Enclosures

Cc: Justin Richardson, Upton & Hatfield, LLP
David Connell, City of Nashua Corporation Counsel

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Please respond to the Concord office

August 10, 2005

VIA HAND DELIVERY

Mark Naylor
N.H. Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

RE: City of Nashua, Petition for Valuation Pursuant to RSA 38:9
Docket No. DW04-048

Dear Mr. Naylor:

Enclosed please find a copy of the technical proposals received by the City of Nashua regarding the City's request for proposals for the operation and maintenance contracts. These documents are the technical proposals referred to in Nashua's response to the PUC Staff's Data Request 2-14.

If you have any questions, please feel free to contact me.

Very truly yours,

Justin C. Richardson
jrichardson@upton-hatfield.com

JCR/kmc

Enclosures

cc: Robert Upton, II, Esq. (w/out enc.)
Marcia Thunberg, Esq. (w/out enc.)
David R. Connell, Esq. (w/out enc.)

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Please respond to the Concord office

September 16, 2005

VIA HAND-DELIVERY AND FIRST CLASS MAIL

Steven V. Camerino, Esq.
McLane, Graf, Raulerson & Middleton
15 N. Main Street
Concord, NH 03301-4945

RE: City of Nashua, Petition for Valuation
PUC Docket No. DW04-048

Dear Steve:

Yesterday, Sara Knowlton requested that Nashua provide the price proposals submitted by RW Beck and Veolia. In addition, as you may be aware, the Board of Aldermen recently recommended a revised technical proposal prepared by Veolia Water which Nashua had previously provided to Staff in response to Staff's Data Request 2-14.

These documents consist of several volumes and include numerous exhibits and appendices. I have therefore scanned the RW Beck and revised Veolia Water proposals into pdf files which I enclose. By copy of this letter, I am also providing these documents to Staff and to the Office of Consumer Advocates.

If you have any questions regarding these proposals, please feel free to contact me.

Very truly yours,

Justin C. Richardson
jrichardson@upton-hatfield.com

JCR/lm
Enclosure

cc: Robert Upton, II, Esq. (w/enc)
Marcia Thunberg, Esq. (w/enc)
F. Ann Ross. Esq. (w/enc)
David R. Connell, Esq. (w/enc)

Submitted to:

City of Nashua
New Hampshire

Exh. 1.5

Proposal

Volume I – Technical Proposal

RFP1305-061505

Operation and Maintenance of the Water Utility

July 14, 2005

VEOLIA Water

July 14, 2005

Ms. Janice Tremblay, C.P.M.
Purchasing Manager
City of Nashua
Central Purchasing Office
229 Main Street
Nashua, NH 03061-2019

Subject: **Volume I – Technical Proposal**
RFP1305-061505 -
Operations and Maintenance of the Water Utility

Dear Ms. Tremblay:

In response to your specific Request for Proposals (RFP), **Veolia Water North America – Northeast, LLC (Veolia Water)** is pleased to present our separate Technical and Price Proposals (with a separate Appendix Volume), for the management and operation of the water systems that will be acquired from the Pennichuck Corporation. We understand that this project will involve providing operation, maintenance and management (O&M) services for what is collectively referred to as the Water Utility, which includes the water utility assets of the Pennichuck Corporation, namely, those of Pennichuck Water Works.

In preparing this Proposal we have reviewed all of the data available for the Water Utility and made assumptions based on our experience in operating and managing similar water systems under long term agreements. Based on this, Veolia Water has crafted a plan and approach to forming a long-term contractual relationship with the City of Nashua.

Our commitment to the City and those served by the Water Utility centers on:

- Supporting you throughout the asset acquisition process. **We will be at the table supporting your efforts in the eminent domain proceedings.**
- Delivering enhanced value through our Base Proposal offers and expanded Innovative Proposal offering. In the true spirit of what our company is all about, **we exceed the scope of this RFP by offering a significant watershed program** that will transform public transparency and safeguard the community's interests - **establishing a citizens advisory group**, and, importantly, **conducting a two-year study that will offer comprehensive solutions for protecting the community's water source**. Our community involvement will also extend to water education in the Nashua elementary schools, and include financial support for local civic and charitable organizations.
- Implementing a project management and operations approach that ensure that you maintain control of the system. We will **help you in establishing direct control over the system**, present and future operating and capital costs, rates and the path and required programs for your fellow citizens' future.

It is Veolia Water's desire to enter into a performance-based contract that creates a contractual relationship between the City, or the regional water district that you may establish, and our

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC
200 Cordwainer Drive, Suite 202, Norwell, MA 02061
TELEPHONE: 781-792-0640 - FACSIMILE: 781-792-0653
Veoliawaterna.com

VEOLIA Environment

company—an approach that transfers environmental compliance and water quality responsibility to us while local government owns the asset and controls present and future destiny of the system. To facilitate this, we have responded to the Base Proposal requirements, as defined in your RFP, and provided a highly advantageous Innovative (Alternative) Proposal, one that expands on the value and overall cost savings that can be delivered under this long-term contract.

The approach and commitment that Veolia Water has defined in this Proposal is backed by our firm's proven base of experience in the operation and management of major water systems throughout the U.S., and our almost 20 years of work in the State of New Hampshire and almost 30 years of experience in serving clients throughout the New England region. Our work in the O&M of water and wastewater facilities for municipal clients dates back more than 33 years and today encompasses ongoing contracts with more than 180 municipal/governmental entities across the U.S. This experience includes our current work with the City of Indianapolis, Indiana, where we operate and manage a water treatment and supply system that serves more than 1.2 million people in and around the City. Like this proposed project with the City of Nashua, our contract with Indianapolis began in 2002 when the City acquired the water assets from a private investor-owned utility and then transitioned the O&M responsibility for the system to Veolia Water under a 20-year agreement. This base of experience will be applied to the benefit of your project through the involvement of many of the key technical and management staff who developed and transitioned that project.

The water system in Indianapolis is one of the more than 100 municipal water systems that Veolia Water operates and manages throughout the U.S., and is among the thousands of water systems that Veolia Water companies operate and manage for communities throughout the world. This includes the water systems that serve the greater London and Paris areas, as well as those that serve such first-class cities as Berlin and Sydney. What this means to the City of Nashua is that we will bring to bear the national and international experience of our firm to provide you with a world-class water utility.

This Proposal submittal has been prepared to be responsive to your RFP of March 25, 2005 (and the addenda and clarifications issued to date), and is presented in three volumes, our Technical Proposal, a separate Price Proposal and a separate Appendix Volume. As the President for Veolia Water's Northeast LLC, I will be the Project Principal and have executed this Proposal transmittal letter. Veolia Water's contact person for the procurement process will remain:

Mr. Richard Johnson, Project Vice President
Veolia Water North America – Northeast, LLC
200 Cordwainer Drive, Suite 202, Norwell, MA 02061
Telephone: 781-792-0640 - Fax: 781-792-0653 - E-Mail: richard.johnson@veoliawaterna.com

I invite you to contact Mr. Johnson, or me, if you need any additional information or have any questions regarding this Proposal. We look forward to the opportunity of working with the City of Nashua through this public-private partnership.

Sincerely yours,

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC

Philip G. Ashcroft
President

Volume I
Technical Proposal

Submitted to:

City of Nashua
New Hampshire

RFP1305-061505

Operation and Maintenance of the Water Utility

July 14, 2005

VEOLIA Water

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Executive Summary

VEOLIA Water

Executive Summary

THE BEST OF BOTH WORLDS:
LOCAL CONTROL AND PUBLIC OWNERSHIP WITH A PERFORMANCE-BASED CONTRACT

VEOLIA WATER'S COMMITMENT TO NASHUA INCLUDES COST SAVINGS, WATER-QUALITY and WATERSHED PROTECTION WITH AN EXPERIENCED TEAM

We applaud the **City of Nashua** for your efforts to take control of the water system and assets serving the community, the area's watershed, as well as rates affecting local citizens. The eminent domain process creates a complex and demanding set of circumstances. We, at **Veolia Water North America – Northeast, LLC** (Veolia Water), are ready to support you with an experienced team.

We believe your efforts are just. Such battles are playing out nationwide, where local political officials and citizens band together with a common cause and vision – to purchase assets and impact their future destiny; to gain control over water resources, their most important natural asset; and to gain control over their rates.

We know this battle. Not only are we America's most experienced water contract services provider, we are the company that **supported the nation's most significant effort to transform an investor-owned utility into an efficient water system controlled by the community.** And we believe we can help Nashua *now*, during the eminent domain process, and *later*, as you establish the most efficient system for producing quality water at an affordable price.

How We Can Help You

> **We will be at the table** supporting your efforts in the eminent domain proceedings.

- Credibility - We can **strengthen your position in this fight** through our Proposal. Our transition plan and in-depth experience bring enormous credibility forward on your behalf.
- Lower Costs - We will **dramatically lower your costs** through our programs, practices and technology. Our economies-of-scale allows us to seek the lowest life-cycle costs for both capital and operating cost considerations, supporting your economic model for the asset acquisition.
- Experience - More than any other company, we have **in-depth experience in transitioning water systems from one party to another party** and have transformed the investor-owned utility serving the nation's 12th largest city into what is now the nation's most significant water services contract.

> It is a reflection of Veolia Water's community spirit that we exceed the scope of the Request for Proposals (RFP) by offering **a significant watershed protection program** that will safeguard the community's interests and transform any public concerns or doubts into confidence. Our program establishes a Citizens Advisory Group, and, more importantly, conducts a two-year study that will offer comprehensive solutions for protecting the community's water source and buffer zones.

> Our **community involvement** will also extend to water education in the Nashua elementary schools, high schools, colleges, and **will include financial support for local businesses, civic, and charitable organizations.**

> We will **help you establish direct control** over the system, from operating and capital costs to rates, in order to establish a path of success and savings for generations to come.

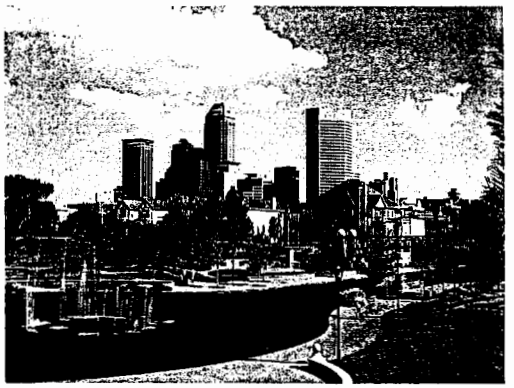
Your Local Company with Resources of the Industry Leader

Our core competencies will be put to good use when coupled with the skills of Pennichuck employees.

Veolia Water is unique in our ability to ensure your objectives are met. We will be your local neighborhood operator with access to the resources of world's most experienced water company. We have transitioned more employees (public & private) than any other water services provider.

Our firm's record of success is evident from maritime New England to the desert Southwest, from large cities to smaller communities – 600 in all, from coast to coast.

Just down the road in Leominster, Massachusetts, Veolia Water has effectively and efficiently managed the community's water and wastewater system for almost 20 years, working through service and system improvements and helping them to meet the challenges every city faces. On a larger scale, we manage the nation's largest public-private partnership; by acquiring assets from a regulated utility company, **Indianapolis has witnessed the tremendous benefits of local control, rate stability, customer service improvements, and enhanced performance on water quality such as taste-and-odor improvements.**



In 2002, Indianapolis took back control of its water system and selected us to manage their system. Benefits to date include a five-year rate freeze, customer satisfaction that greatly exceeds the national utility average, and a sharp decrease in water quality complaints.

We have direct, relevant experience in New England that will ensure Nashua's water works system is smoothly transitioned and that ongoing operations are efficient, yielding the highest-quality water the facilities are capable of producing. We also bring world-class industry experience in current security practices to assist you in protecting your water system.

Our core competencies will be put to good use when coupled with the skills of Pennichuck employees. The management and operations plan we have created is empathetic to employees, **who will be given preference for all positions** needed to effectively operate the water system. We recognize that throughout the years, these individuals have formed the backbone of the water system.

Service Provider Contracts Versus Investor-Owned Utilities (IOUs)

Our response to your RFP is not only to meet its tenants, but to exceed your expectations by proposing a **performance-based services contract.** Such a contract will establish specific

performance requirements that will impact the quality and delivery of our work and how we get paid. You will pay us for performance for these specific activities – or you will reduce or eliminate your payment for specific activities if they do not meet your expectation.

Investor-Owned Utilities (Pennichuck's water service delivery model) and Service Provider Contracts, as we are proposing here, are fundamentally different. **Investor-owned utilities, like Pennichuck, are focused on the stockholder not the customer. Our focus is on the customer, returning "dividends" to the ratepayers through the lowest life-cycle costs and high-quality service. Simply put, we have to do it better for less, and our profits are included in your savings. Our capital improvements are aimed at reducing life-cycle costs not increasing fees or rates.** Importantly, this contract model is now employed by more than 1,000 communities across America.

We are operators, not owners. Veolia Water is *not* an owner of Investor-Owned Utilities. All of our contracts are in the form recommended by the City of Nashua in this RFP. Our Business Model is not to own assets, but to protect and operate them for public benefit and use. We encourage you to review the differences between IOUs and your proposed model below.

A Stark Contrast Between Investor-Owned Utilities and Our Services Contract

Investor-Owned Utilities	*Services Contract*
High-quality water	**High-quality water**
Watershed developed	**Watershed planned and protected**
Costs **- Formula-driven rates with limited incentives for cost control**	**Costs** **- Lowest life-cycle costs incentives**
Rate increases	**Rate stability**
Shareholder focus **- Stock price** **- Dividend payout rates to Shareholders**	**Customer focus** **- Best investment alternative** **- Fixed price contract** **- Money goes to water systems**
Corporate financing – more expensive	**Municipal financing – less expensive**
Utility controls assets	**Municipality controls assets**

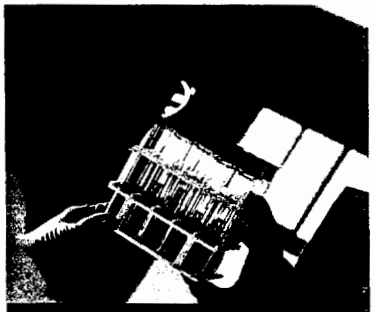
In the current IOU model, the utility company owns the assets while establishing rates through filings and hearings with a public utility commission. There are layers of costs related to Pennichuck's NASDAQ listing and with respect to New Hampshire Public Utility Commission hearings. An IOU's profits are derived from capital improvements, rate increases, costly higher life-cycle choices and other measures. Profit incentives are tied directly to capital programs and are passed onto rate payers. It is our experience that IOUs are not necessarily focused on accurate life-cycle analysis and costs. Additionally, a municipality's financing structure and available rates are less expensive than those of an investor-owned utility.

Highlights of Our Offering

We are proposing both a Base Proposal, which meets or exceeds the requirements of the RFP. An even higher return option for the City can be found in the Innovative (Alternative) Proposal, located Section Six of this Volume. Both will contain performance-based components and guarantees to reduce costs and ensures environmental compliance that offers maximum protection on City liability issues, watershed protection, high-quality water standards and service.

At the heart of our commitment is serving as a good corporate citizen, actively working to enhance the quality of life for all citizens and support activities in the environmental sciences and education. The key elements and benefits of the Veolia Water plan can be summarized as follows:

- **Cost Reductions and Savings through an Efficient Operations Model and Sound Economic Management** – We have commented on some of the differences between IOUs and service contracts. Our proposed contract will include a fixed-fee operations and maintenance program with shared risks and shared rewards for unplanned costs. Veolia Water's plan demonstrates that efficiencies will result in lower costs, supporting the city's decision to buy the assets and control them. We have proposed a responsible and reasonable service fee that will enable the City to allocate appropriate funds toward facility upgrades and leave sufficient funds for debt repayment. Because we have not been able to tour facilities and conduct specific due diligence, we are not able to provide exact estimates of Pennichuck's expenditures to determine exact savings. However, our analysis – based on benchmarked costs of similar sized facilities and the Pennichuck annual reports – supports Nashua's best economic decision to purchase the Water Works for a fair price, with likely savings of several million dollars annually. The elimination of corporate overhead associated with an IOU changes dramatically with public ownership and private operations management, and given our strong presence in New England, we are able to pool additional resources on an as-needed basis and **secure preferred pricing on various supplies due to volume purchasing.** We will utilize computerized systems as tools to reduce energy and chemical costs and reduce overtime with advanced telemetry throughout the system.



Veolia Water employees tackle their work with pride – providing high-quality water, with a commitment to the communities in which they live and work.

- **Asset Management Will Reduce Costs and Protect the Life of Assets**. Veolia Water will employ Total Asset Management, a proven methodical approach to managing the asset's life cycle. Our program brings together financial, engineering, economic, operating, managerial, and maintenance practices to determine the most cost-effective means of maintaining, managing and operating the water system. Veolia Water's above- and below-ground asset management approach is proactive. **Through our proven maintenance strategies and asset management tools, we are able to perform repairs in a timely manner and track these costs at the asset level. This allows us to make repair-or-replace decisions and optimize your capital spending around your system's most critical assets. Our past experience has shown an average cost savings of 5-10% is possible on just the asset management component.**

- **Watershed Management Program Will Spur Safeguards**. Going outside the scope of this RFP, we will conduct a two-year study of the Nashua watershed. This study is valued at $200,000. After extensive testing, research and collaboration, we will provide recommendations to the City on required best management practices to maintain and improve the quality and the quantity of water in the watershed. This will assist in improving the quality of water delivered to customers; and will reduce the impact to source water quality from using water from the Merrimack River. An important goal of this program will be to develop and implement measures to reduce the usage of and dependency on water from the Merrimack River. A series of ponds, totaling approximately 350 surface acres of water, and flow from the Merrimack River comprise the water system's source of supply. The total watershed consists of approximately 18,000 acres. Present concerns include pond eutrophication, buffer zones, storm water run-off and other impacts, all of which affect water quality. Management of the watershed will be enhanced through our Best Management Practices including capital improvements in the pond system, potential regulatory controls, research and analysis to further our understanding and protection of the watershed, development of educational and public awareness programs, and standard operating procedures for operations and maintenance of the pond system. Additionally, we will meet and consult with watershed groups on a regular basis and, with the assistance of the city, form a Citizens Advisory Group to provide direct input and recommendations. We recognize the importance of the watershed – and we're going above and beyond the terms of the RFP to facilitate direct local input for our plan. We will also support implementation of community cleanup programs and community education tools.

Our two-year Watershed Study – a value of $200,000 to the city – will result in solid recommendations. A Citizens Advisory Group will provide direct input into our programs.

- **Protecting the Water System's Current Employees** – A key element contributing to the success of the proposed service contract will be the transition of the required existing water system employees to our team. Our employee relations plan, discussed in greater detail later in this section, provides for considerable communication, spousal meetings to address any concerns, recognition of their institutional knowledge and other programs to embrace employees and make them part of our team.

Existing employees will be given priority and are recognized for their service.

Existing Pennichuck employees will be given priority for all positions created by the service contract, fully recognizing their years of service. We will not transfer these employees to another facility outside of the Nashua area.

- **Water Information Website** – A newly created website will provide information for public officials, neighboring towns, and citizens on this important public resource. We believe open access and communication is an important tool for maintaining regional involvement and support.

- **Guaranteeing a Safe and Reliable Water Supply** – Our firm's proven transition approach includes significant due diligence by a team of experts that has executed such plans before. Our plan will include a provision to shadow the existing operations to identify any problematic issues to ensure the water supply is safe and reliable. Security provisions are included to ensure high levels of protection to the facilities. Our O&M plans will identify key process and equipment needs and make sure they are optimized

and operational. Dedicated support resources will identify potential problems and will be available should any occur. The support of our company's technical experts and our vast network of resources are available, if necessary.

- **Performance Metrics to Ensure Performance** – Our Base Proposal includes performance measurements in five key areas. Under our program, achievement in these areas means that we will essentially be financially punished if we do not meet the specific performance criteria. In other words, we will be paid less for unsatisfactory achievement in these areas. These areas include Emergency Responsiveness (dispatching personnel to emergency distribution and customer service emergencies within 30 minutes), Turn-On/Shut-Off Response Time (responding to requests for turn-on/shut-off service within 24 hours), Employee Safety (improving employee safety), Meter Reading (decreasing the rate of meter misreads) and Fire Hydrant Repairs/Replacements (inoperable fire hydrants repaired or replaced within 15 days). Our Alternative Proposal will include even more dramatic provisions.
- **Local Community Commitments** – Veolia Water will build a strong and effective community relations program, modeled after those that which our firm has proven in application in similar "world class" water and wastewater operations. We are committed to making a real difference in the communities that we serve by lending a "helping hand" wherever it is needed in order to improve the quality of life for the citizens that depend on the water and wastewater services that we provide. Our firm and our employees take leadership roles in many community outreach programs throughout the country, seeking out the best ways to make a difference in each community. To facilitate this approach, Veolia Water is committed to providing significant community involvement in Nashua. This commitment will include a Citizens Advisory Group, partnerships for education using Veolia Water's Water Box educational tool, and water career opportunities workshops to encourage students to pursue careers in the water and environmental industries.

Veolia Water is committed to forming a contractual relationship centered on:

- **Significant cost reductions**
- **Priority given to hiring existing employees**
- **Watershed protection recommendations**
- **A clear plan for communication and information distribution to the city and region**
- **Customer satisfaction expansion**
- **Performance-based fee for monitoring and improved service delivery**
- **Local Community Commitments**
- **Value engineering savings**
- **Support to assist local employees for a transition period**
- **Best Practices in asset management and security assessment**

- **Delivering a Strong Customer Service Focus** – Your customers will not be left on hold. Veolia Water's plan is to deliver customer service and take full advantage of our proven, client- and **customer-audited record** of performance in other cities – a record that no other company can bring. We will provide accurate, timely meter readings for residential and commercial customers according to the Nashua prescribed schedule. Accurate answers to water quality questions will be delivered in a helpful, responsive manner. Prompt resolution of field service requests and concerns will be delivered while records will be accurately maintained. We will establish and manage a backflow inspection program. We will also provide information to customers on tap fees.

- **Teamwork that Delivers Experience and Results** – We firmly believe that you will not find a more powerful or credible team to work with you during the process of acquiring the assets. The Veolia Water management and support team will commit to work with Nashua or the Regional Water District to make the Water Works one of the best water utilities in the country. The team that we are proposing as part of your Acquisition and Transition Plan has been directly involved in this Proposal, has direct relevant experience and will be part of the technical support team once the startup phase is complete. Local employees will also be involved as members of our transition team. Complementing our Nashua-specific team will be the resources of our parent and affiliated companies.

In the pages that follow, we provide you with an understanding of the key elements of this submittal and the basis for which we will move forward in building effective results.

Our Approach to Meeting Your Needs

Veolia Water has developed a well thought-out transition plan to address the concerns of the current (Pennichuck) employees while also planning the technical systems and processes of which our company takes pride.

Transition Plan

Our overriding objectives are to demonstrate that you can be confident in securing significant benefits through our transition and management plan and approach, allowing your acquisition to deliver the best long-term returns for the rate payer. Our approach will also support your PUC hearing efforts.

Transition and Project Support Team

Key to our ability to transition these facilities and provide safe and reliable water delivery will be the experienced and capable management team we will commit to this effort.

Key Objectives for Successful Transition:

- **Safe & Reliable Water**
- **Secure Water Facilities**
- **Strong Customer Service Focus**
- **Open & Transparent Employee Transition**
- **Assessment/Rating of Critical Equipment and System Assets**
- **Building Relationships with All Stakeholders**
- **Complete the Transition Process – Schedule and Deliverables**
- **Form an Effective Partnership with the City**

Many of our team members are already involved in the development of this Proposal and will remain a part of our development team through interviews, presentations, contract negotiations and project startup. Each manager has significant expertise and experience in their specialty area, and all are committed to this project.

Table I.ES-1, next page, provides a listing of these key technical and management staff and their resumes are presented in Appendix A of this Technical Proposal volume.

This Transition Team will be mobilized upon selection of Veolia Water as the City's vendor, under the direction of our **Transition Team Managers – Dave Ford**, Senior Project Manager in the Northeast, **Paul Noran, a Technical Manager** with Veolia Water in the Northeast, our local **Area Operational Manager, Roy Wood** and our **Northeast Human Resources Manager Michael Schnack**. They will then begin the process of transitioning

services, staffing and operations responsibility to support the operations and maintenance of your water assets. Supporting this team will be the technical, management and financial resources of Veolia Water, providing the city with access to a national and international base of expertise needed to ensure success.

Transition Plan Objectives

Veolia Water's transition plan objectives will ensure the highest level of customer service, providing for:

- **Security Vulnerability Assessment Program Compliance** - The review of Pennichuck's existing Security Vulnerability Assessment may be the most important aspect of Veolia Water's initial service. We have employees certified in security protocols and who provide these types of assessments. The benefits of their experience and in-house expertise cannot be overlooked. Your single access to the Merrimack River and open fresh water sources are a target for attack at any time. Veolia Water has the responsibility for Vulnerability Assessments for literally thousands of square miles of open raw water supplies across the country. We cannot eliminate an attack on these resources, but we can develop a plan that will minimize the effects of an attack and/or act as a deterrent to attack. This assessment is required by the federal government. Our plans have drawn significant praise in other communities. This is often an important factor in successful grant applications.
- **Water Quality Maintenance and Protection** - Safe and reliable water delivery of the highest possible quality will be ensured by dedicating significant resources to complete a comprehensive audit during the transition period to identify any process or equipment reliability issue. A team will shadow existing operations, validate all proposal plans and assumptions and incorporate legacy knowledge with the help of the current employees when they join our team. To ensure success, our Transition Team will be supported by the extensive resources of our company.
- **Effective Asset Condition Assessment** – Identifying critical equipment, assessing its condition and addressing any deficiencies will be a prioritized activity of our asset management team to make sure that all critical equipment is in a reliable condition. In addition, standby and backup equipment will also be assessed. This important activity will ensure that we can meet our first and most important objective of providing a reliable and

Veolia Water's Transition Team Table I.ES-1

Role	Name
Project Manager	**Dave Ford**
Transition Manager	**Roy Wood** Support: **Paul Noran**
Human Resources	**Mike Schnack** Support: **Don Ellis**
Production	**Rob Burton** Support: **John Fritsch**
Field Services including Distribution	**Paul Noran**
Asset Management	**Bill Fahey**
Performance Metrics and Implementation	**Rob Burton** Support: **Lora McCormick**
Finance	**Jill Beresford** Support: **Joey Tolbert**
Legal	**Rob Arendell** Support: **Scott Schrang**
IT	**Jim Washburn**
Customer Service	**Lora McCormick** Support: **Debbie Willis**
Public/Community Relations	**Scott Edwards** Support: **Dick Johnson**
Laboratory/QA-QC	**Dr. David Peterson**
Capital Planning	**Keavin Nelson, P.E.** Support: **Dave Ford, P.E.** and **Dufresne-Henry**
EHS&S	**Benn Bullock** Support: **Jim Galipeau**
Development Team Knowledge	**Joe Tomashosky** Support: **Dick Johnson**

safe supply of water. An asset condition survey, by a third party, is recommended to quantify the state of the assets, identify all deficiencies and prioritize them according to criticality. Veolia Water will facilitate the review by making equipment, tanks and other assets available to the auditors in a timely and convenient manner. This audit will establish the condition of the assets turned over to the City (and that any representations made in the Asset Purchase Agreement are accurate) and make recommendations of any necessary improvements.

- **Focus on Deliverables Needed for Transition of Operations and Management Responsibility** - Veolia Water will complete all deliverables as detailed in our Proposal and as required in the ultimate service agreement. A key lesson to success is to prioritize deliverables and spread them out over a longer period of time. A high number of deliverables, especially those not of critical importance, puts tremendous strain on the organization at a time it is already stressed due to the changes taking place. In our Proposal, we have provided definitive recommendations in this regard.

In summary, Veolia Water's transition plan addresses the full spectrum of technical and administrative services to be transitioned to ensure reliable, uninterrupted service to the City of Nashua and those served by the water utility. It is essential to develop the support of the existing staff, but also the cooperation of the City and other communities served by the water system.

Employee Relations

Veolia Water's approach to employee relations is one founded on experience and based on empathy to the uncertainty and change employees will experience. Past successes and unparalleled experience mean that we understand the hard work that must be put into this effort. We are committed to embracing employees and ensuring their transition is successful. Highlights of our employee relations approach include:

- Extending offers of employment to required existing employees who choose to join our firm, assigning them to jobs with comparable assignments, duties, responsibilities and titles to reduce stress and to ensure reliable service through the transition period. For the purpose of computing benefits Veolia Water will recognize their years of service with Pennichuck. They will not be asked to transfer to a facility outside of the Nashua area.

Teamwork is important to us. In Vancouver, Wash., employees in the laboratory work closely with field operations to ensure environmental compliance.

- Providing for wages and that are consistent with a recent salary survey for the area. Furthermore, employees who transition to the Veolia Water team will be entitled to career-advancement opportunities, such as license and career-path training, tuition reimbursement, bonuses associated with certifications, safety training and a safety performance bonus plan and an annual project bonus program.
- Implementing a communications strategy that includes a project-wide kick-off meeting, just as soon as we are able, smaller group meetings with discrete teams, individual meetings to allow employees to interview us

and for us to get to know them while addressing their specific concerns, spousal functions to address concerns and to put a face on "the new company", newsletters and other regular forms of communication, development of a Web site, fun events to build camaraderie and team spirit, and other less formal communications to ensure we are on top of all employee issues.

- Providing for an "Employee Participation Program," which will be designed to recognize and embrace the knowledge and capability inherent in Pennichuck's local employees. We continuously learn from people who have been part of the organization for many years. Using focus groups and individual meetings, we will work through our proposed approach and key assumptions and compare them with past practices. This will allow us to validate our plans and share best and legacy practices.

Today, Veolia Water's staff in North America includes management, technical, operations, and other personnel. Our firm has a low turnover rate (less than 10%) in all areas of employment. This is largely credited to competitive benefits and compensation, training and enhanced career opportunities.

Management and Staffing Approach

We are confident that the Water Works currently employs a complement of capable local people that will become valuable and committed Veolia Water team members. We expect that most management positions will be filled with existing Water Works staff. However, we do not expect to have available positions for many of Pennichuck's senior staff, especially those involved with Pennichuck's corporate governance and non-utility businesses.

Project Manager

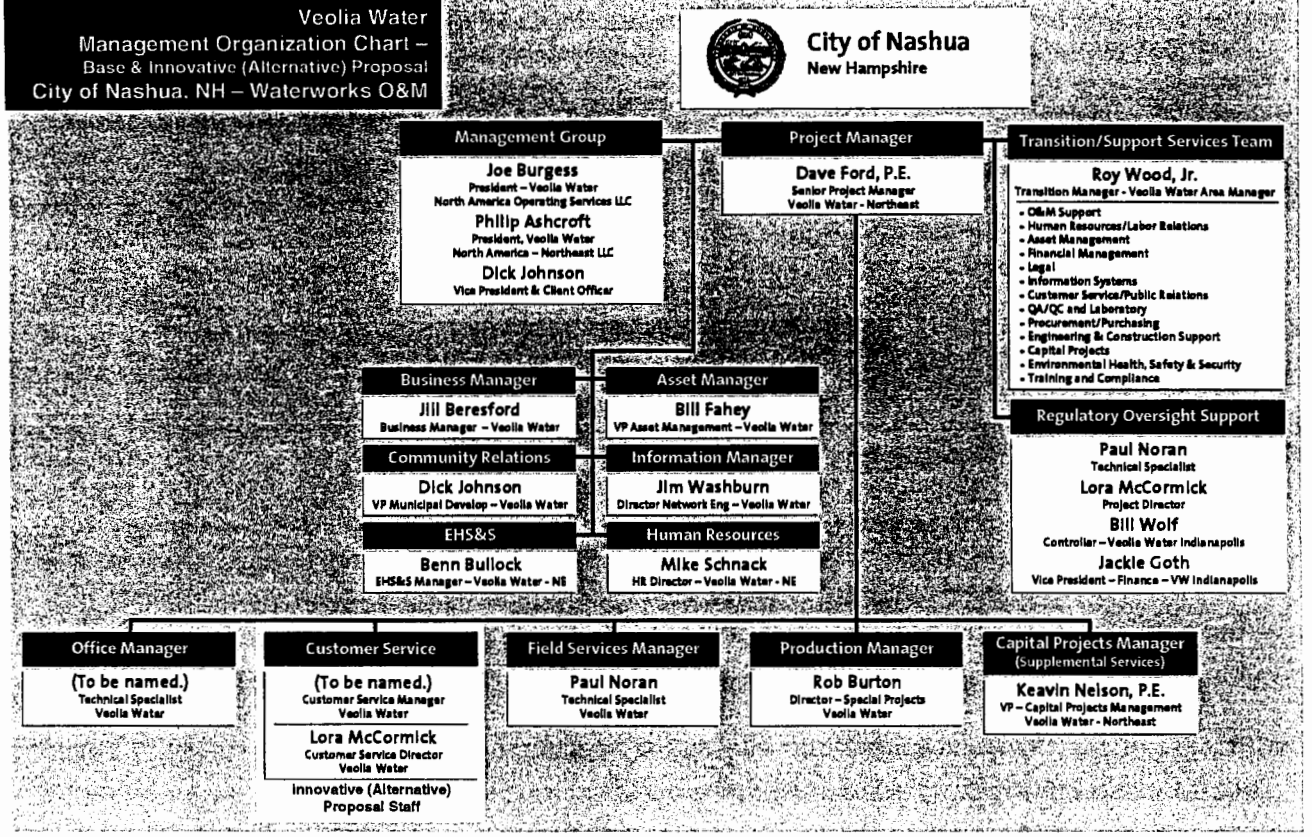
Technical competence applied on a local basis. We have a proven track record of operating highly sophisticated operations – from managing water plants to providing customer service. Pictured above: Tampa Bay Water's 66-mgd water treatment facility, which we designed, built and now operate on a long-term services contract basis.

Veolia Water has identified an experienced Project Manager to lead our team – **Dave Ford, P.E.**, a **Senior Project Manager** with Veolia Water in New Hampshire. He brings a unique blend of public utility management experience, having worked as the Public Works Director for the City of Rochester and the Superintendent of Public Works for the City of Wolfeboro, as well as managing and supporting public-private partnerships throughout the Northeast.

We have found that employing a local person with significant utility experience and supporting that individual with our resources is a noticeable benefit to a new agreement. Mr. Ford has established professional relationships in the New Hampshire community and will bring a local perspective and commitment. He will lead a team that will be formed from existing Pennichuck staff that transition to our team, combined with local hires and potential transfer-employees from other Veolia Water projects in New England.

Figure I.ES-1, at the top of the next page, provides an organization chart for key managers and interim managers that will provide leadership roles, as proposed in our Base Proposal approach. Our Alternate Proposal includes only one difference as noted in Customer Service.

Figure I.ES-1
Veolia Water
Management Organization Chart –
Base & Innovative (Alternative) Proposal
City of Nashua, NH – Waterworks O&M



Transition and Management Team

We have identified the core management team that will be committed to transitioning the water utility operations and ensuring the effective long-term delivery of services to the City of Nashua. This team will support our dedicated Project Manager and will include:

- **Roy Wood**, a Veolia Water Area Manager in the Northeast, will be the **Transition/Technical Services Manager**, with responsibility for the mobilization and management of the transition team. Mr. Wood brings more than 20 years of operations and management experience and has been involved in the transition of numerous projects in the New England area. He is a resident of Leominster, Massachusetts, which provides him with ready access to Nashua.
- **Paul Noran**, a Veolia Water Technical Manager in the Northeast, will be the **Field Services Manager** and work with Mr. Wood in managing and implementing the transition of staff and services. In this role, he will be responsible for transitioning all aspects of field services and serve as the line manager for Field Services Group. Mr. Noran has more than 32 years of experience and has been involved with major project transition programs and management and operations of regional New England water supply systems. A resident of Maine, he is very familiar with the challenges of a water system in the cold weather of New Hampshire.
- **Rob Burton**, Special Projects Director with Veolia Water in Indianapolis, will provide leadership for the Water Production group. As the **Production Manager**, he will manage the transition of day-to-day operations of the water treatment and supply system to Veolia Water and then provide leadership for the operation and maintenance

of all elements of the water utility. Mr. Burton has more than 12 years of experience, which includes managing Veolia Water's project with the City of Boonville, Indiana. Additionally, he is a certified water and wastewater professional in two states.

- **Keavin Nelson, P.E.**, Vice President for Operations and the Capital Program Management (CPM) group, will lead the capital program and engineering support group. This team will provide the engineering and construction expertise and management needed to implement small and large capital projects. This is a role that the CPM group routinely plays on Veolia Water projects in the Northeast and is a key part of our commitment to delivering a full-service approach to Nashua. Mr. Nelson has more than 28 years of engineering, operations and management experience, and he will be supported by the in-house expertise of our firm as well as the resources of **Dufrense-Henry**, our primary subcontractor on this project.
- At the corporate level, this project will be managed by **Philip Ashcroft**, the President of Veolia Water North America – Northeast LLC, with oversight and support by **Joe Burgess**, the President of Veolia Water's national operations. These project principals will ensure our commitment. **Dick Johnson** will continue to closely support client relations and be directly involved on a 24-hour on-call basis for community leaders.

Veolia Water's transition plan, and management and staffing approach are fully discussed in Section One, and resumes for all of the key team members are presented in Appendix A.

Technical Approach

Veolia Water's technical approach will include the O&M of the raw water supply, treatment and distribution systems, as well as capital planning, engineering, inspection and project management to maintain your new Water Assets and ensure best life-cycle cost options.

Our approach is founded on our firm's experience in other successful operations as well as on the work of the American Water Works Association (AWWA) Research Foundation related to customer-driven priorities for quality water service. Veolia Water's technical approach will deliver:

As you establish control over your assets, we'll be working hand-in-hand to ensure that high-quality water is provided to Nashua's citizens.

- **A Safe and High-Quality Product** - A product that meets regulatory and aesthetic requirements.
- **Adequate Supply and Pressure** - Adequate pressure and volume to meet the customer requirements.
- **Reliable Service** - Minimizing service outages due to water main breaks, equipment failures, and operational problems.
- **Proper Planning and Construction** – A long-term approach to meeting system demands, including growth and regulatory changes.
- **Risk Minimization** - Performing O&M to minimize water quality risks, service outages and catastrophic events, and having contingency and emergency plans in place.
- **Watershed and Water Quality Management** – Protection of this critical asset through Best Management Practices and

developing long-range plans for both source water protection and effective and efficient treatment facilities.

Veolia Water has a reputation for setting the standards of performance and safety in the industry. We will continue to protect our good reputation through our excellence in Nashua.

Our Alternative Proposal Delivers Additional Savings, Greater Rate Stability, Improved Customer Services, and Greater Savings and Value for Citizens

There are several primary differences between our Base and Alternative Proposal – ***length*** (20-years) which enables us to more aggressively deliver savings and long-term value, ***capital program management***, which will have a direct impact on rates, ***customer service programs***, which includes an expanded program with more benefits to Nashua citizens, and ***reliability centered maintenance***, which identifies critical plant and equipment maintenance needs to optimize the maintenance and asset management program.

- **Capital program management** is important to customers because any capital program has a direct impact on rates. With Pennichuck's plan to spend $50 million in the coming years, it is essential to capture any potential cost efficiency as savings directly, and therefore positively impacting rates and the costs of services to customers. Our capital program management (CPM) allows us to identify, prioritize and execute capital projects to focus on the lowest life-cycle costs. Because we will hold operations and maintenance responsibility of the system, we will have the most direct knowledge of the system's functionality and needs. Costs are often reduced by 15-20% under this CPM model through value engineering, life-cycle costing, selecting the best project alternatives, and selecting the most efficient project delivery system. Based on an aggregate capital investment of $80 million (assuming $4 million dollars of ongoing city capital per year), the savings would be between $12 million and $16 million dollars over the life of the contract. This program will include local engineering firms to keep dollars local – it is simply a way to be more efficient for rate payers. To demonstrate the effectiveness of our program, we have completed analysis of three specific programs currently out to bid by Pennichuck through the Fay, Spofford & Thorndike (FST) report. We believe we can generate groundwater quality management savings of $600,000, an additional savings of $1.5 million through optimizing coagulation at the treatment facility, and estimated savings of $1.1 million via alkalinity supplementation at the treatment facility. This is a preliminary review showing $3.2 million in specific savings by a review of just three component parts of the capital plan. This secures rate stability and ongoing saving for customers. (Please note that we believe the total savings from a thorough review of the FST report could yield up to $6 million in savings.)

Capital program management can help save the community money as our program delivers life-cycle costs savings and efficiency.

- **Customer service**. We recognize that customer service functions such as bill generation and payment processing will be handled by the city under the Base Proposal. In the Alternative Proposal, as discussed in Section Five of this volume, we have developed an enhanced customer service approach providing enhanced value and cost avoidance. Under this approach, we will add a local manager to our team. This local director would work with **Ms. Lora McCormick,** MBA, a Veolia Water project director in Indianapolis. They would be responsible for managing all aspects of customer service delivery including billing and collections and client relations. Ms. McCormick has more than 13 years of water utility experience in client relations, customer service and performance measurement. She was part of the AWWA work group responsible for developing national water and wastewater performance metrics

Customer service focuses on higher levels of customer service and cost avoidance. Our one-and-done philosophy enables customer service specialists to develop work orders to ensure timely resolution of customer issues.

  Our customer service will mitigate risks (and headaches) and implement a one-and-done philosophy to customer service representatives to initiate work orders and take other steps to immediately resolve customer issues. This will also help ensure a smooth customer transition. We will focus on two key things – **higher levels of customer service** (customer satisfaction, responding to field operations concerns, customer service calls on billing, etc.) and **cost avoidance. On this point, the city can avoid purchasing Pennichuck's existing utility billing software system – easily a $1-3 million capital investment required upfront** – if you allow us to take on the billing and collection components. To transition Pennichuck's services, additional infrastructure will be required, whether that be telephone systems or software. Under our Alternative Bid, these costs can be included in a more affordable contract fee with our company.

  We will establish a local office that will be conveniently located for citizens to pay their bills and resolve questions. Finally, we will establish a website allowing Nashua citizens to pay bills online. To signal a change of the guard, we will expand the amount of information provided to the public including reservoir information, water quality information and watershed programs.

- **Reliability Centered Maintenance**. RCM is a program that identifies critical plant and equipment needs and tailors a maintenance program to ensure operating reliability while determining the timing and level of required maintenance. There is a four-fold benefit: 1. Maintenance Costs are lowered through reduction of routine maintenance activities that are part of a historical pattern and not reflective of actual needs; 2. there is a Reduction in Required Capital Investments because we will invest into this program to generate these savings; 3. Improved Reliability of critical plant and equipment occurs; and, 4. we Conduct Operations and Maintenance Under a Fixed Fee to reduce your exposure to unplanned maintenance.

Potential Near- and Long-Term Savings

Through the RCM and CPM programs, the savings realized to the City of Nashua are substantial. The potential savings resulting from the Alternative Proposal include:

- **RCM Savings** - It is estimated that the savings to the City would be approximately $1.8 million over the life of the contract. These savings are a result of reduced labor, materials and supplies.
- **CPM Savings** - It is estimated that the savings to the City, based on an aggregate capital budget of $80 million (annual expenditures averaging $4.0 million), would be between $12 and $16 million dollars over the life of the contract. Based on an initial review of Pennichuck's engineering report completed by Fay, Spofford & Thorndike, savings through our CPM approach on this $30 million dollar capital plan could be as much as $6 million, with $3.2 million readily identified.
- **Customer Service Cost Avoidance** – The city will avoid a $1-3 million purchase of a utility billing software system.
- **Cost Avoidance During the Eminent Domain Process** – The estimated benefit of cost avoidance during the eminent domain process will be approximately $2 million. The City of Nashua can avoid the purchase of Pennichuck's utility billing software system.
- **Startup Costs** – Veolia Water estimates startup costs of approximately $100,000 related to setting-up telephones service and system infrastructure could be avoided.

Veolia Water Has the Experience and Resources Needed to Deliver on Our Commitments

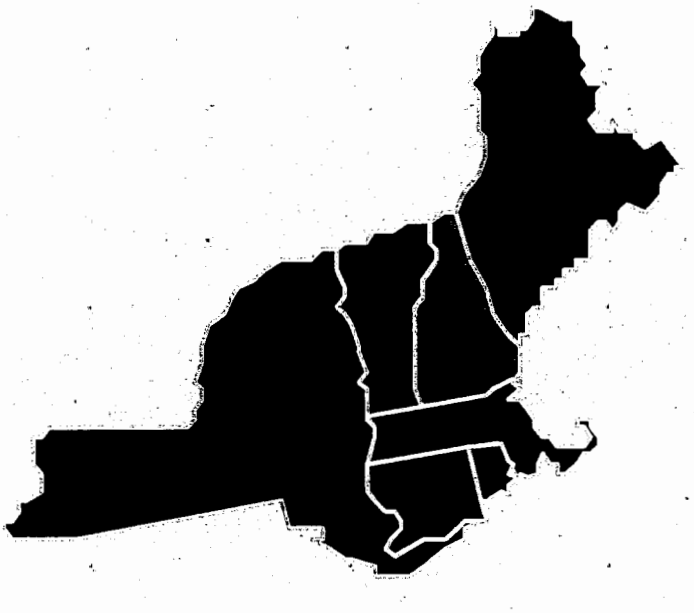
As the leading provider of water services provider for utilities across the U.S., Veolia Water brings the base of experience and expertise needed to be a successful service provider to Nashua.

Veolia Water also brings a proven base of experience in New Hampshire and the New England region, with some 30 active contracts with governmental/municipal clients.

Our work in New Hampshire spans almost 20 years, and has involved providing engineering, construction and O&M services for water systems under multiple contracts with the State of New Hampshire, Waste Management Division of the Department of Environmental Services (NHDES). What this means to the City of Nashua is that we will bring to bear the experience of our firm to provide you with a first-class water utility.

VEOLIA WATER O&M STATISTICS

- **180 Municipal Clients**
  - **186 Municipal Wastewater Facilities**
  - **104 Municipal Water Facilities**
  - **3,635 Miles Collection System Lines**
  - **7,400 Miles Distribution System Lines**
  - **415,266 Meters Read**
- **87 Industrial Clients**
  - **76 Industrial Wastewater Facilities**
  - **36 Industrial Water Facilities**
- **1.34 Billion Gallons of WW Treated Daily**
- **875 Million Gallons of Water Treated Daily**
- **14 Million Population Served Daily**



VEOLIA WATER
Experience and Resources
Northeast Business Center
Figure I.ES-2

- 7-State Region
  - *New England States*
  - *New York State*
  - *560+ O&M and Support Staff*
- Client Mix
  - *36 Municipal/Government Clients*
  - *5 Industrial/Private Clients*
- Facilities Operated
  - *11 Municipal Water Plants*
  - *30 Municipal Wastewater Plants*
  - *2 Industrial Wastewater Plants*
  - *1 Industrial Water Plant*

Providing the Best Choice for the City of Nashua

By choosing Veolia Water, the City of Nashua will reap the benefits of local, regional and national resources. In this performance-based, service provider contract, we will work with you to elevate your utility to "best-in-class" by implementing significant improvements in long-term planning, regulatory compliance and asset management, all at steady costs and substantial savings.

From staff transition and training to long-term management and customer service, Veolia Water is prepared to provide a comprehensive range of services and strongly support you to a successful conclusion of the upcoming eminent domain process through the development of a first-class utility.

Section One

VEOLIA Water

Section One

SECTION ONE
Operations Plan (Base Proposal)

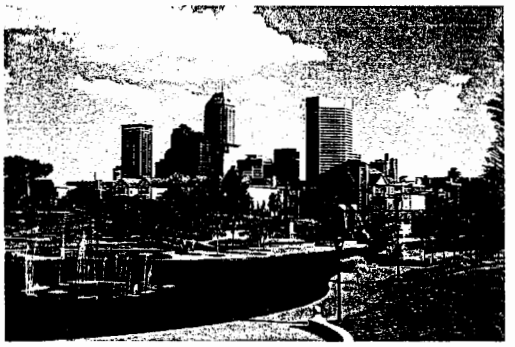
VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Delivering the Best Value Through Innovative Approaches

In your Request for Proposal (RFP), the **City of Nashua, New Hampshire,** defined an ambitious plan and approach to take control of the water systems and facilities that serve your community. These water treatment, storage and supply system assets are now owned by a private entity, and the City plans to acquire these assets from the current owner and operator through the eminent domain process.

Veolia Water North America – Northeast, LLC (Veolia Water) discusses in this section our detailed plan and approach for addressing the Base project defined by the City for the day-to-day operation, maintenance and management (O&M) of the water supply facilities for your community. The focus of this work will be on delivering the City's water customers' high quality drinking water that is in full compliance with all applicable standards, laws, rules and regulations. In tandem with these goals is the mandate to provide for uninterrupted water service, protection of the watershed, with no affects on the quality of water or the level of service delivered.

In this section of our Proposal, Veolia Water defines a clear plan and approach to meeting the City's plan and goals, as they were defined in your RFP. Section Three addresses our proposed Management and Staffing Approach, and Section Four completes our Base Proposal with a discussion of the Transition Plan.

Section Five of this Technical/Management Proposal provides a discussion of the experience of our firm, as well as that of our proposed primary subcontractor for this project, Dufrense-Henry. This volume concludes with our Alternative Proposal, Section Six, which outlines our plan and approach to provide the City with the opportunity for enhanced savings and greater value from this new relationship. The approaches that we define in that section are those which our firm has applied in our work on similar projects, such as Indianapolis, Indiana.



In 2002, Veolia Water began a $1.5 billion, 20-year contract with the City of Indianapolis for O&M, Capital Program Management and Customer Service of the City's waterworks system, which currently serves more than 1.2 million people.

Our Price Proposal, presented in Volume II of this submittal, provides a pricing scheme for both the Base and the Innovative (Alternative) plans, and documents the savings and clear benefits that are offered by the alternative approach.

1 - Project Understanding

As demonstrated in Proposal and our earlier submittal, Veolia Water has the experience and resources needed to meet the scope of services that the City of Nashua defined for this project. This includes our current work with the City of Indianapolis, Indiana, where we operate and manage a water treatment and supply system that serves more than 1.2 million people in and around the City.

Our Indianapolis project is very similar to this proposed project with the City of Nashua. Our relationship with Indianapolis began in 2002 when the City acquired its water assets from a private investor-owned utility and transitioned the operations and management responsibility for the system to Veolia Water under a 20-year agreement. The Indianapolis Waterworks contract is one of the more than 100 municipal water systems that our firm operates and manages throughout the U.S., and among the thousands of water systems that Veolia Water companies operate and manage for communities around the world.

What this all means to the City of Nashua is that we will bring to bear the national and international experience of our firm to provide you with a first-class water operations delivered by a locally based operations, management and support team. Our demonstrated success in Indianapolis will serve as the model we will use for the O&M of the Nashua Water Works.

In this Proposal, we define Veolia Water's plan and approach that addresses all of the critical needs that the City of Nashua has outlined for this project, and applies the experience and knowledge gained at other projects, including Indianapolis.

We will apply the base of experience and expertise that we offer by providing an experienced and proven project management and support team that includes many of the key staff that were involved in the successful development of the Indianapolis public-private partnership contract. This core team will be supported by an array of experts from our firm's local, regional, national and international resources.

While we may draw upon resources from throughout the Company, this project will be managed and supported at the local level. Veolia Water will be the direct contracting entity. This business unit of Veolia Water has the management, technical, financial and other resources needed to effectively serve the City of Nashua under this proposed long-term agreement.

1.1 - Overview of the City of Nashua's Water Works

The City of Nashua is seeking to acquire the water utility assets of the Pennichuck Corporation's three subsidiaries. However, the New Hampshire Public Utilities Commission is limiting the acquisition of the Nashua Water Works, currently known as the Pennichuck Water Works (PWW), only. The Nashua Water Works, or PWW, are now owned by the Pennichuck Corporation, and this system serves the City of Nashua and some surrounding communities outside of the City limits.

The assets of PWW include a conventional surface water treatment plant (WTP) with a rated capacity of 35 MGD. The primary water supply for the WTP consists of about 351 acres of water in a series of ponds that include Supply Pond, Harris Pond, Bowers Pond and Holts Pond, as well as Stump Pond, Pennichuck Pond, and many smaller ponds. The total watershed is approximately 18,000 acres. The facility treats an average of 14.1 MGD and a peak flow of approximately 25 MGD. It also has 25 community water systems, approximately 48 wells in 20 well fields, 6 dams, approximately 34 booster stations with 71 booster pumps, and 10 storage tanks.

The water distribution system has approximately 425 miles of main. Ductile iron and cast iron pipe account for 72% of the materials. PVC is 14% and transite is 10%. A portion of the cast iron pipe in the distribution system dates to the early 1900s. The system includes approximately 24,700 non-fire services, 760 fire services, 24,300 meters and 2,430 hydrants.

To facilitate the transfer of the PWW to ownership by the City, Nashua, and surrounding communities formed the Merrimack Valley Regional Water District (District). As stated in the RFP, "it is the City's intention to transfer ownership of the water utility assets acquired to the District upon completion of the taking, if possible."

The District was created as a regional water district and established to provide and ensure an adequate and sustainable supply of clean, potable water at reasonable cost and to advance the conservation and compatible recreational use of the land according to the District's goals and objectives. It works for the benefit of its customers and ratepayers, ensuring the health, safety, welfare, and well-being of all residents of the District.

1.2 - Transferability

Veolia Water understands the City of Nashua's plans to transfer ownership of the acquired utility assets to the District, and our Agreement with the City will be structured to accommodate this transfer. There will be no change in terms or conditions when the Agreement is transferred from Nashua to the District.

2 - O&M Plan and Approach

In this, and the succeeding two sections of this Technical/Management Proposal, Veolia Water defines our approach for the day-to-O&M of the water system that serves the City of Nashua. Our Proposal has been structured to address the O&M requirements of the City's RFP.

Veolia Water's technical approach is designed to improve the quality of service for the customers of the Nashua water system. Veolia Water's priorities for quality water service are as follows:

- **Safe and High Quality Product** - A product that meets regulatory and aesthetic requirements.
- **Adequate Supply and Pressure** - Adequate pressure and volume to meet the customer requirements.
- **Reliable Service** - Minimizing service outages due to water main breaks, equipment failures, and operational problems.

- **Proper Planning for System Demands** – Planning for and constructing new facilities to accommodate community growth and meet system demands.
- **Risk Minimization** - Performing O&M to minimize water quality risks, service outages and catastrophic events, and having contingency and emergency plans to effectively deal with risks.
- **Watershed and Water Quality Management** – Protecting this critical asset through Best Management Practices and developing long-range plans for both source water protection and effective and efficient treatment facility operations and maintenance.

The paragraphs that follow detail the key elements of our O&M plan and approach in a series of Technical Plans that discuss each of the critical areas that will be involved in the day-to-day O&M of the various elements of the water system. The core elements, or plans, that form our approach include:

- Watershed Management Plan
- Water Quality Plan
- Asset Management Plan
- Maintenance Management Plan
- Operations, Maintenance and Management Plans

Section Three of this Volume outlines our management and staffing approach for implementing the plan defined here, and Section Four documents how we will transition services for the current investor-owned utility to operation and management by our firm.

The plans presented as a part of this Proposal are based on the information and limited due diligence allowed to date. As we move forward in this project, Veolia Water will provide specific details for the Nashua water system assets, based on the results of the final due diligence.

2.1 – Watershed Management Plan

Veolia Water proposes to fund $200,000 in the first two years of the services agreement to perform a comprehensive watershed evaluation and develop a watershed management and source water quality plan.

Veolia Water is proposing a comprehensive watershed management plan and approach for the City of Nashua. Protecting and preserving this water source is critical to the community both from water quality and quantity perspectives and as a natural resource.

Key objectives of the comprehensive watershed evaluation will include:

- Evaluating prior watershed and source water quality engineering reports
- Performing additional water quality testing of problem areas, and perform water quality testing throughout the year to account for seasonal differences
- Researching and analyzing data and identify problem areas
- Developing recommendations and approaches to deal with identified source water quality problems
- Presenting a report on findings to the City of Nashua and other stakeholders and communities within the watershed

- Providing support to stakeholders in developing policy improvements and in developing community outreach programs
- Providing for ongoing watershed analysis, watershed education and community support of watershed initiatives

Description of the Watershed

The watershed land that surrounds and contributes water to the ponds that make up the Nashua Water Works lie in five towns, including Nashua, Merrimack, Amherst, Milford, and Hollis. The primary water supply consists of about 351 acres of water in a series of ponds that include Supply Pond, Harris Pond, Bowers Pond and Holts Pond; as well as Stump Pond, Pennichuck Pond, and many smaller ponds. The details of these supplies are summarized in Table I.1-1, below. The estimated storage for two of the ponds was indicated as unknown due to sediment buildup.

Table I.1-1. Pond Supplies

Pond Name	Cumulative Drainage Area	Surface Area	Estimated Storage in 2000
Holts Pond	14,171 acres	23 acres	Unknown
Bowers Pond	15,955 acres	92 acres	180 million gallons
Harris Pond	17,199 acres	78 acres	340 million gallons
Supply Pond	17,598 acres	16 acres	Unknown

The total watershed is approximately 18,000 acres and supplies water to the ponds through surface water flow and base flow—or groundwater flow.

Additionally, the Nashua Water Works can receive flow from the Merrimack River through an intake, which delivers water into the pond system by way of Bowers Pond downstream of the Everett Turnpike Bridge.

Veolia Water has reviewed a number of documents in its evaluation of the watershed, including the Rizzo Associates reports dated November 1, 2002; the Fay, Spoffard & Thorndike report of dated May 2004; and Pennichuck Water Works Watershed Management Plan prepared by Comprehensive Environmental Inc.

Each of documents highlighted common areas of concern for the Nashua Water Works watershed:

- **Pond Eutrophication** – Increased nutrient levels and decreased pond capacity due to sedimentation buildup
- **Buffer Zones** – To control run-off from various sources
- **Storm Water Run-Off** – Primarily focused on developments that result in decreased amounts of permeable land -- impacting ground water recharge
- **Other Impacts** – Agriculture, transportation facilities, industrial and commercial effects, sewage facilities – both municipal and private -- and documented hazardous waste sites

Each item contributes to the overall water quality issues faced by the Nashua Water Works. Some of the water quality issues facing the Water Works as a direct result of the current condition of the watershed and pond system are:

- High and fluctuating turbidity levels
- Temperature fluctuations
- High levels of iron and manganese
- Taste and odor issues due to blue-green algae

Veolia Water's Watershed Management Plan will focus on working with the City of Nashua to implement Best Management Practices for the watershed; to develop educational tools and approaches; to seek regulatory controls, where available, to manage the watershed; and to implement targeted capital improvements into the pond system.

Objectives of the Watershed Management Program

Veolia Water's goals for watershed management center on protecting and improving the source water quality of the water works, developing water withdrawal protocols that ensure optimal source water quality and source water management, developing and implementing best management practices, and watershed water quality research and analysis to further our understanding of the watershed and its long-term health.

Veolia Water will provide its expertise from projects such as our Indianapolis project. Research conducted and experience gained there has shown that watershed water quality can be managed to improve finished water quality. We will expand its knowledge base by working with local entities that can add valuable knowledge of the area and tap into expertise within the Nashua area.

The objectives for the Veolia Water watershed management plan for the Nashua Water Works are:

- Complete the comprehensive watershed evaluation study and develop the watershed and source water quality management plan in years 1 and 2 of the service agreement at a cost of $200,000.
- Develop a source water quality protection plan.
- Partner with local governmental and environmental groups to develop and implement best management practices for watershed protection.
- Provide standard operating procedures for operation and maintenance of the pond system.
- Develop water withdrawal protocols to ensure optimal source water quality and source water management.
- Develop educational tools and approaches, such as public awareness, technical workshops and school age educational programs.
- Work with the City of Nashua and local groups to develop and implement community clean up days on the watershed.
- Implement a Citizens Advisory Group to provide expertise and guidance to both watershed and water quality issues.

Veolia Water realizes the importance of the Nashua Water Works watershed to the overall health of the community. Veolia Water also realizes that a significant portion of the watershed lies outside the City of Nashua. Veolia Water will work with the City of Nashua in encouraging and educating neighboring communities on the importance of protecting this water source, not just for drinking water, but for the health of the ecosystem of southern New Hampshire.

Methodology for Implementing the Watershed Management Program

Veolia Water will develop a Source Water Quality Protection Plan for the watershed, which will outline the water quality parameters to be monitored, sampling and testing regimens required, potential in-pond treatments required, and raw water characteristics analyses for enhancing the water treatment requirements. This plan will provide the raw water quality data required for developing and implementing the overall watershed management plan. The plan will utilize data already collected for the various reports conducted for Pennichuck Water Works and will continue these efforts.

In developing the watershed management plan for the City of Nashua, Veolia Water will draw upon its knowledge of reservoir and watershed management as well as solicit expertise from local and state groups that have intimate knowledge of the watershed.

Veolia Water's plan to achieve the objectives proposed includes the following:

- Outline projects in the Capital Plan that will improve source water quality. Numerous capital improvements have been proposed by Pennichuck, and Veolia Water offers some specific recommendations for these improvements in Section Six, our Alternative Proposal, under Capital Program Management.
- Work with local groups such as the Pennichuck Brook Watershed Council to increase public awareness of the watershed, as well as develop both technical and school-age education programs.
- Work with the City of Nashua, municipalities surrounding the watershed, environmental groups, and other local and state regulatory groups to develop and implement best management practices for the watershed. The program will incorporate zoning regulations, subdivision regulations, protection overlay districts, septic systems regulations and maintenance and creation of buffer zones.
- Provide training to employees on standard operating procedures for operations and maintenance of the pond system and all raw water sources.
- Integrate the watershed's source water protection plan into the treatment plant Process Control Management Plan and the overall Water Quality Plan to ensure that source water quality is managed as aggressively as finished water quality.

Veolia Water's approach will ensure the long-term viability of this important resource. Veolia Water will work with the City of Nashua to ensure that both water quality and water availability are maintained and improved.

A summary of our Watershed Management Plans and Activities that we've implemented for Indianapolis is included in Appendix C, Volume II, of this submittal.

Challenges and Solutions of the Watershed Management Program

Challenges	Solutions
The ponds have serious water quality issues, especially during the summer -- temperature fluctuation, iron and manganese, turbidity, and taste and odor precursors.	Outline recommendations in the Capital Plan. Implement a source water quality plan and implement Process Control Management Plans to ensure finish water quality is maintained.
Not all of the watershed is within the City of Nashua.	Work with neighboring municipalities, as well as local and state regulatory groups, to develop and implement best management practices.
Safe water yields are exceeded in the summer months.	Work with the City of Nashua in implementing City Capital projects to increase water availability; pond dredging, additional Merrimack River water, potential for developing well sources, other.

2.2 – Water Quality Plan

Water Quality Issues Affecting the Nashua Water Works

The Nashua Water Works contains a mixture of both surface water and groundwater. The core system, drawing source water from the Supply Pond and Harris Pond and peak usage from the Merrimack River, is faced with numerous actual and potential water quality issues, including:

- **Algal Blooms and Algal Toxins** – These can contribute significantly to taste and odor problems.
- **Disinfectant Byproducts** – These are caused by the high levels of silt and organics in the watershed and pond system mixing with the treatment chemical chlorine in the water plant.
- **Mixing Merrimack River Water with the Pond System** – This problem causes a number of issues such as temperature and flow fluctuations, spikes in turbidity, de-stratification of the ponds resulting in the release of organics such as phosphorus, nitrogen and ammonia, as well as iron.

The community water systems within the Nashua Water Works are well systems. Well systems have different water quality issues such as:

- Well head protection
- Iron and Manganese
- Arsenic
- Taste and odor issues

Veolia Water will use its expertise and experience in water operations to ensure that the Nashua Water Works' water quality is maintained and improved, and that safe, compliant, reliable and aesthetically pleasing water is provided at all times.

Objectives of the Water Quality Plan

Veolia Water's objectives regarding the Nashua Water Works water quality issues are as follows:

- **Regulatory Compliance** - Maintain Regulatory Compliance 100% of the time.
- **Source Water Management** - Manage source water use to maximize both water quality and water production.
- **Wellhead Protection** - Work with the City to update or develop well head protection plans.
- **Operational Controls** - Institute operational controls to limit watershed water quality impacts.
- **Distribution System Flushing** - Use a flushing program to maintain water quality throughout the distribution system.
- **Capital Planning** - Propose capital improvements that will limit the development of taste and odor precursors in the pond system, and propose projects that will improve water quality through the treatment facility.
- **Public Education** - Work with local watershed and environmental groups to protect the watershed and educate the public about the importance source water quality.

Veolia Water will work closely with local environmental and conservation organizations to educate the public about the watershed and about their water use practices. Through this collaboration, we will investigate the water quality issues that are most prevalent in the Nashua area. In due course, an effective and long-term water quality management program will be developed and engaged.

Methodology for Implementing the Water Quality Plan

The solution to water quality issues will not come without commitment, dedicated expertise and investment. Management of these issues will involve coordination between plant operations, field services and asset management and City Capital investment with the common goal of providing a product that not only meets regulatory requirements, but minimizes any aesthetic concerns.

Veolia Water's plan to achieve the objectives proposed includes the following:

- Developing Watershed Management and Source Water Quality Plans.
- Capital planning to improve water quality and to meet all current and pending drinking water rules and regulations.
- Developing and implementing Process Control Management Plans (PCMPs) for all treatment facilities. PCMPs are used to ensure that all operational and water quality parameters are maintained within set parameters. PCMPs are discussed further in the Plant Operations Plan and in the Regulatory Compliance Plan.
- Developing and implementing an employee training program – latest treatment techniques, best practices, laboratory sampling and analysis, safety, other.
- Developing and implementing a distribution system flushing program to minimize any aesthetic issues generated in the distribution system.

Benefits of the Water Quality Plan

The benefits of Veolia Water's water quality plan include:

- **Providing the highest quality water** to the customers of the Nashua Water Works, building customer confidence and satisfaction.
- **Limiting taste and odor and other water quality problems** through effective watershed management and focused operational controls.
- **Addressing color or clarity concerns** generated either in the treatment facilities or the distribution system.

Veolia Water is committed to maintaining and improving water quality in the Nashua Water Works. Through operational controls and City capital investment, Veolia Water will ensure that the water works meets the expectations of the City and its customers with regard to water aesthetics and water quality.

Veolia Water's Experience in Large Water System Water Quality

In Indianapolis, Indiana, Veolia Water accepted the challenge of resolving significant taste and odor problems related to algae growth, atrazine, and geosmin and methylisoborneol (MIB) in the drinking water supply reservoirs. By focusing efforts on controlling the growth of nuisance algae, by instituting carbon feed protocols, and by using reservoir water quality analysis effectively, Veolia Water significantly reduced the number of customer complaints and significantly improved the aesthetic water quality. We continue to work to ensure that water quality is maintained and improved, both within the watershed and within the treatment plant and distribution system. Our success in Indianapolis has been based on partnering with the community to solve technical problems as follows:

- Veolia Water worked hand-in-hand with a Technical Advisory Group (TAG), made up of scientists and engineers representing local industries, environmental organizations and universities, to seek advice on technical water quality issues and prioritize the needs of the water system. Veolia Water reached out to include the regulatory personnel from various agencies to provide a forum for addressing complex water quality issues that cross multiple jurisdictional boundaries.
- Veolia Water formed a research partnership with Indiana University-Purdue University at Indianapolis (IUPUI). The Central Indiana Water Resources Partnership (CIWRP) relationship is based on Veolia Water's long-term commitment to invest in the improvement of the source water quality and the expectation that this investment will result in improvements to both the source water and finished drinking water quality in Central Indiana. This partnership has been a huge success in helping develop and implement improved watershed management programs.

Veolia Water expects to implement similar activities and initiatives for the Nashua Water Works, and some of key approaches that we are proposing are discussed in Section Two of this Volume, our Community Relations plan and approach.

Challenges and Solutions for the Water Quality Management Plan

Challenges	Solutions
Source water may contain compounds that present water quality issues.	Conduct jar tests to optimize selection of most effective treatment chemicals. Implement PCMP to

Challenges	Solutions
	optimize plant operations to mitigate water quality issues. Work with watershed stakeholders on long-term watershed improvements.
Water Quality issues may require capital improvements, operational process improvements, or additional source water protection measures.	Leverage Veolia Waster's extensive expertise to develop the most cost effective solution. Identify improvements to meet regulatory requirements or for needed capacity upgrades.
Problems related to stagnant water or high turbidity may occur in the distribution system.	Develop and implement a flushing program to minimize problems associated with distribution system flows. Recommend capital improvements to resolve inherent flow problems.

2.3 – Asset Management Plan

A major benefit of our asset management program will be to minimize the required City capital investment. Minimizing City Capital investment is absolutely essential to control rate increases required to support ongoing City Capital investment. An example would be to perform timely maintenance on critical plant and field equipment, which extends service life and allows for deferment of City Capital investment.

The second major benefit of our asset management program will be to increase reliability of critical plant equipment and provide uninterrupted quality water service for the customers.

Another benefit of our asset management program is to enable the City to use the "Modified Approach" to GASB34. To use the "Modified Approach," an accurate assessment of the condition of the asset and the remaining service life must be made. The benefits of using the "Modified Approach" to GASB34 are as follows:

- Record annual depreciation costs.
- Improved balance sheet asset value.
- Improved borrowing and bonding capacity.
- Greater understanding of infrastructure condition.
- Improved long-term financial management of infrastructure assets.

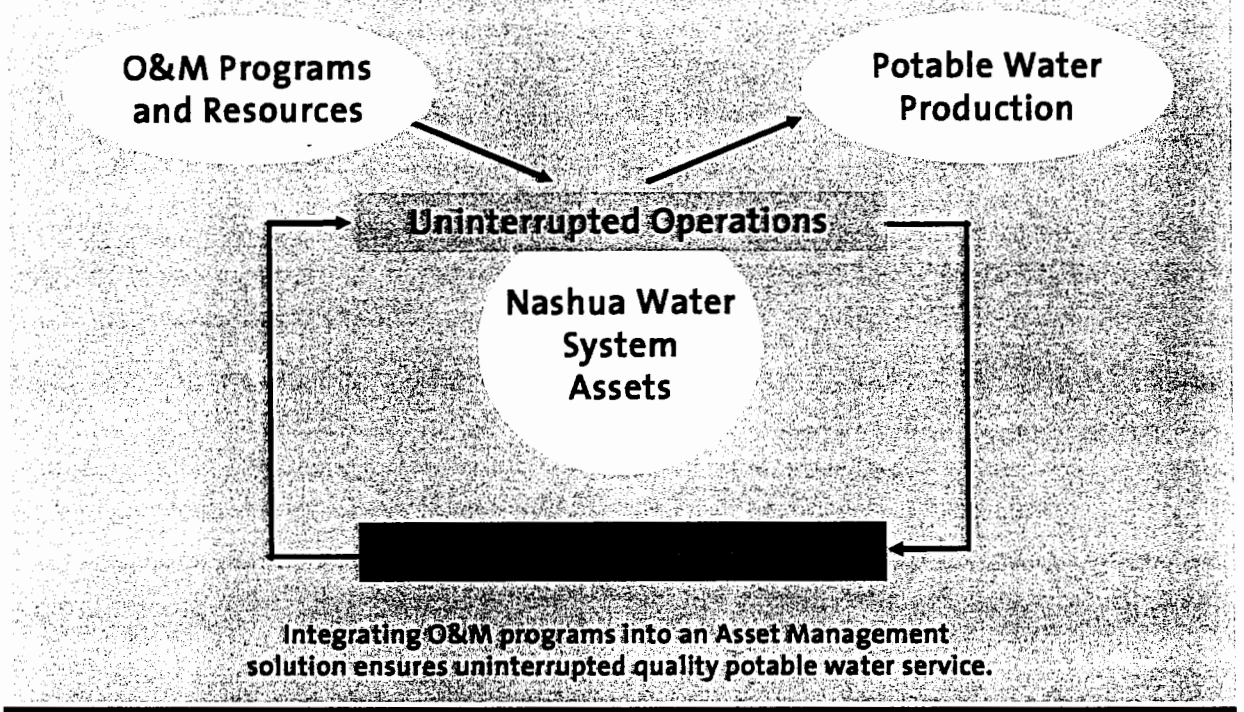
In operating and managing the Nashua water system assets, Veolia Water will employ Total Asset Management.

Asset Management, essentially, is a proven methodical approach to managing the asset's life cycle. Veolia Water's Asset Management program brings together financial, engineering, economic, operating, managerial, and maintenance practices to determine the most cost-effective means of owning, managing and operating the water system.

Overall Asset Management Strategy

Figure I.1-1, next page, represents how Veolia Water's approach to Asset Management delivers customers quality services and targets programs and resources to ensure uninterrupted water production. Figure I.1-1 also shows how uninterrupted operation of the water production facilities generates a demand for planned maintenance.

Figure 1-1. Veolia Water's Asset Management Strategy



Integrating O&M programs into an Asset Management solution ensures uninterrupted quality potable water service.

Asset Management Essentials	
O&M Staffing	• Fully certified and properly trained • Integrated with engineering to bring lifecycle knowledge and experience through the duration of the project • Employed from transition, allowing single-point accountability through the term of the project
Operations	• Operating strategies that are science- and engineering-based, allowing us to identify and mitigate risks at project startup • Lifecycle costing reduces process management costs and improves performance reliability • Understand and anticipate operational challenges and mitigate them through process optimization
Maintenance	• Proactive maintenance significantly reduces costs associated with corrective maintenance • Equipment savings are passed on to City through our lifecycle costing strategy
Preventive Maintenance	• Extends life, performance reliability and efficiency of equipment and manages wear-related failures • Reduces the need for costly corrective maintenance
Equipment Repair & Replacement	• Ensures long-term integrity of equipment • Obsolescent machinery is replaced with improved functionality
Permit Compliance	• Guaranteed full compliance with EPA Safe Drinking Water Act and NHDES standards
Contract Compliance	• Guaranteed full compliance with the service agreement
Information Technology	• Our CMMS can be integrated with the City's information, ensuring effective project management and performance monitoring • CMMS tracks O&M performance, allowing us to provide efficient delivery of services while protecting the City's infrastructure investment over the long term
Safety	• Our performance exceeds industry standards, ensuring safety for both City and Veolia Water employees
Quality Assurance	• Veolia Water standards guide our employees in providing quality service to our clients.

Our approach is to evaluate the asset based on its design, initial installation, operating costs, maintenance cost, and overall reliability. This approach allows us to really understand the total cost of ownership of an asset and results in better-informed asset care decisions. The Veolia Water Asset Management strategy considers the performance history of equipment in comparable operating conditions so that equipment that demonstrates more reliability and lower O&M costs over the life of the asset is selected when replacements are necessary. Veolia Water uses a proven cost/benefit analysis tool that evaluates equipment reliability, failure frequency, safety and health of personnel, potential risks and hazards to the environment and costs; initial installation, maintenance, operational and retrial. By understanding the equipment life cycle costs, Veolia Water will assist Nashua in making sound investment decisions that lead to a safer, more reliable, and cost effective operation.

Application of the Asset Management program decision process requires that an accurate record of maintenance history and associated costs be maintained. Veolia Water's recommendations for equipment replacements are based on manufacturers' recommended replacement schedules and its experience in maintaining similar equipment at other projects.

Objectives of the Asset Management Approach

Outlined below is Veolia Water's comprehensive approach for maintaining the assets of the Nashua Water Works, which includes reservoirs, ponds, the treatment plant, pumps, storage tanks, water mains, valves, hydrants, meters, etc.

At Veolia Water, disciplined asset management allows for the optimum integration of maintenance programs and operating resources in support of uninterrupted quality water production. Our Asset Management program places emphasis on three goals:

- Performance of maintenance and repairs in a timely, efficient, and effective manner
- Practical accountability methods to measure and sustain asset condition and performance
- Managing risk and the associated costs

Veolia Water's Asset Management program is results-oriented, rather than task-oriented. Priorities and measures of performance are based on cost-effective solutions

Veolia Water's asset management approach is proactive. It makes productive use of planned maintenance strategies to reduce costs normally associated with corrective maintenance. Our maintenance objectives include:

- Caring for and fully maintaining infrastructure through the life of the service agreement.
- Limiting unplanned maintenance through a comprehensive preventive and predictive maintenance program.

Veolia Water's Asset Management tools support the complete lifecycle management of an asset. **SPL Enterprise Asset and Work Management System (SPL)**, our computerized maintenance management system (CMMS), permits the inclusion of various equipment attributes to monitor elements such as environmental conditions, equipment application, sludge disposition or chemical dosing to evaluate system performance. The Asset Management system also tracks inventory, equipment condition data, defined service levels

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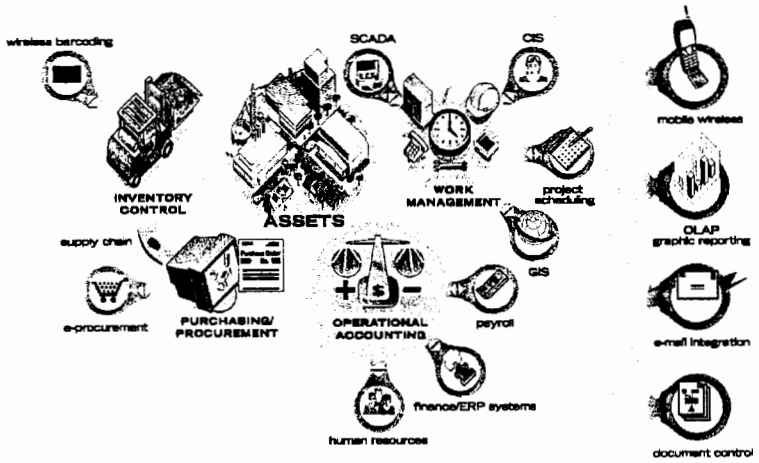


SPL Enterprise Asset & Work Management Solutions Enterprise Asset Management/Computerized Maintenance Management System (formerly Synergen)

performance limits and tolerances, failure of serviceable assets, and supports a condition-based maintenance plan.

Veolia Water uses predictive and preventive procedures as a principle component of the Asset Management program. Predictive testing generates data for review and analysis. Performance trends are tracked, and non-invasive maintenance is performed to maintain reliability and keep equipment performance at required levels. Specific maintenance programs will be developed that define customized maintenance tasks, task frequencies, required skill sets, and materials.

Root cause failure analysis is another consideration of the Asset Management strategy. Every equipment failure is investigated to determine the actual root cause. Through a series of questions and the resulting answers, the failure may be tracked to such ultimate causes as an engineering defect, an operational problem, a previous maintenance error, a training issue or another issue as determined by the analysis. The results of the root cause analysis are used to modify the maintenance program when appropriate.

Veolia Water has implemented the SPL (Synergen) program at O&M projects for:

- **Indianapolis, IN** (12 water plants with 200-MG daily production capability)
- **Vancouver, WA** (three wastewater plants).
- **Oklahoma City, OK** (four wastewater plants, capable of processing 106 MGD).
- **Cranston, RI** (Asset Management for a 23-MGD regional wastewater plant).
- **Streator, IL** (3.3-MGD wastewater plant).
- Additional sites in the start-up phase for this program include: **Junction City, KS** (municipal and industrial wastewater plants); **Richmond, CA** (16-MGD wastewater plant); and **Fort Knox, KY** (military utility privatization project).

Our firm has also targeted a number of other of our facilities for conversion to SPL in the near future.

In an Asset Management strategy, using the data gathered from our maintenance practices, we compare the maintenance and performance history to comparable equipment in similar applications to determine best reliability when making decisions about what equipment manufacturer, make or equipment model to select as a capital replacement. The City of Nashua will benefit by being a part of Veolia Water's large maintenance database.

The Veolia Water maintenance database has valuable information on the reliability of specific vendor equipment for each process application. By using this information, poor operating equipment can be replaced with assets with proven reliability numbers.

Methodology for Implementing an Asset Management Approach

Asset management will provide the City of Nashua with a set of success factors by which performance can be measured. The City's goal to achieve facility reliability and asset protection will be the keystone of Veolia Water's Maintenance Management Plan, presented in subsection 2.4 of this operations plan.

Veolia Water's experience in providing quality maintenance for more than 7,500 water facilities worldwide places emphasis on:

- Safeguarding the City's multi-million dollar investment in equipment and facilities.
- Using predictive, preventive and proactive maintenance programs that can extend the life, performance reliability and efficiency of equipment.
- Ensuring that maintenance is performed in accordance with the equipment manufacturers warranty, specifications and generally accepted industry standards.

The Asset Management strategy places emphasis on the following Best Maintenance Practices by:

- Using a comprehensive maintenance evaluation to assess the quality of the water works equipment maintenance and ensure that equipment is returned to the City in substantially the same or better condition.
- Tracking maintenance activities with our CMMS.
- Organizing and training operations and maintenance personnel to work together toward becoming autonomous in daily activities to improve equipment effectiveness.
- Avoiding operational problems through preventive and predictive maintenance performed in advance of equipment failure.
- Proactively planning corrective maintenance work assignments.
- Monitoring the quality of maintenance performance to optimize employee performance and productivity while enhancing equipment reliability.
- Maintaining good housekeeping and attention to landscaping as an integral part of facilities maintenance.
- Managing new equipment warrantees.
- Following standard maintenance procedures, maintaining up-to-date equipment maintenance manuals, including written standard maintenance procedures.
- Using local vendors and our well-developed network of national purchasing agreements to take advantage of quality materials at the lowest cost.

Supporting the City's strong commitment to protect its investment and using Veolia Water's proven knowledge of maintenance management, we will achieve a first-class maintenance program that can be measured by the following success factors:

- Limited equipment downtime.
- A reliability driven, proactive operations and maintenance culture.
- Consistent and reliable maintenance of the equipment that promotes use of good process control methods.
- Systematic development and implementation of a predictive testing program to avoid emergency equipment down time.
- Evaluation and redesign of processes to develop more robust operation.
- Use of Root Cause failure analysis to continuously improve the asset's maintenance plan.

- Managing materials consumption to eliminate emergency procurements while avoiding unnecessary inventory costs.

Computerized Maintenance Management System

Veolia Water will utilize a CMMS, which will allow for the inclusion of various equipment attributes. The system also includes information on inventory control, condition assessment and monitoring data, defined service levels, defined performance limits and tolerances, functional failure definitions for all serviceable assets, and supports a condition-based maintenance plan, that incorporates predictive and preventive maintenance procedures. The CMMS supports both aboveground and below-ground maintenance. The major benefits of the CMMS system include:

- Asset and resource management
- Work and maintenance management
- Inventory control and materials management
- Reporting and analysis
- Mobile computing
- GIS integration

The system will be integrated with other software including the SCADA system, and work orders will be downloaded to the maintenance staff directly to their hand-held PC units in the field. This approach saves valuable time and improves overall wrench time availability.

The following provides an overview of how Veolia Water will utilize the CMMS to meet Nashua's objective of asset protection:

- **Work Order System** - Generate preventive, predictive and corrective work orders to document each task with an assigned priority; collect the cost data.
- **Project Planning and Scheduling** – Place all equipment on a maintenance schedule.
- **Maintenance Measurements** – Maintain current information base of all predictive measurements.
- **Equipment History** – Determine life cycle cost for the equipment and compare to replacement.
- **Inventory System** – Maintain key or critical spare parts inventory for all equipment.
- **Property Management** – Work with the City to implement a life cycle asset management system for physical assets.
- **Work Performance Standard** - Work performance standards published by Means Facilities Maintenance Standards (Means) will be used as the baseline for all maintenance and construction tasks.

O&M Manuals

Within the first 12 months, the O&M manuals will be updated for the treatment facilities and other water system assets. The updated O&M manuals will be used in conjunction with a detailed set of SOPs and unit process management strategies that will be prepared and coordinated with the operations and computerized maintenance software. SOPs would include plant and source of supply operations, safety, maintenance, vehicles and heavy equipment and employees.

Updating O&M Manuals

O&M manuals will be updated annually, as required. Any new or replacement equipment will be included in O&M Manual updates and automatically placed into the CMMS. All equipment manuals, as well as new or updated written manufacturers' materials, will be cataloged for future reference. These manuals will combine the knowledge of designers, constructors and operators involved in the project.

Condition Study

Within 180 days of the Service Commencement Date, Veolia Water will conduct a comprehensive survey of the acquired water system assets with recommendations for any major capital improvements required to maintain the system in adequate condition.

Veolia Water will recommend the equipment to be surveyed. The overall condition of the equipment will be determined and deficiencies will be noted. This evaluation is important because it allows both the City and Veolia Water to identify immediate problems and to predict problems and identify capital improvements required.

This condition survey will serve as the baseline to provide a mechanism to ensure the facilities will provide reliable service. These measurement techniques are subsequently used for:

- Making long-term predictive maintenance measurements and prioritizing any necessary repairs
- Allowing Veolia Water to take any immediate action necessary
- Identifying the required capital improvements

Veolia Water will update the condition study and provide a report summarizing the findings on an annual basis. Recommended capital improvements will be identified.

Above-Ground Assets

Treatment Facility and Equipment Maintenance

The water treatment facility and associated treatment equipment will be maintained to ensure that safe, compliant water is produced at all times. Veolia Water's asset management plans provide for a comprehensive preventive and predictive maintenance program. Key areas of asset management in the treatment facilities and equipment will be:

- Water facilities and equipment will receive preventive and predictive maintenance according to manufacturer's recommendations and industry standards.
- All chemical metering equipment will be maintained to ensure proper chemical dosing occurs at all times.
- Source of supply and pond system treatment equipment will be operated and maintained so the water entering the treatment facility is as high a quality as possible to ensure that the water treatment process is optimized.

Building Maintenance

Building maintenance is an important aspect of Asset Management and will include roof leak repair, regular pest control, janitorial services, repainting of facilities to prevent rapid deterioration or loss of aesthetic value, immediate repair of plumbing leaks and failures.

Water Works facilities will be maintained, at a minimum, to existing standards to provide a safe comfortable work environment. Some key areas of work include:

- **Parking Lots** -Parking lots will be maintained to provide proper ingress and egress to the facilities. All paved parking areas, access to these areas and asphalt-paved areas will be maintained.
- **Grass Cutting and Landscape** - Grass cutting and landscape maintenance will be provided on a seasonal schedule that ensures the grounds are kept neat and orderly.
- **Snow and Ice Removal** – Snow will be removed and walkways de-iced to ensure safe access to the plant offices and treatment facilities.

SCADA Systems

Veolia Water will continue to operate and maintain the existing SCADA systems associated with the facilities. Veolia Water will provide for O&M, training and service level standards for the SCADA system including backup systems. Veolia Water will make recommendations for City Capital improvements associated with the SCADA system.

Well Maintenance

The well maintenance program will be incorporated into the Web-based CMMS software, OPS 32, for water quality data and regulatory compliance. This program will be used to produce inspection requests and the resultant reports.

In addition to regular maintenance, Veolia Water will evaluate well performance versus historical records to detect any changes. This evaluation will include items such as flow rates, water depths, run times, pump ratings and well construction, and resulting data will be placed in the CMMS. Changes in performance, such as a decrease in well yield or specific capacity may be due to hydrogeologic conditions or due to mechanical and physical degradation within the well.

Examples of specific items that will be addressed during maintenance include:

- Capacity of individual wells.
- Assessment of mechanical and electrical problems.
- Assessment of mineral scaling, encrustation or bio-fouling.
- Inspections of the well fields and wellhead protection areas.

The frequency of any such maintenance activities and subsequent corrective actions will be dependent on the evaluation of well performance, as indicated by the historical record or as indicated by the manufacturer's recommended schedule (e.g., pumps).

Below-Ground Asset Management

Below-ground asset management focuses primarily on the water mains and service lines. These assets normally account for approximately 50 percent of the total dollar value of the water utility assets. The regular replacement of components of the underground water system assets is part of the overall Asset Management program, which encompasses regular inspection, preventive, predictive or corrective maintenance and replacement.

The Field Operations Plan, discussed later in this section, reviews in detail the O&M of the underground assets. This includes the repair of water main breaks, system flushing, and the repair and replacement of fire hydrants and valves.

An important aspect of Veolia Water's approach to below-ground Asset Management will be the development of an Underground Asset Rehabilitation and Replacement Plan (UARRP) for the Nashua Water Works. This is discussed in our Alternative proposal in Section Six.

Another important aspect of below-ground Asset Management is system replacement and rehabilitation (R&R). As discussed in Section Six, our Capital Program Management (CPM) will develop an annual replacement schedule for the water lines and distribution system components. This annual schedule will ensure that funds are spent each year on replacing the components that are in the worst condition. Based on the age of the Nashua underground pipes, the R&R rate should be between 0.5 percent and 1.0 percent per year of the total 425-mile system. This translates to an annual City R&R capital cost of approximately $1 million to $2 million. Veolia Water has processes and tools to ensure the City's R/R program will result in the following:

- Correcting service deficiencies, including pressure, flow and water quality
- Best use of the available capital funds
- Addressing the highest priority needs
- Reducing the water main break frequency
- Reducing system water leakage, losses and unaccounted-for water

Veolia Water's technical approach to its water distribution system R/R program will establish priorities based on the following criteria:

- Asset criticality (pipe asset will be assigned a rating of Highly Critical, Critical and Non-Critical)
- Asset condition, including failure data analyses and maintenance history
- Quality customer service
- Regulatory issues
- Environmental considerations

Ancillary Tools

A number of tools will support the Asset Management program. GIS system, hydraulic modeling, computerized maintenance management, and reliability centered maintenance are among those that will be used.

A GIS system that uses piping maps available in electronic format (see illustration at right) and any source documents that help identify system entities will be a key component of the underground asset program. Knowing the land- cover characteristics before conducting an emergency repair to a broken water main will allow the crews to bring the appropriate tools and equipment. In maintaining the system, techniques to record the horizontal and vertical position of a potable water system's point features (e.g., valves) will be employed. Using survey-grade GPS data collection techniques, depending on the prevailing conditions, Veolia Water has been successful at other projects, such as Indianapolis, in locating features to within one-foot of their true horizontal and vertical position. The GIS system can be integrated with Veolia Water's CMMS system to ensure that the repair history is tracked and used to make replacement decisions

Hydraulic modeling requires accurate information about depth of lay, top of pipe, pipe bends, valve elevations, etc., for the water system. Data captured through a GPS survey provides the necessary accuracy. Veolia Water plans to use Nashua's existing **water distribution system hydraulic model** of the potable water system. We anticipate that the model descriptions of the layout, configuration and sizes of system features can be extracted from the GIS system mapping and associated databases.

The data for the completed hydraulic model will reside in the computerized GIS mapping system. Over the long-term, the model, in conjunction with other software, such as the KANEW model, which determines pipe survivability used in R/R programs, will be able to identify sections of pipe to be cleaned and lined or replaced. Long-range strategy or master planning will allow the system to be maintained and customized to meet future population or demand increases and to handle geographic expansion.

Challenges and Solutions of an Asset Management Approach

Challenge	Solutions
Provide maintenance in accordance with the most stringent of applicable laws and prudent utility practice.	Veolia Water's proactive asset management program places emphasis on planned and predictive maintenance to ensure protection of the City's investment in water treatment facilities and equipment.
Implement the CMMS.	Establish a milestone implementation schedule that tracks Veolia Water's progress and performance. Provide the City with oversight for installation of CMMS. Promptly correct any CMMS deficiencies identified by the City.
Condition and age of facilities, equipment particularly in older facilities.	Carry out an initial condition survey, implementing predictive and preventive maintenance in CMMS to address deficiencies.
Update all O&M documents and implementing all SOPs.	Utilize the transition team and other Veolia Water resources to work with the water system staff and deploy a team accountable for this.
Maintain on behalf of the City all manufacturers' warranties.	Equipment warranty information, including warranty start and end dates, will be entered into the CMMS to ensure tracking of all maintenance and vendor activities.
Provide maintenance reports to the City in a timely manner to ensure compliance with the City's requirements and schedules.	Develop a mechanism for delivering maintenance reports to the City.
Condition and age of facilities, equipment particularly in older facilities.	Carry out an initial condition survey, implementing predictive and preventive maintenance in CMMS to address deficiencies.
Assess condition of all equipment, determine equipment that needs replacement, apply a schedule for preventive and predictive maintenance.	Evaluate asset criticality and focus efforts on improving reliability and managing the effects of equipment failure.

2.4 - Maintenance Management Plan

Veolia Water's maintenance management plan will be integrated with our asset management program. Our maintenance strategies and programs are always based on a few clear and prioritized objectives: Reliability, Cost Effectiveness and Client Satisfaction. As such, we will, under this O&M contract with the City of Nashua, maintain a high state of reliability in a cost effective manner while protecting the investments made in the facilities and assets.

Veolia Water's maintenance programs are based on four major fundamental aspects, including:

- Specific asset service, wear, and life cycle characteristics.
- Asset application and service context related impacts.
- Asset criticality in terms of unit and process reliability.
- Maintenance and service characteristics, techniques and procedures including costs/benefits.

Veolia Water's maintenance programs are specific and targeted. All of our experience and expertise developed at the vast array of other facilities and systems we operate will be used in support of development, implementation and operation of our maintenance programs for the City's water works facilities. The resulting program will be proactive, dynamic and specialized.

Veolia Water will, no less than 30 days prior to the Service Commencement Date, submit an update to the Maintenance Plan incorporated in the services contract. This update will reflect any conditions that have changed in the period between the negotiation of the services contract and the service commencement date. Veolia Water will within 90 days after the service commencement date, submit to Nashua a final maintenance plan reflecting all changes required by conditions not previously known to either Nashua or Veolia Water. The plan will include the details associated with directional flushing, which Veolia Water will perform.

Our maintenance management plan will entail a variety of elements, including:

- **Preventive maintenance** - to replenish routine wear or expendable components, extending operating functionality.
- **Predictive maintenance** - to quantify the condition and rate of change of material condition, allowing targeted reliability objectives to be monitored and controlled, and to support cost effective planning and scheduling.
- **Service Methods** - selection of internal and external service methods for cost effective use of staff labor and outside services.
- **Targeting Staff Skills and Abilities** – to ensure efficient, professional and cost effective manpower utilization and significance for each employee.
- **Evaluate Maintenance Activity Types** - to eliminate ineffective activities and enhance the value of effective ones.
- **Review and Evaluation of Maintenance Programs** – that considers results extracted from actual asset history and considers new and innovative maintenance activities, approaches, tools, and equipment.
- **Enhanced Reliability and Cost Effectiveness** – involves the alteration of assets to increase reliability and cost effectiveness, through measures such as the installation of run time totalizers to allow service to be run-time rather than calendar based.

Maintenance Management Plan Approach

The Veolia Water maintenance approach will be developed based on several fundamental basics. The program will essentially be a coordinated compilation of elements determined individually for each asset and the specific conditions under which each operates and is exposed. The objective is that each unit be retained at desired condition levels. Overall system or facility levels will be automatically met if each component is met.

Maintenance Management Methodology

The methodology Veolia Water will utilize and follow in developing maintenance programs include:

- Asset Inventory and Evaluation - Veolia Water will begin with a thorough audit and evaluation of the assets at the City facilities. This was discussed previously in this section under "Condition Study."
- Asset Service Requirement Determination - an integrated set of service needs will be developed based on manufacturer recommendations, experience with similar types of assets in similar operational circumstances, historical information on the actual assets, and established industry standards.
- Recurring Service Scheduling and CMMS Development - scheduled service activities will include conventional preventive maintenance, predictive maintenance and run-time or periodic-based service. The CMMS will be used to hold the procedures, resource requirements, reference information, scheduling, and historical compilation of performance and associated measurement information.
- Inventory and Spares - analysis of materials and parts necessary will be determined and used to develop an integrated set of spare parts and to establish an appropriate inventory.
- Development of Maintenance Program Policies and Procedures - identify a service need, enter into the CMMS as "open" work, perform scheduling and prioritize operational needs, implement efficient and effective procurement activities, maintain physical inventory control procedures, and develop and implement procedures for the process of collecting, recording, and entry of appropriate service data into the CMMS. As these site specific policies and procedures are developed, they will be incorporated in the Veolia Water site specific SOPs.
- Repair and Replacement - the R&M Budget developed by Veolia Water is consistent with the RFP and Veolia Water definition of City Capital. Major repair and replacement will be accomplished in similar fashion to the Repair and Maintenance as described above, with the difference being the financial aspect of the source funds as well as City review and approval.
- Housekeeping and Beautification - Veolia Water takes facility appearance very seriously. As such, appearance and aesthetic condition of the facilities is of utmost importance to us. As a matter of routine, Veolia Water will keep the facilities in a neat and professional manner. We will cooperate proactively with the City in advancing programs of beautification or appearance improvement.
- Upgrade of Obsolete Equipment - our approach is that some smaller, inexpensive and/or low reliability contribution assets are best replaced rather than service the units.

Maintenance activities to prolong the life of the unit may well cost more than the value of the increased life. Veolia Water analyzes full life-cycle costs and benefits of each service activity. We develop an integrated life-cycle strategy for each asset type that minimizes cost and maintains reliability.

Maintenance Management Plan Summary

Veolia Water will develop a customized maintenance plan for the City of Nashua under this contract. The key features and benefits offered by the Veolia Water plan and approach include:

- Proven Management Tool - The SPL enterprise asset management/computerized maintenance management system (CMMS), a state-of-the-art, Web-based asset management data collection software program, which offers:
  - Real-time viewing of all network equipment helping understand failures and to spot abnormal conditions.
  - User-definable metrics and key performance indicators for monitoring and benchmarking across all Veolia Water projects.
  - Unparalleled insight into both the physical and financial condition of assets for improved decision making regarding resource allocation.
  - Improved cost control and budget compliance due to real-time views of asset lifecycle costs per user-defined categories.
  - Minimal training required for casual and intermittent users due to tutorial wizards, embedded workflow processing, and an e-mail approval portal.
- Enhanced Reliability Approaches – These focus on:
  - Identifying critical assets and establish specific preventive maintenance schedules to protect those assets.
  - Establishing Root Cause Analysis of failures to understand their cause.
  - Significantly enhancing the availability of required inventory including spares based on rigorous failure analysis of assets.
- Enhanced Capital Planning – Made possible by:
  - Providing updated and cost justified information to support Nashua's long-term capital planning.
  - Facilitating close cooperation between Veolia Water and the City in planning future CIP.
  - Minimizing financial spikes by forecasting the need for additional funds in historically under-budgeted programs or in reducing money tied-up in programs over budget.

Protection of the City of Nashua's investment in your water facilities will be central to the Veolia Water O&M plan and approach. This approach was developed on the basis of our "stepping into the owner's shoes," which for us means to strike the best possible balance between maintenance and capital costs to optimize overall costs for the community. It

raises the issue of maintenance to a whole new level of understanding, and we believe that Veolia Water is the only firm capable of providing this.

Subsection 2.3 of this Operations Plan offers a complete discussion of Veolia Water's Asset Management plan and approach proposed for this contract with the City of Nashua. Veolia Water has implemented this approach successfully in the largest public-private partnership in the U.S., our current contract with the City of Indianapolis.

2.5 - Operations, Maintenance and Management Plans

2.5.1 - Production Operations Approach

Objectives of the O&M Approach

Veolia Water's objectives for the successful O&M of the Nashua Water Works are as follows:

- Provide uninterrupted, safe, timely, professional and reliable operations and management of the water works in a cost-efficient manner
- Maintain compliance with all safety, environmental and water quality requirements
- Operate and maintain all the components of the Water Utility as required by the RFP
- Perform all Water Quality testing and reporting
- Compile and file all required reports
- Implement an effective and efficient maintenance management system
- Protect the system assets
- Institute preventive and predictive maintenance

Methodology of the O&M Approach

Veolia Water's plan and approach to providing O&M of the system will guarantee that the water quality, demand, plant production, delivery and system storage capabilities are integrated into the operating plan. Plans will focus on making efficient use of personnel, controlling power, chemical consumption and sludge disposal costs and, most importantly, maintaining the confidence of customers by delivering excellent water quality. Components of the plan include:

Methodology of the O&M Plan

- Process Control
- Standard Operating Procedures
- Training
- Analysis of Water Quality
- Information Management
- Early Warning System
- CMMS

- **Data Management** - Utilize a comprehensive process control data management software system called OPS 32, for example, to improve finished water quality, increase employee productivity, reduce the cost of facility operations, and generate regulatory reports.
- **Process Control Management Plans (PCMP) for the Water Treatment Facilities** - This is a management tool to identify and quickly assess the control of critical unit treatment processes. An effective PCMP will ensure that all operational systems are operating within desired and designed parameters.

- **Standard Operating Procedures (SOPS)** – Apply Veolia Water's experience to establish SOPs for the O&M of all assets. Detailed SOPs will be developed for all critical and regulatory functions of the facility. This includes daily O&M activities, chemical loading and unloading, backwash procedures, satellite systems operations, laboratory procedures, and many others.
- **Training** – Provide staff with training in all areas and refresher training as required. At a minimum, training will be provided for in the areas of operations, maintenance, safety, regulatory compliance and company policies.
- **Analysis of Water Quality** – Veolia Water's laboratory QA/QC program will be applied and all data entered into the OPS 32 software. A specific Laboratory QA/QC Manual will be developed and will include:
  - *Water Quality Plan* – Integrates the source water quality, treatment water quality and the distribution water quality to meet or exceed the requirements of the drinking water performance criteria
  - *Source Water Quality* - Ensures that the source water is of high quality and reliable
  - *Treatment Water Quality* - Ensures that treated water quality is optimized, with the raw water quality analyzed on an ongoing basis
  - *Distribution System Water Quality* – Maintains the finished water quality leaving the treatment plant as the water is transported in the system

    Our Water Quality Plan was discussed in detail in subsection 2.2 of this Operations Plan.
- **Information Management** - Information generated in the SCADA system will be stored and available for subsequent review and uploaded into the process monitoring database, which will be maintained using the OPS 32 program.
- **Early Warning System** – This system will ensure all regulatory requirements are met. Any significant change in water quality for any parameter found in the regulatory sampling program will be flagged by the SCADA or the OPS 32 system before it approaches the regulatory maximum acceptable level.

2.5.2 - Field Operations Approach

Objectives of the Field Operations Approach

The primary objective of Veolia Water's Field Operations Plan (FOP) will be to improve the quality of service being provided to the customers served by the water system. The FOP will address all aspects of field O&M activities including field customer service. The FOP will be updated annually or as required.

Methodology for Implementing the Field Operations Plan

Field operations include field maintenance activities related to maintaining the water works facilities. A brief description of each of the activities is provided in this section. In addition, the customer service issues are discussed.

Veolia Water will have people, equipment and materials available 24 hours per day, 7 days per week to respond to emergencies. Periodically, emergencies may require outside

resources. Veolia Water can draw upon outside resources from its Team members and local contractors to assist in dealing with emergencies.

Veolia Water will respond immediately to all reported water main breaks, alarms, pump station failures and other emergencies. The response time will be within two hours of notification. A detailed record of our emergency response will include the type of emergency, actions taken and any follow up work that may be required. The detailed information on our responses to emergencies will be provided in our monthly report.

The improvements in water quality that Veolia Water expects to achieve will result from an integrated approach in every area of operations. In this regard, our **Field Operations Plan will be focused on**:

- Ensuring quality water in the distribution system
- Improving customer satisfaction.
- Improving emergency response time for main breaks (dispatched in 30 minuets or less, guaranteed).
- Effectively communications with customers.
- Providing measurable standard of service with service guarantees.
- Improving employee productivity and reducing operating costs.

Water Mains

The water distribution system has approximately 425 miles of pipe. Ductile iron and cast iron pipe account for 72% of the materials. PVC is 14% and transite is 10%. A portion of the cast iron pipe in the distribution system dates to the early 1900s.

Veolia Water is committed to the following:

- Dispatch personnel to emergencies within 30 minutes.
- Keep customers informed during a service outage.
- Analyze pipe samples to determine causes of failure and remaining service life.

Veolia Water will recommend programs to reduce the water main break frequency. In Section Six of this Proposal, Veolia Water offers to provide complete Capital Program Management. A function of this would be the reduction of water main break frequency, which will be tied to recommended performance guarantees.

Fire Hydrants

There are approximately 2,430 fire hydrants in the system. The 2004 NHPUC report does not indicate any private hydrants. The O&M of the fire hydrants will be closely coordinated with the City and local fire departments.

With respect to public fire hydrants, the City of Nashua Draft Water Ordinance indicates the following:

- Fire hydrants will not be used for any purpose other than extinguishing fires.
- Hydrant meters will be used for taking water from hydrants as authorized. Such taking of water will be billed.
- The fire hydrants will be operated by the agent of the City or duly authorized representative of the municipality.

Fire hydrants will be inspected on a regular frequency after report of an emergency leak. A seriously leaking hydrant could do extensive property damage if left unattended. Fire hydrants will be repaired on a high priority basis.

An objective of Veolia Water's hydrant program will be for all fire hydrants on the distribution system to function properly. Fire hydrants in poor condition will be replaced on an as-needed basis. Leaking or malfunctioning fire hydrants will be repaired or replaced. Based on age and condition, a certain number of fire hydrants will be replaced annually. This need will be included in the City's capital plan.

Veolia Water's fire hydrant painting program will be performed as part of the regular annual inspection program. Fire hydrants will be painted to properly maintain the assets and their appearance.

Valves

There are approximately 2,500 valves in the distribution system. Valves that cannot be located or are inoperable reduce system reliability and increase the number of customers that are out of service when a water main break needs to be isolated. The objective of Veolia Water's valve replacement program will be to ensure valves are operational. Veolia Water will inspect and exercise all system valves annually. Valves will be located, boxes cleaned, raised or lowered if required, and the valve will be turned to ensure proper operation. Valve measurements will be verified (if available) or created and recorded. The City will be furnished with a copy of the updated valve records annually. Valve replacements will be either Unplanned Maintenance or City Capital.

Service Lines

As indicated in the City of Nashua Draft Water Ordinance, the service line is the pipe from the water main to the curb stop within the public right-of-way. Such pipe will be owned and maintained by the City. There are 24,685 non-fire service lines and 759 fire service lines in the water system. Older service lines are a major contributor to unaccounted-for water. Service lines will be part of the regular leak detection program. Based on the age of the system, Veolia Water will establish a repair program for leaking service lines. The City's capital plan must allocate funds for the replacement of aged service lines.

Booster Pumping Stations

The PWW distribution system has approximately 34 booster pumping stations. A portion of the pump stations are monitored and controlled from the SCADA system. Operating data and information for the remote pump stations will be collected and processed by the SCADA system. Critical alarms will be monitored to ensure the reliability of the pump stations. The critical equipment at the pump stations will be part of a predictive and preventive maintenance program. The CMMS will be used to plan and track maintenance data and information.

Storage Tanks

There are 10 finished water storage tanks that supply water to the distribution system. The operating levels of the water storage tanks will be monitored and controlled from the SCADA system. Recent research conducted by the AWWA Research Foundation found that water quality deterioration in finished water storage tanks is a serious problem. Veolia Water will have a program to ensure that water quality is not deteriorating in the finished water storage tanks. For example, we will use operating data and information to determine daily turnover. The goal will be to achieve at least a 25% daily turnover in the storage volume to ensure fresh water in the storage tanks.

Each water storage tank will be washed down with high-pressure water spray every five years. Following the tank wash down, Veolia Water will advise the City of the need for a joint inspection. The integrity of the paint and the tanks' condition will be evaluated by Veolia Water. We will submit a report detailing the condition of the painting system and noting needed repairs and recommend when painting of the tank will be required. Major tank repairs and painting will be part of City Capital.

Restoration

Restoration involves the repair and replacement of streets, curbs and gutters, sidewalks and landscaping that have been damaged as a result of repairs or replacements to the water system. The drivers to complete the restoration as soon as possible are safety, aesthetics and building goodwill with the customers and residents. Customers appreciate the timely and quality completion of needed restoration.

Vehicle and Heavy Equipment Management/Maintenance

Veolia Water will implement a comprehensive maintenance program for the vehicles and heavy equipment that will include preventive and predictive maintenance. The primary objectives of the maintenance program will be to achieve the expected service life of the vehicles and heavy equipment, while avoiding emergency breakdowns, which are costly and disrupt operations. Emergency maintenance is the most costly maintenance. Having a major piece of equipment, such as a backhoe, breakdown in the field disrupts operations and delays the completion of the work.

Reading and Maintaining Meters

The City's system includes approximately 24,274 active meters to be read and maintained. Of these, approximately 93% are the small, 5/8-inch meters. Veolia Water will read residential meters without AMR quarterly. Commercial and industrial meters and meters larger than 3/4"will be read monthly. Under our base proposal and as indicated by the RFP, the information gathered will be provided to the City of Nashua for billing purposes.

Meters will be tested in accordance with NHPUC Rule 605. Meters, which register outside a range of 97 - 103%, will be removed and replaced with an accurate meter from stock or from the new meter inventory. All replaced meters will be sealed to prevent tampering. Meters that fail the test will be repaired and/or replaced. Meters that are impractical to repair will be scrapped. Veolia Water will update available meter records for the City or establish a meter record maintenance system. Meters that have been damaged due to abuse, tampering or neglect will be repaired at the City's expense as part of Unplanned Maintenance. Meters replaced as part of the annual meter replacement program will be funded by City Capital.

Automated Meter Reading (AMR)

Within 90 days of the Service Commencement Date, Veolia Water will submit a detailed recommendation for conversion of meters in the water utility to automated meter reading (AMR). The recommendation will compare available AMR systems and include a cost to benefit analysis for the various alternatives. The major benefits of an AMR system are as follows:

- Improved meter reading productivity and reduced costs
- Identify leaks

- Identify tampering
- Backflow detection
- Analyze usage patterns
- Provide data for a conservation program.

Backflow Prevention and Cross-Connection Control

Veolia Water will implement a backflow prevention and cross-connection program in accordance with the New Hampshire Department of Environmental Services (NHDES) requirements. The cross-connection backflow prevention program for communities serving more than 1,000 persons must be approved by the NHDES. The backflow prevention devices are owned and maintained by the customers. Veolia Water also will perform the other activities for the cross-connection program, including the following:

- Owners must have the backflow devices tested in accordance with NHDES requirements and provide the results to Veolia Water. High-hazard applications must be tested at a six-month frequency and all other at a 12 month frequency.
- A list of high-hazard locations will be maintained as required by the NHDES.
- A list of low-hazard locations will be maintained as required by the NHDES.
- A list of inspection frequency and inspection results will be maintained as required by the NHDES.
- An annual summary inspection form will be submitted to the NHDES by February 1 of each year for the inspections that have occurred in the prior calendar year.
- Veolia Water will support the City in its efforts to identify backflow devices for new and existing users.
- Veolia Water will work with the City to establish new service requirements.

Managing Unaccounted-for Water

The NHPUC statistics for 2002 indicated 5,274 million gallons (MG) of water production and 4,842 MG of water sales. This results in a metered ratio of 91.8%. The NHPUC statistics for 2003 indicated 5,162 million gallons (MG) of water production and 4,618 MG of water sales. This results in a metered ratio of 89.5%. The production data in the 2004 NHPUC report is inaccurate.

Based on available data, this would indicate un-metered water averages between 9 and 10% of annual production. This is considered very good water loss, compared to industry standards. A portion of the un-metered water is for authorized usages such as fire protection. The remaining un-metered water is normally unaccounted for water due to system leakage.

Unaccounted-for water adversely impacts operations in two ways: first, the incremental cost for power and chemicals due to additional pumping and pumping rates; second, the need for additional treatment and conveyance facilities to produce and pump non-revenue generating water. The benefits to the City for maintaining low unaccounted-for water will be capital savings and electrical power savings.

Understanding the hydraulics of the distribution system is an essential activity to minimize unaccounted-for water. Veolia Water will use technical support staff to monitor and control system leakage. We will perform leak detection on an ongoing and as needed basis. Leak

detection equipment will be used to listen to fire hydrants, valves, meters, mains and services. Computer-assisted leak detection equipment will be used to identify and locate the small, difficult leaks. Veolia Water has included added resources in its proposal for system leak detection to ensure unaccounted-for water remains low. Results of the leak detection program will be used to identify needed infrastructure improvements in the distribution system.

Conservation Plan

Within 18 months of the Service Commencement Date, Veolia Water will submit a report detailing measures that can be implemented to conserve water and water resources within the water utility. This plan will be drafted using the U.S. Environmental Protection Agency (EPA)'s guidelines that contain a voluntary provision.

Its main purpose is to educate the stakeholders and initiate a reflection among them in order to define a list of actions. According to its design it is, and will be for several years, a working document.

The first part in the development of a water conservation strategy requires preparation of a water system profile to identify where conservation programs can be focused to identify and review water conservation measures. The second part includes guidelines for the process of developing drought response triggers.

For the drafting of a Water Conservation Plan, the EPA identifies three guidelines which correspond generally to the water system size: Basic, Intermediate, and Advanced, as follows:

- The Basic Guidelines are geared to systems serving fewer than 10,000 people.
- The Intermediate Guidelines are appropriate for systems serving between 10,000 and 100,000 people.
- The Advanced Guidelines are for systems serving more than 100,000 people.

The conservation plan will follow the EPA intermediate guidelines for the core system and the Basic Guidelines for the Satellite systems. The major ingredients of the conservation plan will be as follows:

- Beneficial water conservation occurs when the total benefits of conservation exceed the total costs associated with the conservation.
- Growth in consumption and customers will be projected over 15 years. The rate of growth and maximum-day consumption will be projected.
- Existing water supply, treatment, distribution and storage infrastructure will be evaluated with and without conservation. This data will be used to identify the benefits of conservation.
- Commercial, industrial and residential demands will be evaluated.
- Growth projections will be made to estimate demands for 20 years. An evaluation of existing water supply yields to meet projected growth including droughts or water shortages (i.e., droughts with a severity greater than 25-year recurrence) will be evaluated. Our staff has met with the Director of the Nashua Planning Commission for information regarding the newly developed plan that will be released in July.
- Competition for existing water supply sources will continue to increase with growth in surrounding communities, expansion of industrial facilities and more attention to

sustaining minimum stream flows. This competition may limit Nashua's ability to withdraw raw water supplies to meet growth. Even though Nashua is 90% built out, surrounding communities will be receiving substantial growth in the next two years that could have an effect on water availability.

- Drought episodes will be evaluated. Expanded water supply sources and treatment facilities to meet both system growth and high consumption periods as a result of drought will be evaluated.
- An effective water conservation program includes both supply-side and demand-side management practices. The selection of any water conservation measure or incentive must consider legal, social, political, institutional, technical and economic feasibility.
- Programs aimed at reducing average residential water use may not result in substantial savings, given the relatively low rate of consumption on a per capita basis.
- Public education programs should accompany any water conservation measure or incentive.
- Water reuse and recycling is a potentially important strategy to evaluate.

Customer Service Activities in the Field

The customer service activities for field operations include the following activities:

- Turn-ons and shutoffs
- Monthly and quarterly meter reading
- Testing, repair and replacement of meters
- Final and special meter reads
- Improving Key Performance Indicators
- Dispatch personnel to emergencies within 30 minutes
- Ensure accurate meter reading through performance guarantees
- Turn-ons and shut-offs conducted within 24 hours of scheduled time.

Challenges and Solutions of the Field Operations Approach

Challenges	Solutions
Effectively communicate with the customer and increase customer satisfaction in performing the field work.	Maximize scheduling of field work with the customers and be sure customers understand the reasons specific field operations are being performed.
Minimize customer inconvenience associated with field operations including service interruptions due to water main breaks.	Preplan, schedule and monitor field operations to ensure customers and residents are not unduly inconvenienced.
Ensure meter accuracy to maximize revenues.	Establish periodic meter testing that is the most cost-effective.

2.5.3 - Safety & Security

Safety Plan

Safety Plan Objectives

Veolia Water's experience in operating and maintaining large municipal water systems shows that a quality site-specific environmental, health, safety and security (EHS&S) program is critical to a project's success. An effective program reduces workers' compensation costs, as well as the frequency and severity of OSHA-recordable and lost-time injuries. Health and safety is the responsibility of everyone at Veolia Water, and the company will develop a comprehensive health and safety program for the Nashua project.

Keys to Veolia Water's Safety Program

- Meet all City and regulatory compliance requirements.
- Monitor all regulatory and contract obligations
- Training of staff in regulatory compliance requirements
- Develop a safety-focused culture
- Train and equip staff appropriately

Veolia Water will perform a comprehensive safety audit of the water works' facilities and operations. The results of this audit will be used to:

- Assess training needs
- Assess current and needed safety plans
- Assess needed capital improvements
- Assess needed operational controls

Safety Methodology

Veolia Water will assess the health and safety risks to project employees and will develop and implement a site-specific health and safety program to mitigate those risks. We will use established health and safety protocols to anticipate, identify, evaluate and control hazards to protect employees and build on the safety initiatives that the current Water Works safety personnel have developed. Veolia Water's primary goal is to provide a workplace free from health and safety hazards and to properly train all personnel in how to work in a safe workplace. All personnel will be trained in effective work procedures. For example, O&M staff will receive competent person training on safe trenching and shoring practices. Safe work procedures will be based on:

- The workers' knowledge of the work environment and their professional experience
- Veolia Water's management team, which is directly responsible for safety
- The site safety coordinator providing on-site safety, security and compliance leadership to the operational team
- Standards and requirements of applicable laws, including OSHA

A comprehensive review of existing health and safety procedures and controls will be conducted. Additionally, the City's water facilities will be served by a dedicated Site Safety Coordinator, and this person will be responsible for developing and implementing a site-specific safety program. This individual is supported by the facility Project Manager, the Business Center's EHS&S manager, as well as our corporate Director of EHS&S. An extensive and comprehensive corporate safety library is available to all facilities.

Challenges and Solutions of the Safety Management Plan

Challenges	Solutions
Developing a safety-focused culture.	Train staff and lead by example. Implement Veolia Water's "New Facility Startup" program.

Security Plan

Security Plan Objectives

Veolia Water is committed to ensuring the ongoing security of the City of Nashua's water facilities. Veolia Water will use its experience in operating and managing large water utilities to ensure that the integrity of the water system is maintained at all times. Veolia Water will perform a comprehensive security analysis of the water works to:

- Determine the present state of facility security
- Review all current security plans
- Review and update the Vulnerability Assessment (discussed further in Subsection 2.5.7).
- Review and update the Emergency Response Plan (discussed further in Subsection 2.5.7).

Security Plan Methodology

Veolia Water's approach to utility security is based on its experience in large water utility operation. All current plans and procedures will be evaluated for completeness and effectiveness. If necessary, Veolia Water will employ outside expertise to facilitative its review of the water works.

Veolia Water will serve as the liaison with the City and state emergency management staff and organizations and participate in reasonable periodic security drills and exercises.

Security Plan Challenges and Solutions

Challenges	Solutions
Implement an effective Emergency Response Plan.	Review current procedures, consult the City and state emergency management staff on desired components of the plan, update all procedures based on this due diligence.
Implement required measures from the Vulnerability Assessment.	Review and update the current plan, with outside expertise as required. Report to the City on all capital requirements for implementation. Implement those capital requirements as directed by the City. Adjust operational procedures as required.

2.5.4 - Performance and Contract Compliance

Veolia Water continually monitors the performance of all of the facilities it operates for regulatory and contractual compliance, as well as for cost control, optimization, safety and benchmarking. Using this information, efficiencies can be made and applied across all

facilities. To do this, Project Managers participate in networks to share the best solutions and corporate knowledge on the latest technologies and research through research and development activities.

Veolia Water understands how critical overall performance is for our customers. At each of our O&M sites, we currently implement management controls encompassing SOPs, project-specific software (e.g., OPS 32, and CMMS), and training programs to ensure our operations meet performance requirements, regulatory requirements, operate efficiently, and are proactive.

Objectives of Performance and Contract Compliance Plan

Veolia Water's objectives for our Performance and Contract Compliance Plan include:

- Operate and maintain the system compliantly, efficiently and proactively to terms of the Agreement
- Conduct periodic audits and inspections
- Provide monthly, quarterly and annual reports as required to the City, state, and other regulatory agencies
- Participate in quarterly updates and an annual performance review with the City
- Outline the approach to various reporting requirements

Methodology for Implementation of the Performance and Contract Compliance Plan

As part of our due diligence process for this project, Veolia Water has reviewed and considered our obligations in developing our price and approach. These obligations will be incorporated into the various software systems that Veolia Water uses to track and monitor compliance. Veolia Water's use and reporting functions under software systems like OPS 32, and CMMS are integrated. Further detail on this can be found throughout this Operations Plan.

Asset Protection Reports

Veolia Water's asset protection reports identify yearly maintenance performed on each asset. Each equipment listing is filed in the equipment's maintenance history record, which is organized to provide equipment maintenance information on a monthly, yearly and lifetime basis. The CMMS reporting system will automatically issue and report the progress of preventive maintenance service orders. Daily, a supervisory review of open work order status and summary reports to O&M management staff is carried out.

Records

Veolia Water will maintain the records of the water works as outlined in the RFP. Original records, both hard copy and electronic format, will be maintained by the City, with Veolia Water maintaining all appropriate copies. Electronic records will be backed up to the City's data processing facilities daily.

Challenges and Solutions of Performance and Contract Compliance Plan

Challenges	Solutions
Establish credible data in order to measure performance in the first year and all subsequent years.	Verify systems and data in existence at contract commencement. Focus on the Performance Metrics proposed for the incentive fee.

Challenges	Solutions
	Apply Veolia Water's experience and expertise in applying and utilizing CMMS, and OPS 32 for data management and reporting.
Retention of key current staff and keeping them focused and maintaining a positive attitude.	Veolia Water will provide a highly qualified and capable Project Manager, and provide an experienced and highly motivated transition team. Apply Veolia Water's proven performance metric program.
Collecting data effectively, efficiently, analyzing, trending, reporting and take action.	Apply Veolia Water experience and expertise in applying and utilizing CMMS, OPS 32, and other regulatory and compliance tracking programs.

2.5.5 - Regulatory Compliance

Veolia Water will operate the Nashua Water Works so that at all times the facilities are in compliance with the EPA, the NHDES and other local, state and federal agencies as required.

Veolia Water has a proven track record of working with regulatory agencies at multiple facility locations in North America. We use experienced persons from other facility locations as well as corporate EHS&S expertise to periodically conduct on-site internal peer audits. Internal audits identify opportunities for corrective action implementation to ensure compliance with all applicable environmental and safety laws.

The Veolia Water management team at Nashua will develop and maintain positive relationships with those agencies having control over the water works.

Through the utilization of plant-specific PCMPs, SOPs, and the computerized process monitoring database (OPS 32), Veolia Water will ensure that the water works meets all regulatory requirements.

Objectives of the Regulatory Compliance Plan

Veolia Water's objectives for our Regulatory Compliance Plan are as follows:

- Develop and implement plant-specific PCMPs. These plans are used to monitor daily operational parameters and alert both operators and management to situations that are either outside set operational limits or are trending in that direction.
- Develop and implement Standard Operating Procedures (SOPs).
- Implement a computerized plant process monitoring database (e.g., OPS 32).
- Maintain a comprehensive scheduling matrix of all regulatory compliance monitoring and reporting.
- Develop action plans and recommend capital improvements in the Capital Plan to improve the existing water treatment facilities to meet existing and future EPA, NHDES and other regulatory regulations.
- Develop and maintain positive relationships will all applicable regulatory agencies.
- Implement regulatory update tools (e.g., www.cyberregs.com) to stay current about pending regulations that could impact operations.

Methodology for Implementing the Regulatory Compliance Plan

Veolia Water's Regulatory Compliance Plan

Veolia Water's plan to achieve the proposed objectives includes investing in computer systems software and developing written process control plans to ensure that the water works maintains compliance with all regulatory agencies at all times. Veolia Water will monitor all regulatory agencies for proposed and/or pending regulatory compliance rules and rules changes.

Veolia Water will analyze the facilities' current ability to meet the following rule changes and will determine operational changes or recommendations for City capital needed to meet the standards. Upcoming rule changes include:

- Arsenic – 10 ppb (0.010 mg/L) by 1/23/06 (current standard – 50 ppb)
- D/DBP Rule – expected to be finalized in 2005
- Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) – expected to be finalized in 2005
- Radon Rule – expected to be finalized in 2005
- Groundwater Rule – expected to be finalized in 2005.

Benefits of the Regulatory Compliance Plan

The benefits of Veolia Water's regulatory compliance plan include providing the highest quality water to the customers of the Nashua Water Works, meeting all state and federal (NHDES, EPA) regulations.

Veolia Water is prepared to commit to practicing continuous improvement to achieve optimum water quality and full regulatory compliance. Experience, resources and systems successfully employed in other Veolia Water locations will be used to consistently achieve and maintain regulatory compliance.

Challenges and Solutions of Regulatory Compliance Plan

Challenges	Solutions
Water Quality issues may require capital improvements, operational process improvements, or additional source water protection measures.	Establish baseline water quality benchmark profile, including source water monitoring to determine treatment alternatives to meet requirements. Determine what opportunities may exist to implement watershed management practices to improve and protect source water quality. Explore potential grant funding to leverage watershed management.

2.5.6 – Customer Service Plan

Veolia Water recognizes that the Customer Service function under the Base Proposal will include the management of a comprehensive meter reading, testing and replacement program, responding to water quality inquiries from customers in a timely and responsive manner, resolution of field service requests while maintaining accurate records, management of the backflow prevention program and providing information to customers

on tap fees. A description of Veolia Water's plan to meet the requirements of the RFP, and to effectively and responsively deliver each of these services is explained in this subsection.

Customer service focuses on higher levels of customer service and cost avoidance. Our one-and-done philosophy enables customer service specialists to develop work orders to ensure timely resolution of customer issues.

The City will provide all the administrative support required for handling customer inquiries, bill generation, payment processing and collection, and will also maintain the accounting systems to track these billing, payment and collection activities.

As indicated by the City of Nashua, there will be one telephone number for customers to contact Veolia Water to schedule field service activities and make water quality inquiries, and there will be a second telephone number for customers to contact the City for information on billing and payments.

Veolia Water recognizes the City's plan and approach under this Customer Service management model, and in our Alternative Proposal (Section Six), we provide a full-service ("One-Stop Shop") approach to Customer Service that has been shown to provide long-term value and enhanced services to water systems customers in other systems that are managed and operated by Veolia Water.

For instance, requiring customers to call multiple contact numbers for resolution of water-related issues tends to be confusing and frustrating to customers. (Many consumers don't clearly understand the difference between a billing or a field service issue.) In contrast, having a "One-Stop Shop" for all water-related inquiries (including water quality, meter reading, billing and payment processing) provides customers with faster resolution to inquiries and results in a higher customer satisfaction level. In our Alternative Proposal, Section Six, Veolia Water provides an explanation of the benefits and drawbacks of both approaches.

Customer Service Approach – Base Proposal

Comprehensive Meter Reading, Testing and Replacement Program

Timely, accurate and efficient water meter reading is a key to high quality customer service. In this model, Veolia Water will provide a comprehensive meter reading, testing and replacement program as directed by the City. We will replace meters consistent with NHPUC, AWWA and industry standards. Veolia Water will also test and analyze large commercial and industrial accounts consistent with City of Nashua's standards. For a full description of the Meter Reading, Testing and Replacement Program, see Subsection 2.5.2 the Field Operations Approach.

Respond to Water Quality Customer Inquiries

Veolia Water will provide a customer contact to answer all water quality-related customer inquiries. Typically, customers may have questions about water pressure, taste, odor or aesthetic issues. Veolia Water will respond to customer inquiries on these and other water quality issues in a timely fashion with accurate, helpful answers. Customer inquiries and the

type of inquiry made will be tracked on an on-going basis so that we and the City may track any trends or concerns.

When feasible, Veolia Water will work with the City to resolving any customer inquiries that could be alleviated by consumer education programs or further explanations on Veolia Water's proposed customized Nashua water system Web site. It is proposed that this Web site will offer general information about water quality and treatment and an on-line copy of Nashua's water quality report, when it is available. It is our experience that increased availability of information to consumers can increase their understanding of water quality issues, alleviate concerns and in turn, increase customer satisfaction.

Veolia Water's Customer Service Objectives

- Make the customer central to our business.
- Empower the staff to answer queries and rectify customer concerns efficiently.
- Exceed customer expectations.
- Respond to emergencies promptly and within a prescribed time limit.
- Achieve operational excellence.

Resolution of Field Service Requests

Under Veolia Water's Customer Service management plan, all contacts resulting in work required to be carried out in the field will be scheduled by the contact center and, where appropriate, appointments made with the customer.

Backflow Inspection Program

Veolia Water will implement a cross-connection program in accordance with the requirements of the State of New Hampshire. Veolia Water's Backflow Prevention Program is discussed in detail in subsection 2.5.2 of the Field Operations Plan.

Answer Inquiries on Tap Fees

As part of the Base Proposal, Veolia Water will manage customer inquiries concerning tap fees. Referencing documents provided by the City, Veolia Water will research tap fee prices on existing contracts and provide that information to customers. We will respond to these customer inquiries on a timely basis, and we will provide accurate information in a friendly manner. Records will be maintained of customer inquiries and Veolia Water's response to customers.

Veolia Water's Solid Expertise in Customer Service

Veolia Water has a solid record of providing customer service to water and sewer utility clients. This is demonstrated by the full menu of customer-service offerings Veolia Water currently provides on a contractual basis to communities and cities of various sizes. Although these services are not part of the Base Proposal, Veolia Water has extensive experience in bill generation and payment processing. Veolia Water generates billings, performs quality assurance, processes payments and answers customer inquiries for nearly 600,000 water and sewer accounts.

Challenges and Solutions for the Customer Service Approach

Challenges	Solutions
Responding to **customer inquiries** in a timely fashion with accurate information.	During the transition, a Policies and Procedures Manual will be developed documenting Nashua-specific rules. Employees will receive detailed

Challenges	Solutions
	training on Nashua policies and procedures, and they will be cross trained to ensure that we have a knowledgeable, helpful work force.
Making **water quality information** easily accessible to customers.	Veolia Water will develop a Nashua-specific Web site with water quality and treatment information, making it easy for customers to access water quality data. When completed, a copy of the annual water quality brochure will be available on-line.
Providing new customers with **accurate tap fees** in a timely fashion to expedite their service connections, thereby maximizing City water revenue.	As possible, databases with tap fee data will be developed to make it easier for Veolia Water personnel to provide accurate tap fee information. Records of inquiries and responses will be tracked. Response rate and accuracy will be monitored by management to assure timely response rates are maintained.
Resolving **emergency distribution and customer service problems.**	Response times to emergency requests and resolutions will be tracked. Response time will be monitored to ensure that system emergencies such as water main breaks are minimized to limit damage and disruption to surrounding residents and property.

2.5.7 - Vulnerability Assessment and Emergency Response

Vulnerability Assessment

Terrorist activities in the United States have created a sense of urgency and a need among water utilities to secure their water supplies. Veolia Water has become an industry leader in performing vulnerability studies and implementing security improvements. Veolia Water will review and update the current Vulnerability Assessment for the water works within 180 days of the Service Commencement Date.

Objectives of the Vulnerability Assessment Process

Veolia Water will improve the security of the City's assets and water supply by:

- Identifying areas of the Nashua Water Works that are vulnerable to threats of physical disruption of service or contamination.
- Recommending measures to improve the security of the City's water supply.

Methodology for Implementing the Vulnerability Assessment Process

Veolia Water will review the security and vulnerability plan for the water works prior to commencement, assuming reasonable access, using guidelines developed by the AWWA and the EPA for potable water systems. Security will be provided using an optimum balance between employees and technologies to address vulnerabilities and threats. The key objectives of this process will be to:

- Visit and inspect the facilities and subsystems associated with clean water production, looking for areas of increased risk.

- Visit and inspect facility perimeter fencing and other safety and security measures to ensure facility security is maintained.
- Develop recommendations for each facility and subsystem to address the identified security risks.
- Provide a cost analysis to implement the increased water security measures.
- Incorporate the implementation of increased water security measures into the City's Capital Plan.

Challenges and Solutions of the Vulnerability Assessment Process

Challenges	Solutions
Keep the water system secure.	Identify areas of vulnerability and actions to address the high priority vulnerabilities.
Early detection of a security issue.	Evaluate water quality monitoring and system surveillance and implement needed improvements.
Utilize customers and businesses to assist in providing oversight security.	Educate customers and businesses about the importance of keeping a watchful eye on water supply facilities including raw water reservoirs.

Emergency Response Plan

Objectives of the Emergency Response Plan

Veolia Water is acutely aware that the water works provides a vital service to Nashua's water utility customers. These facilities are critical to the well-being of the entire community. As such, Veolia Water will strive to ensure the facilities and staff are prepared to respond quickly and effectively to any emergency situation that may arise. Within 15 days of the Service Commencement Date, Veolia Water will provide a preliminary review of and employee training on the Emergency Response Plan for the Nashua Water Works.

Within 180 days of the Service Commencement Date, Veolia Water will completely review and update the facilities' existing Emergency Response Plan (ERP) and develop new methodology as needed to meet the needs of the water works, with the following goals:

- Address potential emergencies
- Protect public health and safety
- Protect the physical assets
- Aid other agencies if called upon.

Methodology in Developing the Emergency Response Plan

Veolia Water has the in-house technical expertise to develop a comprehensive, practical ERP. We intend to update and review the existing plan and work with the City to address any shortcomings, particularly in light of increased security needs. The teamwork among these personnel will ensure the Nashua water supply system has an ERP that is technically sound, consistent with NHDES regulations and is practical to implement.

A critical concern is the security against unauthorized entry or sabotage of facilities. Veolia Water will work with the City to identify and reinforce critical areas of concern.

Veolia Water works with the communities that it serves as well as with neighboring areas to make sure they are knowledgeable about its capabilities and what emergency services it can offer. We believe it is critical to work with emergency services providers in our communities, including recommending improvements and integration over time.

Overview of the Emergency Response Plan

Emergency Response Plans, including contingency and disaster recovery plans, are required to address many different scenarios, including the loss of critical assets due to flooding, fire or severe weather or other events.

Contingency and disaster plans are part of the overall crisis response and will assist the plant staff to respond logically and without panic to ensure:

- Safeguards for the community
- Employee safety
- Minimization of potential damage to property
- Quick, informed and responsive decision making
- Environmental stewardship

Key Elements of an Emergency Response Plan

The following lists the key elements in a comprehensive contingency and disaster recovery plan:

- **Communication Plan** – Developed in consultation with the City. As owner of the facilities, the City must have a key role to play in sharing information with the public. The communication plan will identify a spokesperson for the media and public and under what circumstances to respond. Different emergencies require different communication efforts.
- **Crisis Notification Procedures** –Addresses the chain of communication to manage the situation.
- **Post-emergency Checklist** – Ensures appropriate parties have been advised, situation understood, events recorded, review success of response.
- **Annual Review** - Annual review/update of procedures and contact information.
- **Ongoing Training** - Annual and new employee training.
- **Emergency Response Plans** –Guide the staff through each action to be taken for the specific situation.

Challenges and Solutions of the Emergency Response Plan

Challenges	Solutions
Integration with ERPs of Nashua and other serviced communities	Regular meetings with emergency planning officials of other agencies. Participation in emergency planning exercises.
Meet the requirements of the NHDES.	Follow the requirements of Env-Ws 360.14 Emergency Plans for Community Water Systems.

3 - Engineering Services

3.1 - Operational Engineering

Under the Base Proposal approach, Veolia Water will provide operational engineering services required for the normal course of operating and maintaining the water utility assets. Other engineering services required for the City capital projects or system growth (for example; updating GIS, updating hydraulic model, plan review of developer projects, preparation of as-builts, etc.) are covered under Supplemental Engineering Services later in this section.

Examples of the specific services to be provided for Operational Engineering are as follows:

- Preparing engineering analyses and studies required for the normal course of operations and maintenance of the water utility.
- Evaluation of specific capacity of well supplies.
- Analysis of water treatment processes to assure process optimization and finished water quality. Our proposal includes a "Production Engineer."
- Operating recommendations to meet peak system demands.
- Process mapping.
- Evaluation of operating efficiencies including pumping efficiencies.
- Reviewing instrumentation and control system problems.
- Using the hydraulic model to evaluate specific and localized distribution system flow and pressure problems
- Helping evaluate system O&M problems.

As a part of our proposed Alternative Proposal, discussed in detail in Section Six, Veolia Water is proposing to provide enhanced capital services using both in house expertise and the resources of our engineering partner Dufrense-Henry, a local engineering company that is experienced in working with Nashua. The background and experience of this firm is discussed in detail in Section Five of this Proposal volume.

3.2 - Supplemental Engineering Services

In the RFP, the City of Nashua requested proposals for Engineering Services as supplemental services. Outlined below is a narrative on the services that can be supplied to the City as supplemental services. Specific costs for these services are included in Volume IIII, Appendix F.

Review of New Construction in the City

Veolia Water will meet with developers and other City customers who request main extensions or new service installations. We will review plans, establish appropriate sizing of facilities (may require additional services, as discussed below) and provide standards and specifications.

Inspect New Construction

We will provide on-site inspection of new installations to ensure compliance with City standards and specifications. Veolia Water will observe pressure testing, verify that the as-

built drawing provided by the customer is correct, and input the as-built record into the City system. For developer projects, we will make inspections during critical times to verify compliance with standard specifications, observe pressure testing, verify that the as-built drawing provided by the customer is correct, and observe disinfection of new facilities and appropriate follow-up bacteriological sampling before activation of lines.

Create As-built Records

Veolia Water will create an as-built record of new installations on an Auto Cad file. Copies of all such files will be provided to the City. For individual services, the customer will be responsible for supplying the as-built Auto Cad file and Veolia Water will only enter the file into the City system. For Developer projects, the customer will be responsible for supplying as-built records in an acceptable digital format and Veolia Water will enter this information into the City system.

GIS Mapping

Veolia Water assumes that the City will provide, as part of the Asset Purchase, a reasonably accurate GIS map of the water system, however, there may be a need to provide updates on mains, hydrants and gate valve records. Veolia Water will provide updates to the City's distribution mapping and provide field location or verification of water mains and appurtenances as required.

Assess "Unaccounted Water"

At least once each year, we will summarize and compare water production records with total system consumption as measured through customer meters. Leak detection has been included in the Fixed Price Component.

Hydraulic Modeling and Analysis

Veolia Water assumes that the City will provide, as part of the Asset Purchase, a working, calibrated hydraulic model containing detailed computer files on the primary pipes, nodes, booster pumps, etc., and storage of the distribution system. We will become familiar with the hydraulic model and distribution system and be prepared to run specific queries for system improvements, fire flow determination or analysis of developer projects for a lump sum price. Veolia Water will provide system analysis to identify hydraulic bottlenecks and low pressure areas and develop recommendations for additions and improvements. We will also assess the impact of future growth on the system before the commencement of Developer projects.

Fire Flow Testing

Veolia Water will provide a field technician(s) to perform fire hydrant flow testing. These tests include operating the hydrant, flow meter and pressure gauge during the hydrant test; taking and recording readings; and providing a summary report to the City and the customer requesting the test.

Capital Planning for Water System Improvements

Veolia Water will meet with the City to review priorities and set goals for the overall Water System Capital program. In our role as service provider to the City, we will not only prepare the appropriate draft plans for City's review, but more importantly, Veolia Water will bring to

the project creativity and innovation in the assessment of situations; address cost and water quality needs; conceptualize alternatives; and develop recommendations that integrate with overall water quality and service goals. The planning function will be an ongoing activity that will provide a five-year plan with annual updates and recommended capital for the upcoming fiscal year. Veolia Water has included $50,000 per year in our fixed fee component to work with the City to annually develop a five-year Capital Improvements Plan (CIP).

Other Engineering Services

Veolia Water will supply other engineering services for capital planning; capital execution; detailed engineering studies; and GIS projects, based on hourly rates for various classifications or will negotiate lump-sum priced proposals on specific scopes of work as requested

4 - Technical/Management Innovations and Performance Guarantees

Veolia Water has identified a number of technical and management innovations to improve the standards of performance that the City will receive in terms of water quality, reliability, and customer service. These innovations, which have been consolidated from our national and international experience, will give us the ability and confidence to offer the firm performance guarantees which are discussed in Volume Two, our Cost/Price Proposal. These O&M innovations are discussed in the paragraphs that follow.

4.1 - Technical and Management Innovations

Comprehensive Watershed Evaluation/Study

The Nashua Water Works has a combination of surface and groundwater supplies that must be optimized to satisfy the peak water demands and ensure customers high-quality water. To meet these requirements, Veolia Water will perform the following:

- Monitor the raw quality of the water supplies
- Monitor the specific capacity of the well supplies
- Provide a comprehensive watershed management plan
- Perform pilot studies to evaluate the impact of various raw water supplies on the finished water quality
- Provide Capital Planning for water system improvements

Minimizing City Capital Investment and Improving Reliability

Our asset management program will increase the reliability of critical plant and equipment to provide uninterrupted quality water service for the customers by performing the following:

- Apply the results of the condition study
- Perform preventive and predictive maintenance
- Utilize advanced technologies including infrared, oil analysis and vibration
- Utilize software programs including CMMS, OPS 32 and SCADA

Scheduling and Routing of Field Activities and Crews

Customers are often inconvenienced by having to stay home waiting for the water utility service person. Often times a utility will indicate the service person will be there in the morning or afternoon. Axiom's Mobility scheduling solution will be an asset acquired by the City as part of the PWW acquisition. This is a powerful scheduling algorithm for the dynamic scheduling, real-time crew optimization by dispatchers, street-level routing of service personnel and second-to-none emergency response capability for customers. This will enable our customer service representatives to schedule real-time appointments for the customers. This is a huge benefit to the customer and improves the efficiency and productivity in the field.

CMMS

Veolia Water's computerized Asset Management and maintenance approaches and software have been discussed at length throughout this section. Our enterprise asset management software supports the complete lifecycle management of an asset. The CMMS system monitors environmental conditions, equipment application, sludge disposition and chemical dosing, among its many capabilities. It also tracks inventory, condition assessment and monitoring data, defined service levels, defined performance limits and tolerances, functional failure definitions for all serviceable assets, and supports condition-based maintenance.

Energy Savings

Veolia Water will evaluate the Nashua Water Works to identify potential energy savings either through operational efficiencies or through capital expenditures. Our sister company, Dalkia North America, is part of a world leader in energy management solutions. Dalkia North America will help evaluate the water works and provide assistance to Veolia Water in our overall energy analysis and improvement of the system. Specific actions to reduce electrical energy costs will be as follows:

- Utilize the hydraulic model to identify more efficient water distribution
- Operate at optimum pump efficiencies
- Operate to reduce demand charges
- Evaluate off peak pumping
- Identify and implement changes to reduce commodity charges
- Evaluate the use of variable frequency drives

Process Control Management Plans

As has been discussed, Veolia Water will implement comprehensive PCMPs at all facilities. PCMPs are utilized by plant management staff to ensure all plant operational processes are in line with predetermined parameters and quality control standards. PCMPs provide managers with the information they need to make informed decisions about plant operations. An integral part of the PCMPs is the utilization of computerized process control software. Veolia Water uses OPS 32 as its process control software. OPS 32 will take data from the SCADA system as well as the laboratory to provide a daily report on plant performance and operations. Outputs culminate in various reports as needed for the

internal project management and regular reporting to the NHDES, EPA and the City. The plant staff and the production manager will also have direct access to these, providing redundancy in reviewing operational data and plant performance.

4.2 - Performance Metrics

One of the key elements of our Proposal to the City of Nashua is our commitment to establish a performance-based approach to this project, one in which Veolia Water's receipt of a set amount of the Services Fee will be based on our achievement of clearly defined sets of metrics in the key areas of project and service performance. In this section, we discuss methods for implementing this approach under the proposed contract with the City of Nashua, and in Volume Two, our Price Proposal, we discuss the specific performance metrics proposed.

In this discussion, Veolia Water outlines our proposed Annual Performance Metric Program, an important feature of both the Base and Alternative Proposals. This section provides explanatory information so that performance metrics may easily be understood. Performance metrics are an important tool to focus the City of Nashua, stakeholders and regulators, Veolia Water and its soon-to-be-employees on the most important key drivers of the business. Performance metrics provide financial reward for improved performance. They provide Nashua and the community a vital tool to objectively judge Veolia Water's performance. Public openness about performance appears to be a particularly important issue to Nashua stakeholders.

The metrics presented in this section are specific to Veolia Water's Base Proposal, which offers customer services related to utility operations, such as field service requests, tap fee pricing and oversight of the backflow program.

As an introduction to performance incentives, here is an example of an incentive currently in use at Veolia Water's Indianapolis Project. Customer requests for water service turn on or water service turn off are responded to within 24-hours. This metric has been met by Veolia Water each year of our contract.

Like many other successful organizations, Veolia Water requires its managers to set performance goals, and they are subsequently rewarded for accomplishing those goals. Veolia Water has applied this same concept of setting goals and rewarding performance to its O&M and customer service contracts with municipal utilities with much success.

Use of this methodology enabled Veolia Water to significantly improve performance during a three-year period at our Indianapolis project, resulting in improved customer service, water quality, maintenance and compliance. A thorough discussion of this is included in Appendix D, Part 3, in the 2004 Indianapolis project Annual Report.

Veolia Water is "the contractor" with significant experience in managing to performance metrics. Competitors typically have contracts that penalize them for bad performance, but Veolia Water's performance metric methodology rewards significant and objective performance improvements. There is a big difference in these two approaches and the outcomes. Veolia Water's experience shows that rewarding performance improvements results in higher customer, and therefore client, satisfaction and a higher level of overall performance, compared to the penalty-fee methodology most of its competitors use.

Benefits of Performance Metrics to Nashua

Some of the key benefits of this type of approach include:

- Performance metrics establish an objective methodology for Nashua and its citizens to evaluate Veolia Water's true performance, especially in the areas of water quality, environmental compliance and responsiveness to customers.
- There are other firms qualified to run water treatment and distribution system operations, but few are willing to place themselves under open scrutiny and to hold themselves to high performance improvement goals. We welcome communication about our performance with the citizens of Nashua. Veolia Water typically posts this performance data on its Web-site for public review.
- Based on our past experience, use of performance metrics in Veolia Water's contract with the City of Nashua will result in improved customer satisfaction and increased overall performance, and this marked improvement will be demonstrated to the citizens of Nashua.

Objectives of the Performance Metrics Program

Veolia Water will provide Nashua with a set of quantifiable measures against which:

- Over the term of the contract, serve to reward Veolia Water for providing an ever-increasing standard of performance to Nashua.
- Stakeholders have an objective method to measure and evaluate performance.

Methodology for Implementing a Performance Metric Approach

The performance metrics, year-to-year improvement goals, incentive dollar values, and the methodology for measurement will be mutually agreed upon prior to the contract onset. The performance metrics will be challenging and provide our firm with stretch goals to improve performance and maintain accountability to the City of Nashua.

Under this approach, Veolia Water will:

- Thoroughly document incentive performance. On an annual basis, performance will be evaluated by the City of Nashua.
- Upon completion of the City's evaluation at year end, we will be awarded an incentive fee from the City of Nashua for each performance metric earned.

Performance Metrics

The performance metrics that we recommend for the Base Proposal are presented for five key areas, including:

- Emergency Response
- Turn Ons/Shut Offs
- Employee Safety
- Meter Misreads
- Fire Hydrant Repairs/Replacements

Future Improvements Beyond Five Years

Veolia Water recognizes that the performance metrics cannot be static over the term of the management Agreement. We want to continuously improve in all areas. We prefer to be measured and compensated for our performance in areas that are of importance to our key constituents—the City of Nashua, our customers, regulators, legislators, developers, suppliers and team members. We believe that the measures of success should be developed on a forward-looking basis. Our performance measures will drive excellence in O&M activities in the early years of our relationship, as measured by the areas outlined in the performance metrics discussed in Volume Two.

5 – Benefits to the City

Veolia Water has proposed an "Operations Plan" that will provide customers with quality water service at a competitive price. The water system assets will be incorporated into a comprehensive Asset Management program.

Specific benefits to the City include:

- **Watershed Management and Water Quality Protection** – As discussed throughout this Proposal, Veolia Water will develop comprehensive plans and provide for strict operational controls to ensure water quality is maintained.
- **Comprehensive Asset Management Program – Veolia Water's Asset Management program is based on minimizing life cycle costs**
- **Operations & Maintenance Savings** – Veolia Water will provide savings and stable pricing for the term of the contract.
- **Capital Savings** – Veolia Water will properly maintain assets to optimize capital replacement requirements.
- **Increased Reliability** – Our maintenance approach will increase reliability of all critical equipment and all critical processes.

Selection of Veolia Water as the contract provider for the O&M of the Nashua Water Works system will bring to bear Veolia Water's expertise and solid performance record to the benefit of the Nashua community.

Section Two

VEOLIA Water

Section Two

SECTION TWO
Community Involvement

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA

Veolia Water North America – Northeast, LLC (Veolia Water) understands that our responsibility to **Nashua** goes beyond providing a safe and cost-effective water supply. Our commitment also includes being a vital and contributing member of the Nashua community.

Commitment to the community and to being a good corporate citizen is a core value of Veolia Water and a part of our passion and the commitment that we bring to the more than 600 communities we serve throughout the U.S.

Veolia Water will build a strong and effective community relations program, modeled after those that our firm has proven in application in similar "world class" water and wastewater operations.

The Core Elements of Our Plan

Veolia Water is committed to making a real difference in the communities that we serve by lending a "helping hand" wherever it is needed in order to improve the quality of life for the citizens that depend on the water and wastewater services that we provide. Our firm and our employees take leadership roles in many community outreach programs throughout the country, seeking out the best ways to make a difference in each community.

To facilitate this approach, Veolia Water is committed to providing significant community involvement in Nashua. This commitment will include the following:

- Partnerships for Education - Veolia Water will provide educational and informational programs, designed to build awareness of the role that the water system plays in the vitality and growth of the community. The **Water Box** is one of the key public educational tools that Veolia Water makes available to many of the communities that we serve. The Water Box, a proprietary hands-on tool for teachers to introduce their students to the importance of our water system and to demonstrate how it works to ensure the quality of the water delivered to homes and businesses in the community. The curriculum emphasizes the importance of safe drinking water, the realities of our diminishing natural resource, and fascinating facts on how water is treated. The Water Box program can be found only in communities served by Veolia Water and is structured to meet the state's teaching standards for science. For instance, in Tampa, Florida, and Indianapolis, Indiana, we have matched the Water Box with their

Water Box in use at a primary school in Tampa Bay, FL.

standards for science so that the program is an accepted, effective tool for teaching science.

- **Water Career Opportunities Workshop** - Veolia Water is looking forward to working with area colleges and local high schools to offer them an exciting workshop to inform students and others in the community about the great and growing opportunities in the water services industry. The biggest problem facing all water providers, public and private, is the lack of trained professionals that are pursuing job opportunities in our industry.
- **Water Education Partnerships** - Veolia Water also proposes to work with area colleges, and local high schools to develop a water science curriculum that will provide a stimulus to attract new employees to water industry job opportunities. Certified water and wastewater operators are a diminishing commodity in New England. The need for chemists and biologists to deal with issues like the Pennichuck Brook Watershed and utilization of water from the Merrimack River is critical to the quality of life in Nashua, now and for future generations.
- **Community Groups** - We are committed to establishing strong relationships with various community groups in Nashua. Veolia Water has already begun meeting with various community, civic, environmental and business groups to determine potential involvement and activities. The employees of our company are committed to serving the communities in which they live and work.
- **Greater Nashua Chamber of Commerce** – Veolia Water is already a member of the Chamber, and organization that provides important services and employs many local citizens, all of whom are all water users. We recognize the importance of understanding the needs of the business community and networking with their members as we become a part of the Nashua community. Veolia Water envisions the Chamber as one avenue for our firm to demonstrate our commitment to the community as a service provider and good corporate citizen. We will utilize this opportunity to provide education and understanding of our relationship with the City to the private sector and at the same time gain knowledge of the business community's concerns with water quality and costs. Veolia Water is also an active member of many Chambers across the country.
- **Citizens Advisory Group (CAG)** – Veolia Water proposes to form a new advisory committee. This seven-to-nine member group will consist of technical members, abutters, representatives of stakeholders from other communities, environmental organizations, and educational institutions. The Board of Aldermen will direct all efforts and assist in the formation of this advisory group. CAG will provide monitoring and input into a comprehensive watershed operation and maintenance and asset management program that Veolia Water will recommend to the City. Veolia Water has included $200,000 for a comprehensive watershed evaluation in the first two years to identify and prioritize problems and develop actions to protect the watershed. This comprehensive evaluation will include extensive water quality sampling and testing. The results of the watershed evaluation will be shared with the existing environmental organizations to address the most serious problems. The plan will be two-fold, including:

1) Develop a plan to protect that part of the watershed that has not been developed and will become the property of Nashua. The plan will include security measures as well as supporting the creation of Buffer Zoning Ordinances in all communities in which the Pennichuck Brook exists. Veolia Water takes security very seriously and unrepaired fences and open areas near the ponds would not be tolerated.
2) Evaluate the areas where the buffer zone has been used for development and develop corrective measures to eliminate negative impacts on the raw water quality.

Veolia Water has been successful in identifying various revenue sources, including federal and foundation funds, that we feel can supplement our financial commitment in developing a comprehensive strategy to deal with the improvement raw water quality.

Additionally, as Veolia Water's presence in Nashua grows, so will our ability to participate in the civic life of the City. As we move forward into a contract with the City of Nashua, our focus will be to meet the complex needs of a changing and growing city, county and region. In addition to providing superior water services, our mission is to serve as a responsible corporate citizen.

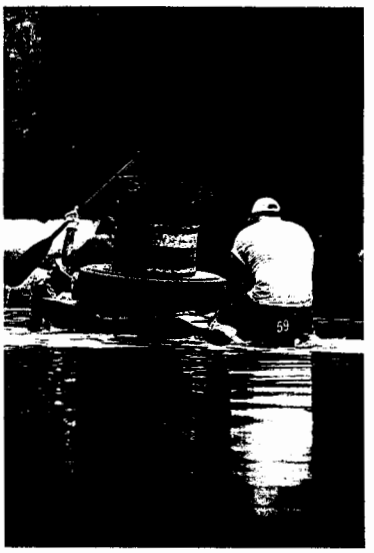
Veolia Water's Track Record in Community Involvement

Contribution and Community Program Sponsorships

Some of the ways in which Veolia Water has delivered on the community involvement objectives and commitments discussed above for the other communities that we serve across the U.S., include:

- City of Indianapolis, Indiana - Indianapolis Children's Museum – Veolia Water partnered with the Indianapolis Children's Museum on a multi-year, multi-dimensional commitment to support the museum's efforts in the areas of neighborhood outreach and revitalization and water features in the museum's permanent exhibits. The partnership enhanced the City's cultural tourism initiative by providing trees, better lighting, and steps toward transforming the museum's neighborhood into a world-class child and family district, with the museum serving as a beacon attracting visitors from around the world. In addition, Veolia Water supported the Children's Museum's outstanding water exhibits – in need of regular refurbishment– which no other facility in Indianapolis could possibly create as well or make available to as many as has the Children's Museum. The museum's focus on education, arts and the environment made the partnership with Veolia Water a natural fit.
- Dayton, Ohio - In a project that began in 1985, Veolia Water operates and manages the 11.2-MGD North Regional Wastewater Treatment Plant for the Tri-Cities North Regional Wastewater Authority, a joint venture of three communities in central Ohio (Huber Heights, Vandalia and Tipp City). As a part of our commitment to these communities, Veolia Water sponsors the Annual Great Miami River Clean Up. This is a community event that involves the cleanup of debris and trash from this river, to which the

wastewater plant discharges. The program has been active fore more that 15 years, and over this time, the cleanup volunteers have removed more than 124 tons of debris from the river. (The Veolia Water brochure for this program is presented in Appendix D [Part 4], Volume III.)



River cleanup on the Great Miami River, OH

Other examples of community involvement programs that we participate in at our projects include:

- Sholarships to local high school students interested in pursuing environmentally related college programs.
- Assistance to local sports teams through sponsorships and facility improvements.
- Sponsorship of community cleanup days.
- Sponsorship of the local and national and Special Olympics World Games

Additional examples of this include:

- Leominster, Massachusetts
  - The Johnny Apple seed Annual Parade – Corporate Sponsorship
  - The "Adopt and Island" Program - Corporate Sponsorship
- New Bedford, Massachusetts – Concert Sponsorship of Community Events -
- Lynn, Massachusetts - Computer donations for local schools
- Lowell, Massachusetts – Corporate support for the Convention Bureau
- Fall River, Massachusetts – Corporate sponsorship for the 250th Anniversary celebration

Other activities have included holding open houses at facilities, participating in community events, and also by providing educational programs and learning tools.

Additionally, our O&M project staff has participated in the river and shoreline cleanup, and we lend project personnel to assist the cities with plowing during snow events or cleanup following severe rain and wind storms.

Keeping our Clients and the Community Informed

Veolia Water recognizes that regular reporting to our clients and those served by the water and wastewater systems we operate is an important element for overall project success and acceptance.

One of the ways that Veolia Water keeps the lines of communication open is through the use of "Project Scorecards." These are easily understood project reports that summarize the accomplishments of our project teams and highlight our work efforts, as well as the benefits

that contracting with Veolia Water has brought to our clients. These scorecards are developed in tandem with our clients and are a part of the project review and reporting process.

Under this proposed contract with the City of Nashua, Veolia Water will each year provide the City with a performance scorecard that is specific to your project. This scorecard will provide an overview of our accomplishments to date, including a review of our incentives performance, highlight our achievements in the community, savings to the City, and a summary of your water quality. We provide this as a service to the community so citizens can feel confident about their water services.

In the Appendix volume, Appendix D (Part 3), we present several examples of scorecards that have been developed for some of the more than 600 communities that we serve. Some of the key items that you will note as you review these include:

- Indianapolis, Indiana
  - Veolia Water has been able to freeze water rate for five years as part of our comprehensive, 20-year agreement with the City.
  - We have reduced the number of taste and odor complaints from 501 in 2001 to 26 in 2004.
  - Veolia Water has undertaken capital project management as part of our contract and service to improve infrastructure, ensure fewer main breaks and provide for more efficient water production.
  - We have implemented customer service improvements, such as pay-by-phone, on-line bill pay, an interactive voice response system and more readable bills, to provide the water system customers with more and better access to their account information in a timely manner.
- Jupiter Island, Florida
  - We have had zero lost-time accidents or incidents in the past six years.
  - Veolia Water has provided close to 2,000 man hours of technical support to ensure successful operations of the facilities.
  - We provided emergency relief to Jupiter Island during Hurricane Frances by bringing in personnel and emergency generators from our regional sites to support the project.
- New Bedford, Massachusetts
  - Veolia Water assisted the City with the construction of new secondary treatment facility.
  - We have maintained near-perfect compliance at 99 percent.
  - Veolia Water has saved the city over $23 million as a result of being their service contract provider since 1990.
  - We are active in the community by supporting numerous programs and associations.
- Vancouver, Washington
  - The Westside facility has had no major NPDES violations since 1978, and since 1995 the Marine Park facility has never exceeded its NPDES permit.
  - Veolia Water has helped the City to keep utility bills at cost-effective levels.
  - We have implemented asset management with an emphasis on life cycle costs along with sophisticated technologies to save the city money.

- Veolia Water is involved in over 28 different community activities. The honorable Mayor Royce Pollard summed our efforts by saying, "Veolia Water-Vancouver serves as an example of community involvement."

As you will find in these project reports, Veolia Water has a project reporting approach that is simple and accessible to both the layperson and the governmental officials who are interested in understanding the benefits that an O&M services approach brings to their community.

These scorecards also clearly document performance standards by which the success of Veolia Water's efforts can be measured.

Protecting the Water System's Current Employees

Veolia Water is committed to providing the users of the Nashua water system with the greatest quality water with stability in rates and a plan for the future. In order to achieve this goal, we need the dedicated employees that have operated your plant and maintained the lines and meters for years. They are your neighbors, they attend your churches, their children attend local schools, and they constantly contribute to the quality of life in Nashua because of their knowledge and experience in the water system. To that extent, Veolia Water is committed to provide preference to these employees for jobs created through our operations contract with the City. Our most valuable assets are our employees, and Veolia Water commits to provide your transitioning staff with marketable wages and benefits that will encourage them to join our team for a successful contractual relationship with the City.

We will be offering job opportunities to existing employees in Nashua, at both the water plant and the service system. Veolia Water is sensitive to the roles that these employees have in Nashua, and we will not transfer employees to other sites.

Citizen's Information Network

As a part of our community relations approach for the City of Nashua, Veolia Water will develop a network of information generating opportunities for both private citizens and public officials. Open and honest communication is the key to a good relationship as a service provider. We recognize the importance of information availability to the city and its citizens. As part of that network our first step will be to establish a dedicated water Web site.

Equal Employment Opportunity Plan

In that we will be working with the City to obtain State Revolving Loan Funds and other state and federal loans and grants, it will be required to maintain an equal opportunity plan. One of the core elements of a successful business operation is to provide employment opportunities on a fair and equitable basis and to build a workforce that reflects the community we serve. Veolia Water is commitment to being an equal opportunity employer. This specifically includes the EEO Contract Compliance Clause and the reporting and requirements that are a part of that policy.

To ensure full implementation of our equal employment policy as it related to the City of Nashua's contract, Veolia Water will take steps to make certain that:

- Persons are recruited, hired, assigned and promoted without regard to race, religion, color, national origin, citizenship, sex, veteran's status, age or disability.
- All other personnel actions, such as compensation, benefits, transfers, layoffs and recall from layoffs, access to training education, tuition assistance and social recreation programs are administered without regard to race, religion, color, veteran's status, national origin, citizenship, sex, age or disability.
- Employees and applicants will not be subjected to harassment, intimidation, threats, coercion or discrimination because they have: (1) filed a complaint; (2) assisted or participated in an investigation, compliance review hearing or any other activity related to the administration of any federal, state or local law requiring equal employment opportunity; (3) opposed any act or practice made unlawful by any federal, state, or local law requiring equal opportunity; or (4) exercised any other right protected by federal, state or local law requiring equal opportunity.

The City of Nashua can be assured that Veolia Water will be a strong corporate citizen demonstrating a commitment similar to that which our firm has consistently demonstrated for communities throughout the country.

These policies and procedures are part of the commitment that we make in our corporate Affirmative Action/Equal Opportunity Employment Plan, and a copy of that plan is included in Appendix E (Part 2) to meet your stated RFP requirement to submit an EEO plan.

Conclusion

Veolia Water understands the relationship of becoming a good service provider for a community and knows well that Nashua needs and wants to control this great asset for future generations. Mistakes of the past will be eliminated when local government through the City or the regional water authority has ultimate control of the water system including the management of its critical buffer zones. Veolia Water is pursuing this contract to be your water service operator. This is our business. In our some 180 contracts across the country, we are the service provider to local government or our private client and Veolia Water works exclusively for them. The client is the boss and they have total control over their assets. This relationship has been used by hundreds of municipal entities in the U.S. with great success.

As this section clearly points out, Nashua will not lose the commitment of corporate support for community activities with this concept, in fact, it will increase. Our support of local educational institutions and environmental organizations will far exceed what has been done in the past.

Section Three

VEOLIA Water

Section Three

SECTION THREE
Project Management and Staffing

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Delivering the Best Value Through Innovative Approaches

Veolia Water North America – Northeast, LLC (Veolia Water), as discussed in our operations, maintenance and management (O&M) approach presented in Section One of this Proposal, has defined a plan and approach for the effective operations and management of the water system. It is our desire to enter into a performance-based contract between the City, and our company—an approach that transfers environmental compliance and water quality responsibility to us while local government owns the asset and controls the system.

The Veolia Water management and support team will commit to work with the City of Nashua and will draw from Veolia Water's base of resources to make the Water Works one of the best water utilities in the U.S. The team that we are proposing as part of this Project Management and Staffing Plan has been directly involved in this Proposal has direct relevant experience and will be part of the technical support team once the startup phase is complete.

No other firm will be able to offer such a strong and experienced team. Complementing our Nashua-specific team will be the resources of our parent and other affiliated world-wide companies.

The Proposed Contractual Relationship

The City of Nashua developed this Request for Proposals (RFP) to afford the private sector with the ability to be creative and flexible in developing a Proposal that will meet the individual water needs presently existing in the City and the surrounding communities. This model has been used by literally thousands of communities throughout the country to develop contracts to meet their individual needs while protecting their valuable assets.

Under this public-private contract model, the public partner, the City of Nashua, owns the assets, controls the management of those assets and establishes user rates. Employees are the local citizens (your neighbors) who have been doing the work for years, now supplemented with experts from Veolia Water in all fields of water operations, from computerization to microbiology, having the support of a research and development budget of $80 million annually.

This partnership will meld the core competency of the company (possessing technological expertise and diverse backgrounds in various geologies and operating environments) with the specific system knowledge of the experienced existing employees.

We anticipate that this proposed contract will contain strict performance criteria for costs, quality, compliance and customer satisfaction. An oversight engineer will be engaged to monitor our activities to ensure that the asset is being protected. The City is soliciting this "checks and balances" firm in concert with this procurement. Constant monitoring and

evaluation of the asset is a paramount function of this contractual relationship, both for the public owner and Veolia Water.

This contract will reduce your operating costs by the performance standards that we will establish as a part of this contract in areas such as environmental compliance, improved water quality, rate stability, as well as a commitment to protecting the existing employees and to bringing the best water corporations to your community. At the heart of the commitment that we are making to the City of Nashua is one to be a water services contractor and a good corporate citizen, actively working to enhance the quality of life of all citizens and support the activities of the area in the environmental sciences and education.

Veolia Water is committed to forming a contractual relationship centered on:

- **Significant cost reductions**
- **Priority given to hiring existing employees**
- **Watershed protection recommendations**
- **A clear plan for communication and information distribution to the city and region**
- **Customer satisfaction expansion**
- **Performance-based fee for monitoring and improved service delivery**
- **Local Community Commitments**
- **Value engineering savings**
- **Support to assist local employees for a transition period**
- **Best Practices in asset management and security assessment**

Management and Staffing Approach

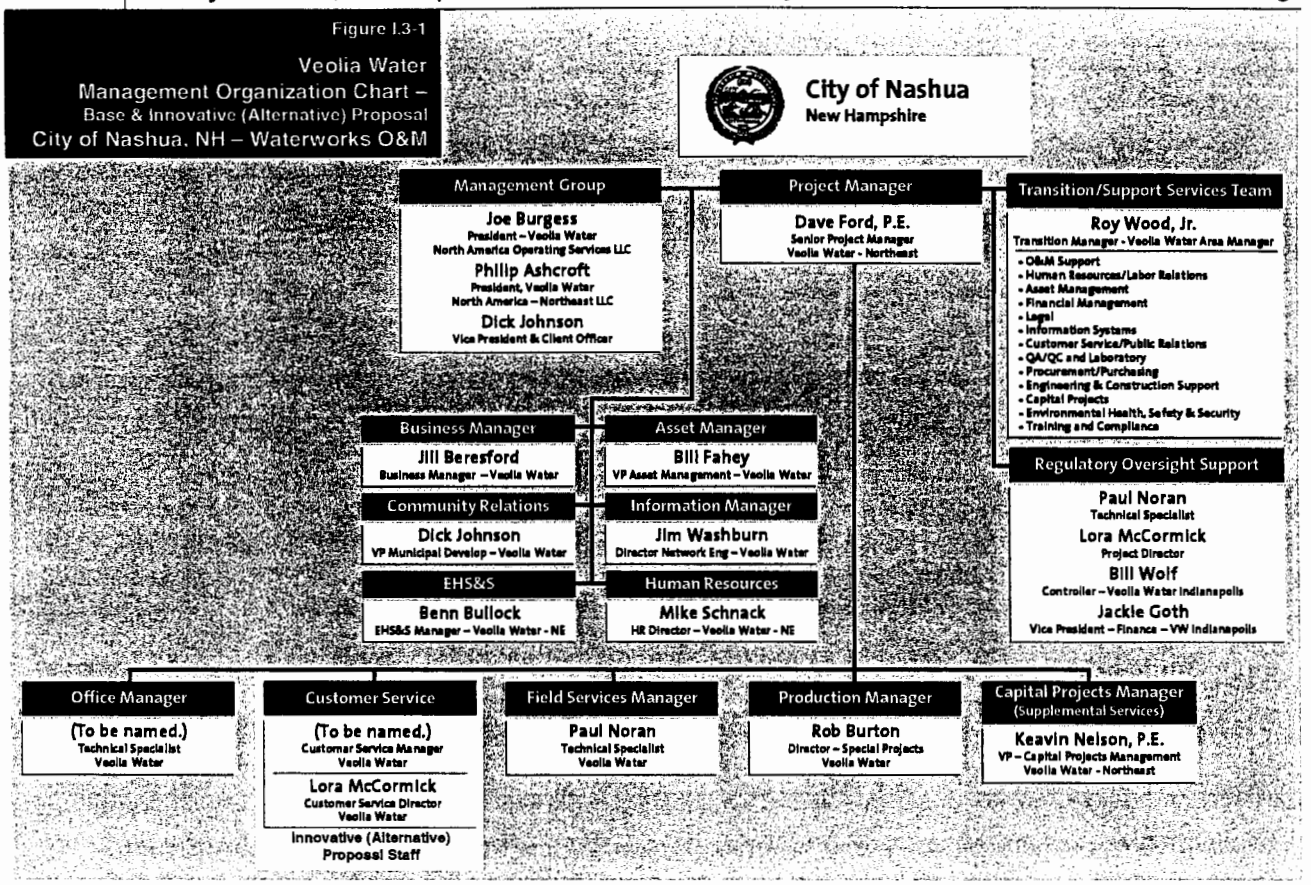
We are confident that the Water Works currently employs a complement of capable local people that will become valuable and committed Veolia Water team members. We expect that most management positions will be filled with existing Water Works staff. However, we do not expect to have available positions for many of Pennichuck's senior staff, especially those involved with Pennichuck's corporate governance and non-utility businesses.

Project Manager

Veolia Water has identified an experienced Project Manager to lead our team, **Dave Ford, P.E.**, a **Senior Project Manager** with Veolia Water in New Hampshire. He brings a unique blend of public utility management experience, having worked as the Public Works Director for the City of Rochester and the Superintendent of Public Works for the City of Wolfeboro, as well as managing and supporting public-private partnerships throughout the Northeast.

We have found that employing a local person with significant utility experience and supporting that individual with our resources is a noticeable benefit to a new agreement. Mr. Ford has established professional relationships in the New Hampshire community and will bring a local perspective and commitment. He will lead a team that will be formed from existing Pennichuck staff that transition to our team, combined with local hires and potential transfer-employees from other Veolia Water projects in New England.

Figure I.3-1, next page, provides an organization chart for key managers and interim managers that will provide leadership roles, as proposed in our Base Proposal approach. Our Innovative (Alternative) Proposal includes only one difference as noted in Customer Service.



Transition and Management Team

We have identified the core management team that will be committed to transitioning the water utility operations and ensuring the effective long-term delivery of services to the City of Nashua. This team will support our dedicated Project Manager and will include:

- **Roy Wood**, a Veolia Water Area Manager in the Northeast, will be the **Transition/ Technical Services Manager**, with responsibility for the mobilization and management of the transition team. Mr. Wood brings more than 20 years of operations and management experience and has been involved in the transition of numerous projects in the New England area. He is a resident of Leominster, Massachusetts, which provides him with ready access to Nashua.
- **Paul Noran**, a Veolia Water Technical Manager in the Northeast, will be the **Field Services Manager** and work with Mr. Wood in managing and implementing the transition of staff and services. In this role, he will be responsible for transitioning all aspects of field services and serve as the line manager for Field Services Group. Mr. Noran has more than 32 years of experience and has been involved with major project transition programs and management and operations of regional New England water supply systems. A resident of Maine, he is very familiar with the challenges of a water system in the cold weather of New Hampshire.
- **Rob Burton**, Special Projects Director with Veolia Water in Indianapolis, will provide leadership for the Water Production group. As the **Production Manager**, he will manage the transition of day-to-day operations of the water treatment and supply system to Veolia Water and then provide leadership for the operation and maintenance

of all elements of the water utility. Mr. Burton has more than 13 years of experience, which includes managing Veolia Water's project with the City of Boonville, Indiana. Additionally, he is a certified water and wastewater professional in two states.

- **Keavin Nelson, P.E.**, Vice President for Operations with Veolia Water in the Northeast and our Capital Program Management (CPM) in the region, will lead the capital program and engineering support group. This team will provide the engineering and construction expertise and management needed to implement small and large capital projects. This is a role that the CPM group routinely plays on Veolia Water projects in the Northeast and is a key part of our commitment to delivering a full-service approach to Nashua. Mr. Nelson has more than 28 years of engineering, operations and management experience, and he will be supported by the in-house expertise of our firm as well as the resources of **Dufrense-Henry**, our primary subcontractor on this project.
- At the corporate level, this project will be managed by **Philip Ashcroft**, the President of Veolia Water North America – Northeast, LLC, with oversight and support by **Joe Burgess**, the President of Veolia Water's national operations. These project principals will ensure our commitment. **Dick Johnson** will continue to closely support client relations and be directly involved on a 24-hr on-call basis for community leaders.

Resumes for all of the key team members are presented in Appendix A.

O&M Staff

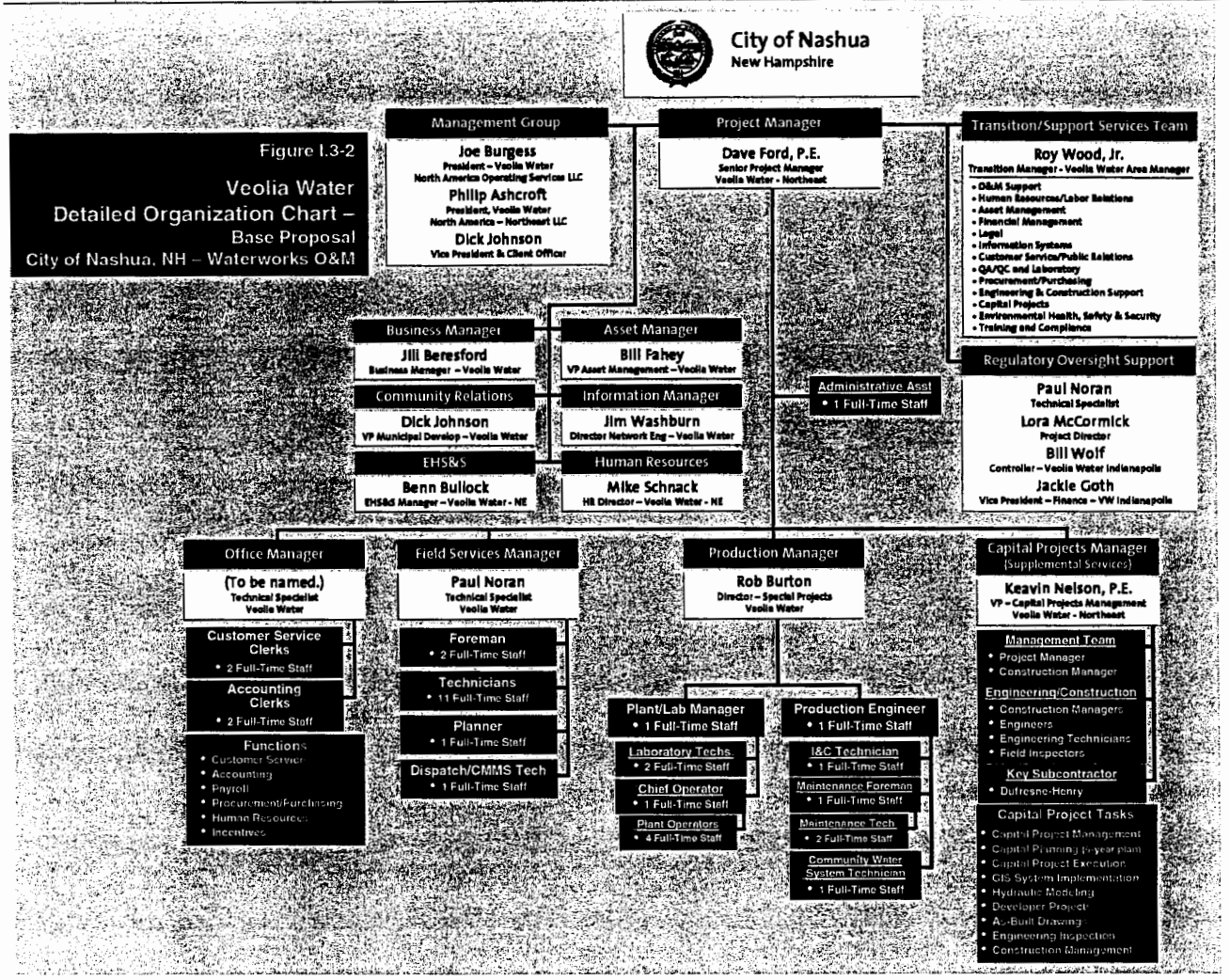
The Veolia Water O&M Project Manager will lead a team that, as discussed above, will be formed from existing O&M staff that transition to our team, combined with local hires and transfers from other Veolia Water projects in New England.

This O&M team, as shown on our detailed organization chart (Figure I.3-2, next page), will have all of the requisite certifications necessary to meet applicable federal and State of New Hampshire regulatory requirements for your water facilities.

The total O&M staff for the Base Proposal will number 40 and will be composed of the following classifications of staff:

- Project Manager – 1 Full-time Staff
- Other Managers- 3 Full time Staff
- Foreman/Supervisors – 3 Full-time Staff
- Certified Water Plant Operators – 5 Full-time Staff
- Mechanics – 4 Full-time Staff
- Laboratory – 3 Full-Time Staff
- Field Service Personnel – 11 Full-time staff
- Other Technical/Operations/Support - 8 Full-time staff
- Engineering – 2 Full-time Staff

Veolia Water is committed to provide the City of Nashua with the benefit of the expertise and experience that our firm provides regionally and nationally, with strong local management and support for the O&M team that will be responsible for the day-to-day management of service delivery. Some of the key technical, administrative and other



support resources that will be involved in this project, beginning at the project transition stage, include:

- **Benn Bullock**, Veolia Water's **Environmental, Health, Safety and Security (EHS&S) Manager** for the Northeast LLC, will manage the transition of safety, compliance and site security responsibility to our firm. He will implement our firm's EHS&S standards and procedures for the City's Water Works, train all staff in these procedures, and then provide regular reviews/audits of compliance. Mr. Bullock has more than 12 years of experience, with almost 10 years of experience in safety and compliance management at environmental facilities.
- **William Fahey**, Veolia Water's Asset Management expert, will assume the role of **Asset Manager** for the Nashua project. He will direct the transition of the asset management program. Mr. Fahey has more than 18 years of industry experience, with more than 14 years of experience in the construction and startup of new facilities. His background includes managing the maintenance assets and developing a long-term strategic maintenance plan for a $3.4 billion wastewater plant. He also develops models for plant maintenance and asset management, ensuring optimization of a plant's CMMS.

- **Lora McCormick, MBA**, a Project Director with Veolia Water in Indianapolis, will direct **Customer Service** Transition. She will manage all aspects of implementing delivery of customer service, client relations, and government affairs with responsibility for a staff of three. Ms. McCormick brings to this role more than 13 years of water utility experience in client relations, customer service and performance measurement. She participated in the transition process and led the incentive development program in Indianapolis. She also participated on an AWWA work group responsible for developing national water and wastewater performance.
- **John Fritsch**, the Veolia Water Project Manager for the Gilson Road Superfund site in Nashua and the OK Tool/Savage Wells Superfund site in Milford, New Hampshire, will assist in the transition and provide ongoing regulatory support. He has nearly 30 years of industry experience, with almost half of it in the State of New Hampshire. He managed the Gilson Road Superfund site project in Nashua, completing the remediation and facility closure, and continues to provide site maintenance and emergency support. He brings to the team a strong relationship with State of New Hampshire and Federal regulatory agencies and a familiarity with the Nashua community. He is a licensed wastewater operator in two states and holds a national reciprocal license. He has a Class 4 wastewater operator certification and a Class 1 water certification in New Hampshire.
- **Jill Beresford**, the Business Manager for Veolia Water in the Northeast, and will provide oversight for this contract with the City of Nashua. She will support the locally based procurement staff and will direct all aspects of accounting/budgeting, purchasing and subcontracting. Ms. Beresford brings to this role more than 27 years of finance and business management experience in the U.S. and internationally.
- **Mike Schnack**, the Human Resources Manager for Veolia Water in the Northeast, will be the Human Resources Coordinator for this project. As O&M staff are hired for the Nashua facility, he will arrange for employee benefits and the training and career growth opportunities offered by our company. Mr. Schnack has over 10 years of human resources experience and has managed all areas of Human Resources, including employment, employee relations, wage and benefit administration, labor relations, regulatory compliance and training.
- **Jim Washburn**, the National Director of Systems and Network Engineering with Veolia Water in Indianapolis, will be the Information Technology Manager. He will be responsible for transitioning the computerized networks and tools and then implementing our company's protocols and management tools. Mr. Washburn currently manages Veolia Water's corporate data center, which is located in Indianapolis, as well as the company-wide network for Veolia Water. He has over 24 years of experience, which includes project management, help desk management, hardware and software support and local and wide are network installations and support.
- **Chandra Mysore, Ph.D.**, serves as Veolia Water's National Director of Drinking Water Treatment, one of the leading water service providers in the U.S. He has more than 20 years of experience in the area of water quality and treatment, water and wastewater disinfection, operations, desalination, water reuse, soil and water treatment systems employing advanced oxidation processes (ozone/UV) and membranes. Dr. Mysore has directed several large projects to investigate disinfection, biological filtration and membranes in treatment plants, biofilm control and water quality in distribution

systems. He has provided technical support to numerous DBO projects (e.g. Tampa, Indianapolis). As a part of the Veolia Water team for the City of Nashua, Dr. Mysore will assist in the areas of watershed management, water production operations and process control, and provide expertise to Veolia Water's CPM group for value engineering.

- **Dan Moran**, Veolia Water's Process Engineer for the Production Department at Indianapolis, Indiana, will provide technical and research expertise on this project. He has more than 20 years of engineering experience, including evaluation and implementation of process modifications to optimize water treatment plant performance; oversight of capital improvement upgrades to water treatment facilities; and negotiation with regulatory agencies on compliance issues. Process evaluations include design of pilot and/or bench scale testing programs aimed at meeting increasingly stringent water quality goals. Previous experience includes planning, design and implementation of environmental engineering projects for commercial and industrial clients.

Resumes for all of the key management and support staff that will be a part of our team are presented in Volume III, Appendix A.

Section Four

VEOLIA Water

Section Four

SECTION FOUR
Transition Plan and Approach

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Delivering the Best Value Through Innovative Approaches

The **City of Nashua, New Hampshire**, and the communities served by the Pennichuck Water Works face critical challenges as they proceed through the eminent domain process for the purchase of the water treatment, storage and supply systems now owned by a private entity.

Veolia Water North America – Northeast, LLC (Veolia Water), as discussed in our operations, maintenance and management (O&M) approach presented in Section One of this Proposal, has defined a plan and approach for the effective operations and management of the water system.

Veolia Water brings to the clients we serve in the State of New Hampshire, and the New England region as a whole, an unequaled base of resources, capabilities and direct and relevant experience—factors that will ensure that the Water Works system is transitioned safely and that ongoing operations are efficient while yielding the highest quality water the facilities are capable of producing.

Our Proposal relies heavily on our firm's track record throughout the U.S., because this proven experience in managing some of the largest and most complex water systems means that we have an understanding of the issues that you will face as you acquire and then transition the Water Works.

A key element contributing to the success of this proposed contract relationship with the City will be the transition of the existing water system employees to our team. Our employee relations plan, discussed in greater detail later in this section, provides for considerable communication, spousal meetings to address concerns at home, recognition of legacy knowledge and other programs to embrace employees and make them part of our team.

Existing Pennichuck employees will be given priority for all required positions created by the new contract between Nashua and Veolia Water.

Throughout the years, these individuals have formed the backbone of the Pennichuck water system and they will be a critical component of our success going forward. Their years of service with Pennichuck will be recognized for the computation of benefits. Union representation is welcomed if it is desired by our employees.

Additionally, in this section of our Proposal, we discuss the Transition Plan and Approach for this project, addressing the management, staffing and support aspects of this approach, as well as our plan and approach for the transition of staff from the current service provider.

Transition Plan and Approach

The City of Nashua's objective in the RFP is to "... select a qualified water service provider that will protect the assets and stabilize rates..." and critical to that decision will be the knowledge that transition to City ownership can be accomplished with no negative impact to water quality, security and safety, current employees, and customer service. Therefore, our overriding objective in this Proposal is to demonstrate that this decision can be made with confidence and that significant benefits will be realized with Veolia Water operating, managing and maintaining the assets under a direct performance contract with the City.

Veolia Water's transition plan objectives ensure the highest level of customer service, providing for the following:

- Safe and reliable water delivery of the highest possible quality will be assured by dedicating significant resources to completing due diligence of the capital plans that presently exist, completing a comprehensive audit during the transition period to identify any process or equipment reliability issues, hiring qualified and certified operators with priority given to existing Pennichuck employees, validating all proposal plans and assumptions and incorporating legacy knowledge with the help of the current employees when they join our team, and supporting their efforts with the full resources of our company.
- Security of the water production and transmission assets will be maintained by first auditing current practices, comparing them to our industry best practices and then making necessary recommendations and taking steps to ensure the facilities are secure. Veolia Water has literally hundreds of certified staff to conduct Vulnerability Assessments and Emergency Response Plans in conjunction with new Federal Guidelines that were mandated after 9-11. With open reservoirs and a single access to the Merrimack River, this preparedness activity is critical to protect the raw water sources.
- Customer service will be a major focus of our transition efforts. Using our knowledge of customer service over the years and local resources, Veolia Water will develop a system for Nashua that will exceed existing services and constantly monitor and respond to customer concerns.
- Our employee transition will result in a committed and dedicated work force – well-motivated with high morale. Our plan, as discussed in detail later in this section, demonstrates our commitment to this objective. Pennichuck employees will be given priority consideration for all positions. The transition staff will include technical experts from Veolia Water in all aspects of water service. The Veolia Water employment program offers incentives for safety as well opportunities for education and career advancement. Our employees are our most valuable assets and Veolia Water welcomes the Pennichuck employees as part of our team.
- Excellent working relationships with local vendors, regulatory agencies, City officials and our new customers, will be established. Veolia Water will identify local vendors that currently supply the Water Works that could provide services or materials for the project. We hope to commit a significant percentage of our purchased goods and services in this proposal, but we will certainly be able to do so during the transition

period. The program team will survey local firms and utilize our proven methods to mentor and engage the maximum percentage of these firms possible.

- An asset condition survey will be performed to quantify the state of the assets, identify all deficiencies and prioritize them according to criticality. This survey will be performed within the first 180 days after contract commencement. This survey will establish the condition of the assets turned over to the City, and provide for recommendations of any necessary capital improvements.
- We will complete all deliverables as proposed and as required in the ultimate service agreement. A key element will be to prioritize the deliverables and spread them out over an appropriate period of time. A high number of deliverables, especially those not critically important, puts tremendous strain on the organization at a time it is already stressed due to the transition taking place. Veolia Water will provide definitive recommendations in this regard, but we request you consider this issue.

Transition of Management and Staff

Veolia Water has successfully accomplished the transition of other private-sector employees under contract O&M services agreements to our employment with little or no disruption of service and with empathy for the new employees and their families. Our firm's approach keeps our clients fully informed without creating a major distraction for them during this process. The entire progression is orderly and uncomplicated.

Today, Veolia Water's staff in North America numbers more than 2,800, including management, technical, operations, and other personnel. Our firm has a low turnover rate, less than 10%, in all areas of employment. This is largely credited to the competitive benefits and compensation, training and enhanced career opportunities that our firm offers. Indeed, over the past two years, Veolia Water staff has grown significantly through new projects such as the 20-year outsourcing contract with the City of Indianapolis, Indiana, which brought more than 460 new employees to our company.

Transitioning the operation, maintenance and management (O&M) of Pennichuck's Water Works will be a complex undertaking that must be successful to solidify public support and instill confidence in the City Alderman and Mayor's decision to purchase the Water Works. Veolia Water's experience suggests that planning is absolutely critical, but success will also be dependent on having an experienced and capable team, adequate resources allocated and available, and the support of a firm and its management to do what it takes to get the job done. The first few months will be critical and Veolia Water will provide as many resources are needed to complete the task.

The Transition and Employee Relations plans outlined in this section rely heavily on our experience with similar projects, which has many of the same characteristics of the Pennichuck Water Works and its employees' issues. The knowledge has been applied to these plans, which will ensure a continuous supply of safe drinking water and the highest levels of customer service. This transition involves private-sector employees transitioning to a private-sector operator. No other U.S. contract operator has more experience in this regard than Veolia Water.

Our transition plan also addresses the full spectrum of technical and administrative services to be transitioned that we know are needed to ensure reliable, uninterrupted service to the City. It is essential to develop the support of the existing staff, but also the cooperation of and coordination with the City, Pennichuck Water Works and regulatory agencies. This

approach is guided by first dedicating an expert team of transition specialists, understanding and meeting the needs of the existing employees and then assessing and reviewing each area of service, and ultimately implementing any changes that will improve the quality of water and reliability of service.

Transition and Project Support Team

Key to our ability to transition these facilities and provide safe and reliable water delivery will be the experienced and capable management team we will commit to this effort.

Veolia Water will commit to this project an experienced Transition Team that will provide all of the core management, technical and administrative disciplines that will be required to ensure success. This team will be formed from our management team and supplemented by other experts drawn from the resources of Veolia Water in the Northeast regional business unit and our operations nationally. Many of the members of this team are already involved in the development of this Proposal and will remain a part of our development team through interviews, presentations, contract negotiations and project startup. Each of these managers has significant expertise and experience in their specialty area, and all are committed to this project.

Table I.4-1, next page, identifies the key members of our proposed Transition/Project Support Team and their specific roles. Resumes for all of these staff are provided in Appendix A.

Each of the managers and subject matter experts identified as a part of the Transition Team brings strong expertise and experience in their specialty area, and each is committed to this project and to a successful transition, meeting all of the objectives stated above.

This Transition Team will be mobilized upon selection of Veolia Water as the City's partner, under the direction of our **Transition Team Managers - Paul Noran**, a **Technical Manager** with Veolia Water in the Northeast, and our **Area Manager, Roy Wood**. They will then begin the process of transitioning services, staffing and operations responsibility to our team. Supporting this team will be the resources of Veolia Water, as well as the technical, management and financial resources of firm as a whole, providing the City with access to a base of expertise and the financial and management resources needed to ensure success.

Transition Plan Objectives

Veolia Water understands that the City of Nashua is seeking a service provider that can provide the level of experienced staff that will ensure the safe and effective transition and long-term management of your Water Works. One of the key commitments that our firm makes in pursuing this contract with you is to provide superior management and staffing for your facilities, and, prior to the start of this contract, we will have our team in place and ready to implement the transition plan. As a part of this commitment, we will also provide proven leadership that can deliver all of your needs for this project. This means that we will manage and staff the City's water facilities with a sufficient number of qualified and certified employees, including management, technical and administrative staff.

As detailed in the project organization and management approach (see Section Three), the resources of our firm at the regional and national levels will support the newly hired employees. This staffing approach ensures that the City of Nashua will continue to benefit from the hands-on experience of existing Pennichuck staff, supplemented by the broader managerial and technical experience that we will deliver. Our project organization chart

(Figures I.3-1 and I.3-2 in Section Three) illustrates our proposed organization for ongoing operations with transition team members filling the key management positions that will later be staffed by the permanent management team. We expect that the majority of these positions will be filled from the current staff and local hires.

Table I.4-1. Veolia Water's Transition Team

Role	Name
Project Manager	Dave Ford
Transition Managers	Roy Wood Support: Paul Noran
Human Resources	Mike Schnack Support: Don Ellis
Production	Rob Burton Support: John Fritsch
Field Services including Distribution	Paul Noran
Asset Management	Bill Fahey
Performance Metrics and Implementation	Rob Burton Support: Lora McCormick
Finance	Jill Beresford Support: Joey Tolbert
Legal	Rob Arendell Support: Scott Schrang
IT Support	Jim Washburn
Customer Service	Lora McCormick Support: Debbie Willis
Public/Community Relations	Scott Edwards Support: Dick Johnson
Laboratory/QA-QC	Dr. David Peterson
Capital Planning	Keavin Nelson, P.E. Support: Dave Ford, P.E. and Dufresne-Henry
Environmental Health, Safety and Security (EHS&S)	Benn Bullock Support: Jim Gallpeau
Development Team Knowledge	Joe Tomashosky Support: Dick Johnson

Transition of O&M Staff

Employee Relations

Veolia Water's approach to employee relations is one founded on experience and based on empathy to the uncertainty and change the employees will experience. Past successes, and mistakes for that matter, mean that we understand the hard work that must be put into this effort. We are committed to embracing the current employees and ensuring that we make the transition to Veolia Water as painless and rewarding as possible. We certainly value the institutional knowledge they have and know that our plans will be significantly improved with their help. Highlights of our employee relations approach include:

- Extending offers of employment to those existing employees that will be required.
- Providing for wages that are consistent with a recent salary survey for the area. Furthermore, employees who transition to the Veolia Water O&M team will be entitled to career-advancement opportunities, such as license and career-path training, tuition reimbursement, bonuses associated with certifications, safety training and a safety performance bonus plan and an annual project bonus program.

- Implementing a communications strategy that includes a project-wide kick-off meeting, just as soon as we are able, smaller group meetings with discrete teams, individual meetings to allow employees to interview us and for us to get to know them while addressing their specific concerns, spousal functions to address concerns at home and to put a face on "the new company", newsletters and other regular forms of communication, development of a Web site, fun events to build camaraderie and team spirit, and other less formal communications to ensure we are on top of all employee issues.
- Providing for an "Employee Participation Program," which will be designed to recognize and embrace the knowledge and capability inherent in the employees and to incorporate that knowledge into our approach. This was a key lesson learned after much experience with transitioning employees, where we continuously learn from people that have been part of the organization for many years. Using focus groups and individual meetings, we will work through our proposed approach and key assumptions and compare them with past practices. This will allow us to validate our plans and share best and legacy practices.
- If the newly hired employees desire union representation, Veolia Water will hold meetings with union leadership, to facilitate open communications. In addition, we hope to communicate with opinion leaders and other people having significant influence in a way that recognizes their position and importance.

A transition of this magnitude cannot simply begin once the contractor is selected. It requires months of planning in order to ensure successful execution.

Veolia Water has a methodical, but flexible and sensitive Transition Plan that minimizes uncertainty and treats the current employees with respect. All required positions will be offered to Pennichuck employees prior to the local labor market. The experience of the existing Pennichuck employees will enhance our success.

Veolia Water's management staff for this project will, as discussed earlier in this section, be supported by a skilled and experienced transition team composed of resources drawn from the regional, national and international resources of our firm. We also anticipate hiring local employees to assist with the transition. This team will be composed of experts/specialists in the areas of human resources, operations, maintenance, laboratory, capital projects, information technology, customer service, accounting, safety and security. The overall Transition Team will be comprised of 15–25 individuals at various stages of the transition, with a core management group that will be with the process from start to finish. The paragraphs that follow provide specifics regard to the employee relations elements of our transition plan and approach.

Implementation of Pre-Commencement Activities

One of the first steps in recruiting the current employees into the Veolia Water organization will require the cooperation of Pennichuck Water Works Operating Company and the City to allow us to meet with Pennichuck employees immediately after selection. The intent of the meeting will be to discuss the transition process, begin the employment application process, interview interested candidates, convey expectations, and begin to develop a working relationship based on mutual respect and trust. The next step will be to meet with the

newly hired employees and their families face to face, establishing lines of communication, and beginning the employee transition process.

Human Resources Interface

Veolia Water will implement our proven human resources programs, prior to the project Commencement date, in order to ensure continuous communication and a smooth transition. For example:

- Informational meetings will be conducted with employees and their families to help them understand the Veolia Water organization, management team, its philosophies, ethics, and values, policies and benefits program, and to answer employee questions. These meetings will be held at various times (during and after the regular workday) and convenient locations to accommodate the schedules of employees and their spouses.
- In-depth orientation sessions will be provided for each employee that encompasses the topics of project organization, group benefits, policies and procedures. There will be both group and private, one-on-one, sessions.
- Benefit specialists will assist with information and enrollment for employee-selected benefits.

From the Current Employee's Perspective

Project personnel are our greatest resource, and our initial transition activities are directed to furthering their understanding of our company, minimizing their concerns, and embracing them as members of our team.

Following the execution of the Management Agreement, Veolia Water's Transition Team will sponsor **informational exchange get-togethers** as the first phase of our successful workforce transition. We will hold luncheon and dinner sessions at locations that will permit the employees and spouses to easily attend.

These get-togethers will be attended by Veolia Water senior management, Human Resources Specialists, and Operations Management. The purpose is to communicate to our new employee family the organization, philosophies, policies, and benefits of Veolia Water. These informal, family oriented gatherings have proven to be a key component of our transition planning.

We know that these sessions will raise various questions in the minds of some employees who will not ask them in a group setting. Accordingly, Phase II of our transition plan provides substantial opportunity for one-on-one sessions. Upon leaving the informal get-togethers, employees are encouraged to sign-up for individual sessions.

Everyone recognizes that with the selection of a new private contract operator, some changes related to employee programs will occur. We again make every effort to reasonably address these concerns and establish positive employee relations practices. This is accomplished by maintaining and extending existing programs and benefit offerings to the extent reasonable and prudent to do so.

Employee Communication

Critical to our Employee Transition Plan is extensive communications with the selected employees and their families to answer questions and dispel concerns. This communication program consists of three main components: 1) making our Employee Transition Team members available on site at various work places throughout the transition period to meet with employees; 2) establishing a 24-hour-a-day telephone hotline for employees to obtain immediate information, pose questions, or express concerns in a confidential manner; and 3) providing access by phone to the regional HR team to receive information in a confidential manner.

Personnel Orientation

Immediately after Contract Award, benefit specialists and Human Resources professionals, along with representatives from the respective insurance carriers, will begin extensive group and individual sessions to thoroughly review the group benefits provided by Veolia Water. Employee benefits orientation will cover the following:

- Discussion of procedures that will allow employees to accumulate retirement funds into our 401(K) plan, to the extent permitted by law.
- Presentations by Veolia Water's financial consultants, Edward Jones, whose representatives will provide information and financial planning services and products.
- Presentations by Veolia Water's retirement consultants, Putnam Associates, whose representatives will participate in employee meetings to offer assistance in understanding 401(k) plans and 401(k) investment options and to respond to questions.

With the permission of the City and Pennichuck Water Works, Veolia Water will hold preliminary briefings with employees prior to the actual commencement date. During these meetings, employees will be given the necessary employment and payroll forms to be completed. These meetings will also encompass safety issues, the transition schedule, and applicable legal requirements regarding employment rights. They will provide a description of management, operations and maintenance policies and procedures; plans for providing services under the Agreement; hiring and promotion policies; compensation and benefits; plus answers to any remaining employee questions. Further, in-depth orientation sessions will be conducted throughout the initial startup phase of the project.

Additionally, Veolia Water will clearly define the roles of the on-site staff and the external technical support specialists during the transition period. This group will provide on-call support to the facility 24 hours per day during the initial months of the contract.

Policies & Procedures

Veolia Water professionals will develop and communicate our administrative policies and procedures to ensure that matters are being handled in a consistent and uniform manner and in compliance with various laws and regulations.

Employee Interviews, Employment Offers and Job Assignments

As discussed at the start of this section, Veolia Water will first extend offers of employment to those existing Pennichuck employees that chose to join our firm and are selected by the Transition Team. The Pennichuck employees that transition to our firm will initially be assigned to jobs with comparable assignments, duties, responsibilities and titles to reduce the stress on employees during the transition process and also to ensure reliable, uninterrupted service through the transition period.

Veolia Water's Project Management and Human Resources Transition Team members will hold one-on-one interviews with all existing employees. These interviews present both our team and the prospective employees with an opportunity to ask and answer questions. During these meetings, Veolia Water's transition team members will:

- Review the organization of the employee's work group.
- Explain position expectations

- Determine employee career interests and explore potential career path opportunities available within Veolia Water

During the first year of service, more in-depth interviews will be conducted as part of our organizational and training needs assessment.

Veolia Water requires all employees to pass a pre-placement drug test as a condition of employment. Prospective employees who fail the drug screen will not be employed but may reapply after six months.

In North America, no other company has transitioned more employees to contract O&M than Veolia Water. One our largest municipal project transitions in recent years was that for the City of Indianapolis. This involved the transition of more than 460 management, professional and technical staff under a fast-track approach. As this experience demonstrates, Veolia Water is unequaled in the depth of corporate resources and experience it can apply to handle an employee transition of any magnitude.

Safety and Training Assessment

Safety is of utmost importance, and our EHS&S staff will have the responsibility for conducting in-depth safety training programs that will continue throughout the life of the contract.

As part of this, and prior to the start of services, personal protective clothing and equipment will be selected and fitted so that all required safety equipment will be available for transitioned employees on their first day of employment with Veolia Water.

Veolia Water will conduct a thorough safety audit with 90 days of commencement of contract services. Veolia Water will outline all required operational changes, safety equipment purchases and capital improvements needed to meet the requirements of the safety audit. Veolia Water will use this information as a basis for the site specific safety program, which will be implemented in the Nashua Water Works.

During the transition phase, our Safety Program will focus on establishing a general understanding of all safety-related requirements. In the first six months after commencement, safety training will be delivered by our on-site EHS&S Coordinators and will focus on those areas identified by our "training needs assessment." This assessment will cover all areas of training needs, including operations, maintenance and management.

Veolia Water will also provide an ongoing comprehensive training program that addresses safety, project-specific, ongoing education, and certification and licensing and career advancement related topics.

Operational Transition Elements

In the transition of services from the current private service provider, Veolia Water understands that the City of Nashua's objective is to select a company that has the experience and technical knowledge needed to operate a regional water system with sensitivity to existing employees. Further, we understand that critical to that decision will be the knowledge that transition to City ownership can be accomplished without a negative impact to water quality, security and safety and customer service. Therefore, Veolia Water's overriding objectives in this Proposal is to demonstrate to the City of Nashua that you can be confident that you will realize significant benefits through our plan and approach to the transition of service and the management of the water system.

Veolia Water's transition plan objectives, as discussed in this section, will ensure the highest level of customer service, providing for:

- **Security Vulnerability Assessment Program Compliance** - The review of the Pennichuck's existing Security Vulnerability Assessment may be the most important aspect of Veolia Water's initial service to your customers and citizens. We have certified employees who provide these types of assessments, and the benefits of their experience and in-house expertise cannot be overlooked. Your single access to the Merrimack River and open fresh water sources are a target for attack at any time. Veolia Water has the responsibility for Vulnerability Assessments for literally thousands of square miles of open raw water supplies across the country. We cannot eliminate an attack on these resources, but we can develop a plan that will minimize the effects of an attack and act as a deterrent to attack.
- **Water Quality Maintenance and Protection** - Safe and reliable water delivery of the highest possible quality will be ensured by dedicating significant resources to complete a comprehensive audit during the transition period to identify any process or equipment reliability issue. A team will shadow existing operations, validate all proposal plans and assumptions and incorporate legacy knowledge with the help of the current employees when they join our team. Our Transition Team will be supported by the full resources of our company.
- **Best Practices Compliance** – Efficient and effective operation of the water production and transmission assets will be ensured by auditing current practices, comparing them to industry and Veolia Water best practices, making necessary recommendations and taking steps to ensure the facilities are operated according to these best practices.
- **Customer Service Enhancements** Customer service will be a major focus of our transition efforts. We will meet with existing staff members and begin an exchange of information to address critical customer service issues and to ensure accessible and responsive customer service.
- **Adequate Staffing from Day 1** - Employee transition will result in a committed and dedicated work force – well motivated with high morale – with the needed complement of O&M staff in place on day 1 of the transfer of operations responsibility for the water utility. Our plan, discussed later in this section, demonstrates our commitment to this objective. Our success is directly related to transitioning Pennichuck employees to Veolia Water. Extensive education programs and the opportunity for upward mobility will compliment their experience and knowledge. Our employees are our greatest assets and we work hard to keep them motivated through bonuses and awards for achievement.
- **Effective Asset Condition Assessment** –Identifying critical equipment, assessing its condition and addressing any deficiencies will be a prioritized activity of our asset management team to make sure that all critical equipment is in a reliable condition. In addition, standby and backup equipment will also be assessed. This important activity will ensure that we can meet our first and most important objective of providing a reliable and safe supply of water. An asset condition survey will be performed within 180 days in order to quantify the state of the assets, identify all deficiencies and prioritize them according to criticality. This audit will establish the condition of the

assets turned over to the City, and make recommendations of any necessary capital improvements.

- **Focus on Deliverables Needed for Transition of Operations and Management Responsibility** - Veolia Water will complete all deliverables as detailed in our Proposal and as required in the ultimate service agreement. A high number of deliverables, especially those not of critical importance, put tremendous strain on the organization at a time it is already stressed due to the changes taking place. In our Proposal, we have provided definitive recommendations in this regard.

Key Objectives for Successful Transition:

- **Safe & Reliable Water with stable rates**
- **Secure Water Facilities meeting the new requirements of 9-11**
- **Strong Customer Service Focus**
- **Provide Pennichuck employees with priority for all positions**
- **Assessment/Rating of Critical Equipment and System Assets**
- **Building Relationships with All Stakeholders**
- **Complete the Transition Process – Schedule and Deliverables**
- **Form an Effective Relationship with the City and Regional Water Authority**

In summary, Veolia Water's transition plan addresses the full spectrum of technical and administrative services to be transitioned to ensure reliable, uninterrupted service to the City of Nashua and those served by the water utility. It is essential to develop the support of the existing staff, but also the cooperation of the City and other communities served by the water system.

Element of the Operational Transition Plan

It is important that effective plans are executed to ensure that daily operating responsibilities are transitioned seamlessly. Veolia Water, as discussed in this section, will commit a technical transition team representing a wide array of experience to work concurrently on the critical technical aspects of transition. This Transition Team, representing experienced technical managers in each discipline, will arrive at least four weeks before contract commencement to:

- Begin setting up accounts with local providers and arranging for the transfer of existing contracts with key vendors and suppliers.
- Begin the installation of process control management, maintenance management, and regulatory reporting software, which our firm uses nationally as a key management control in monitoring and managing the performance of each facility.
- Review daily, weekly and monthly reports used in key areas of service; review in detail with the City as regarding the format and scope of information.
- Assess the operating condition and performance of each process area so that there is a confidence in the operations.
- Identify any pending problems so that an action plan can be put in place to rectify them.
- Review and refine standard operating procedures (SOPs), process models and other tools that may already have been developed for the facility.

- Perform a preliminary safety audit and vulnerability analysis of the facilities to identify any safety issues that could compromise the safety of our personnel, infrastructure and public health. The vulnerability analysis will be directed at evaluating security and vulnerability to terrorist actions.
- Assess, modify or develop SOPs and operational checklists to be used in each process area; review any existing SOPs for their quality and consistency with Veolia Water policies and practices.
- Field-verify all material by operational personnel before SOP finalization.

Operations - Water Treatment

The transition of operating responsibility will be accomplished as follows:

- Begin an initial orientation of key managers on current operating practices for routine and emergency operating modes.
- Ensure that New Hampshire state-certified operators are in place at all required positions.
- Shadow the existing personnel, prior to commencement, to observe daily operations and maintenance – preferably for a minimum of 30 days.
- Become familiar with key personnel in each discipline.
- Make contact with key individuals within the District, regulatory agencies, vendors and subcontractors.
- Develop a clear understanding of the monitoring and reporting requirements of each facility.
- Begin the implementation of process control management plans to ensure the treatment process is monitored and controlled.

Inventories

Within 30 days after the Service Commencement Date, Veolia Water will produce an inventory of all chemicals, parts, tools, and equipment noting the condition of each item on hand on the Service Commencement Date. The inventory will include the following:

- The number, or as applicable, the quantity of such inventory.
- Detailed description of the inventory.
- The condition of the inventory.
- The monetary value of the inventory on an aggregate basis.
- As service requirements are developed, analysis of materials and parts necessary, not only for recurring service but for anticipated corrective service will be determined and compiled, which will permit a programmatic approach to developing an integrated set of spare parts and establishing an appropriate inventory.
- The Service Agreement will provide details on handling the inventory at termination or expiration.

Maintenance

Maintenance specialists will make an assessment of the critical equipment, spare parts inventory, and the preventive maintenance program in use. They will build from the existing

base of equipment and service history, if available. In time, all land, buildings, wells, vehicles and equipment will be incorporated into a comprehensive maintenance program. Detailed maintenance schedules for the facilities and equipment will identify the type of maintenance to be performed and the frequency of these maintenance activities. This information will be consistent with accepted industry standards and will comply with the manufacturers' maintenance recommendations. Proper maintenance will improve reliability for customers, reduce long-term capital needs, and improve overall service to Nashua's customers.

Veolia Water's maintenance programs are based on four major fundamental aspects, including:

- Specific asset service, wear, and life cycle characteristics.
- Asset application and service context related impacts.
- Asset criticality in terms of unit and process reliability.
- Maintenance and service characteristics, techniques, and procedures including costs/benefits.

No less than 30 days prior to the Service Commencement Date, Veolia Water will submit an update to the Maintenance Plan provided herein. The updated maintenance plan will address any conditions that have changed in the period between negotiation of the agreement and the Service Commencement Date. Also within 90 days after the Service Commencement Date, Veolia Water will submit a final maintenance plan reflecting all changes not previously known by the City or Veolia Water. The Plan will include the details about directional flushing to be performed.

The objectives of our maintenance program will be to maintain a high state of reliability in a cost effective manner while protecting the investments made in the facilities and assets. PWW is currently using the Synergen™ maintenance management software (now SPL Enterprise Asset and Work Management System) to track their maintenance tasks and procedures. We plan to continue to use this program and database until such time that we implement our new Asset Management system and software. Accordingly, the program as discussed below addresses our plans and goals. Maintenance-related discussions that follow are for the interim period prior to the implementation of the future program.

Capital Projects

Our experienced **Capital Projects Manager, Keavin Nelson**, will be among the technical support group on site to become more familiar with the scope and status of the current capital improvement program, observe the prioritization and scheduling of resources, meet with key contractors performing work, and begin to compare our proven construction management practices against those that are currently being used. The Capital Projects Manager will begin to identify and prioritize capital required for system improvements to meet regulatory requirements and those needed to satisfy the growth of the community. These activities will continue throughout the transition period, ensuring the City that all criteria have been addressed and that the facilities perform to the required standards immediately upon Veolia Water assuming operating responsibility.

Laboratory

The existing laboratory has not been evaluated, but our initial efforts would be to complete a full assessment of laboratory operations as they relate to analytical procedures being used, the capabilities and use of the laboratory information management system, the QA/QC

program in effect, the adequacy of reagents and supplies on site, and the frequency and type of analyses being performed.

These all relate directly to ensuring that the data collected is accurate, legally defendable, cost effective, and in compliance with the monitoring and reporting requirements of the facilities.

A laboratory transition plan will be developed and initiated as the contract commences and will include the following:

- Integration into our firm's national purchasing contracts with laboratory vendors.
- Procurement of the necessary equipment and supplies.
- Documentation of a detailed equipment and chemical inventory.
- Training in document control and distribution procedures for internal and external reporting.
- Training in our health and safety procedures and reporting requirements.
- Modifications to the sampling and testing plans.
- Development of a site-specific Laboratory QA/QC Plan and Chemical Hygiene Plan.
- Implementation of our corporate Quality Assurance Program and integration into the existing quality assurance plan.

The laboratory transition planning will begin two months prior to the contract start date and will continue for two months after startup Our quality assurance staff will work with the laboratory to ensure a smooth and successful laboratory transition.

Field Services and Distribution

Veolia Water field services and distribution system specialists will work in concert with field and engineering specialists to assess daily activities regarding manpower and equipment utilization, water distribution, repair and field customer service activities. They will review the size and capabilities of the field crews, service records and software and mapping systems. They will ensure that all of the required information for monitoring and reporting are in use, or will establish them.

Information Technology

Computer systems, including hardware, software and networks, will be integrated to provide a shared database of information related to the management, operations and maintenance of the Water Works. This will include customer information, facilities maintenance, inventory, and other related systems. Veolia Water's Information Technology (IT) specialists will meet with existing staff and assess the hardware and software inventory. Additionally, they will determine software license compliance and determine the condition of communication carriers. The IT team will meet with all departments within the Water Works to determine if their IT needs are being met. They will determine what personnel are critical. The team will assess the physical security of the entire IT area, as well as make an assessment of the security of the IT systems. Security clearance to sensitive information and/or systems will be immediately determined, and protocols will be put in place. An assessment of the data backup, auxiliary power and hot site will be determined. The team will develop systems (if they do not already exist) to determine the root cause of help desk inquiries with an eye on

significantly reducing these problems. The team will develop contingency plans should critical talent leave the Water Works.

Of particular note will be the transition, as required, from the current accounting system to Veolia Water's. Procedures will be put in place to allow this transition to take place as quickly and efficiently as possible. The Team will work to ensure that this data transfer occurs while not interrupting the normal course of business. Veolia Water will ensure that accounting information is provided to the City in the format required by the contract services agreement.

Community Involvement

In order to provide a seamless transfer of operating assets, Veolia Water will join with the City to develop a comprehensive marketing plan for a shared community outreach effort during and after the transition period. Communications may include direct mail, advertising, speaking engagements, special events and other strategies to introduce citizens to their new water company–owned by the City and managed by Veolia Water. We will work with the City to produce public service announcements to run on local media, at our cost, describing the transition through a local spokesperson, as well as the development of a Web site.

Beyond the transition, we will work with the City to ensure clear communications with the public through a variety of vehicles, including a Web-site to provide the local community with access to important water-related information. This interactive site will afford the public a convenient venue to express their views, ask questions and deliver opinions on issues of concern to them.

Bottom line, Veolia Water will work closely with the City and other communities served to keep officials aware of the issues and concerns on the minds of the ratepayers. Other customer communication vehicles include quarterly newsletter reports, collateral materials and media relations.

Security/Vulnerability

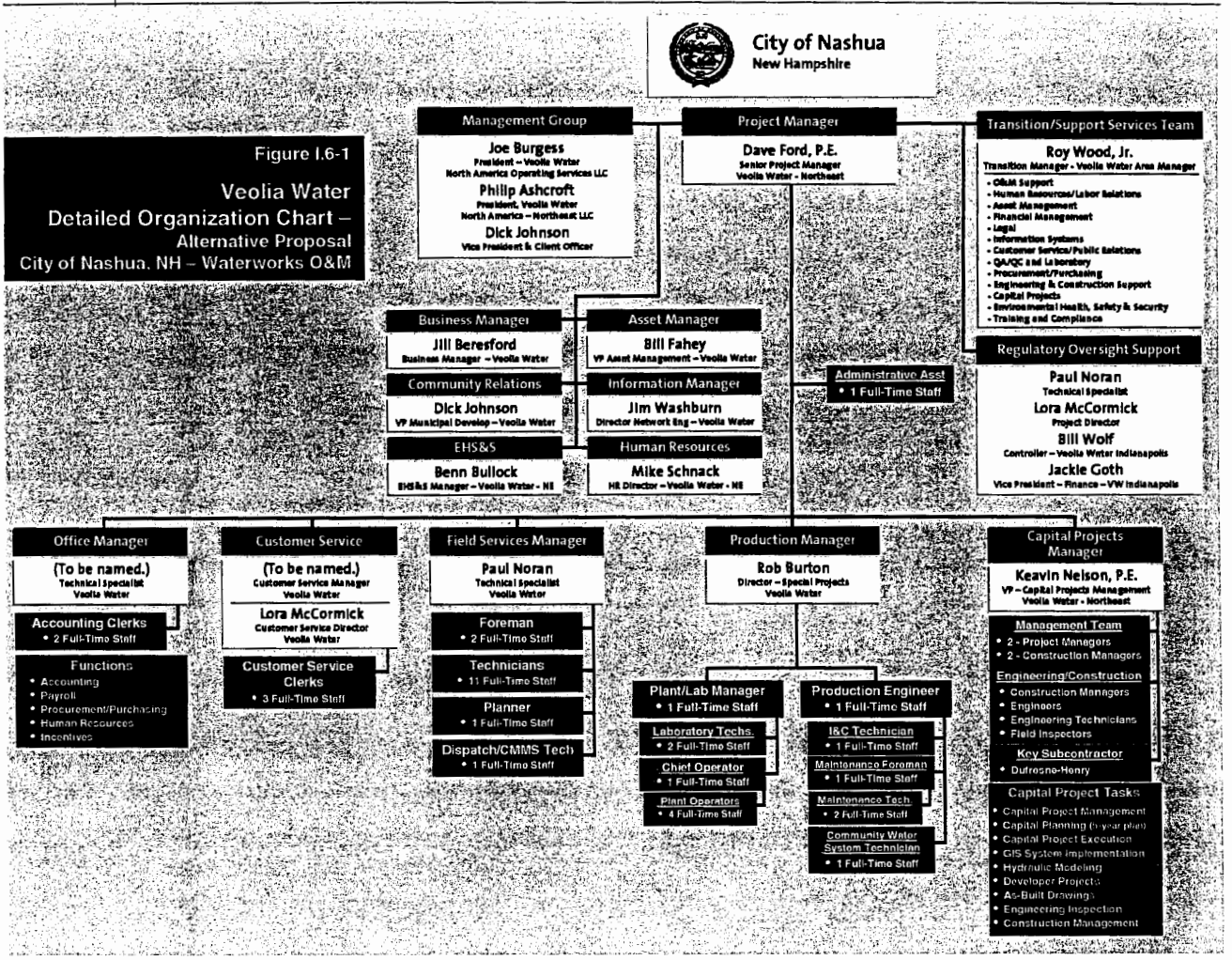
It is assumed that Pennichuck Water Works has completed the U.S. Environmental Protection Agency's mandated Security Vulnerability Assessment process, and during the transition phase our EHS&S team will review these findings and develop a specific EHS&S plan and approach for the water system.

This work will begin with an evaluation of the security and vulnerability of the Pennichuck Water Works and assessment of the current security program that Pennichuck has in use. It will be critical to meeting our objectives that we have full access to this information so that we can assess its effectiveness, provide adequate resources to ensure its optimization and make any necessary changes – security of the assets and of the public will be paramount in our transition efforts. And, making sure the City and the public know the facilities and their drinking water are safe will be critical to our transition communications strategy.

Veolia Water will report to the City on any deficiencies and make recommendations for obtaining compliance with the updated plan.

Customer Service – Base Proposal

During the transition, Veolia Water's Customer Service Specialists will **meet with existing staff and assess the current customer service procedures.** Communication with



6.4 - Summary

Veolia Water strongly feels that our Alternative Proposal offers the best value, utilizes the full expertise and resources our firm has to offer, and delivers the lowest cost of services to the City. This Alternative Proposal ensures that the City's assets and interests are maintained and that Local ownership and control is preserved.

City and our new employees. Using lessons learned, we will build upon the institutional and industry experience of our new employees and help them understand the differences between an investor-owned utility and publicly owned system with a private operator. This educational component will be much easier for Veolia Water than for any of the other bidders because of this recent experience. We are confident that the Pennichuck employees will be excited about the new opportunity and the benefits that we will offer.

Veolia Water operates more water facilities for public entities than any other water company in this business. This extensive experience coupled with the $50 million annually invested in research and development places Veolia Water at the cutting edge of new technology and at the forefront of new regulatory requirements. *Therefore, the technical and operation transition that we have completed many times before will be facilitated in a timely and professional manner.* We welcome this challenge and look forward to being a part of your great community.

Section Five

VEOLIA Water

Section Five

SECTION FIVE
Experience and Qualifications

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Bringing a World-Class Base of Experience and Expertise

In this procurement process, the **City of Nashua, New Hampshire,** is seeking to enter into a contract with a "world class" team for the operations, maintenance and management (O&M) of the water system assets that serve your community.

The process that the City is undertaking will involve acquiring the water utility assets of the Pennichuck Corporation, namely those of Pennichuck Water Works, (Water Works). The system then will be operated and managed by a service provider under a direct contract with the City, with the goal of delivering to the City's water customers' drinking water of highly acceptable quality and in full compliance with all applicable standards, laws, rules and regulations. In tandem with these goals is the mandate to provide for uninterrupted water service, with no affects on the quality of water or the level of service delivered.

Veolia Water North America – Northeast, LLC (Veolia Water) is unique in our ability to ensure this critical objective is met. Our firm brings to the clients we serve in the State of New Hampshire, and in the New England region as a whole, an unequaled base of resources, capabilities and direct and relevant project experience—all factors that will ensure that the City's Water Works system is transitioned safely and that ongoing operations are efficient while yielding the highest quality water the facilities are capable of producing.

Our focus under this long-term agreement with the City of Nashua will be to transition the water system operations, to establish a new management team and approach, and then to deliver on the commitments that we have made as a part of this Proposal. In tandem with these goals for high quality and compliant drinking water is the mandate to provide for uninterrupted water service.

Veolia Water, as is demonstrated in the experience and capabilities discussion provided in this section, is unique in our ability to ensure this critical objective is met. Not only are we part of the largest water company in the world, but our company as a whole has transitioned more employees, both public and private, to our organization than any other water O&M services provider. In addressing the scope of work for this contract with the City, we will also form a project team, one which will include **Dufrense-Henry**, a leading provider of engineering, construction and related services in the New England region.

This section of our Proposal discusses the background and experience of our Team and provides specific references for our work with other water projects.

The Veolia Water Team

This proposed relationship with the City of Nashua is one that will demand the resources of a leading O&M services provider, backed by strong engineering, construction and other resources to support the capital and related project work scope. To best address this need, Veolia Water has formed a project team that can provide the base of experience required and a strong base of local expertise and resources that will ensure success.

In 2002, Veolia Water began a $1.5 billion, 20-year contract with the City of Indianapolis, Indiana, for O&M and customer service facets of the City's waterworks system, which currently serves more than 1.2 million people.

Veolia Water will be the lead firm and the direct contractor to the City of Nashua for this proposed contract. Under this approach we will provide all of the management, O&M and other resources needed to effectively operate and manage all aspects of the water system.

Joining with us, as our engineering and construction services partner, will be **Dufresne-Henry**, a New England-based firm that specializes in planning, environmental science, landscape architecture, construction management and other related services. The firm provides a wide range of services throughout the duration of a project, from initial planning, evaluations, and modeling, through the design and construction phases, and into operational startup. They have established offices in New Hampshire and Massachusetts from which they will support this project.

In this section, we profile the background and experience of our two firms, and additional detail related to experience and references is provided in Appendix B, Volume III of this submittal.

Veolia Water

As the leading provider of O&M services for water and wastewater utilities across the U.S., Veolia Water brings the base of experience and expertise needed to be a successful partner to the City of Nashua under this proposed long-term agreement.

Veolia Water does not have investor-owned utilities in our portfolio of U.S. activities.

Our firm also brings to this project a proven base of experience in the State of New Hampshire and the New England region as a whole, with some 30 active governmental/ municipal clients. Under our contracts with these clients, we manage the operation of both large and small water systems.

In total our firm has almost 30 years of continuous experience in providing O&M services for water supply systems and wastewater systems in the New England region. Our work in the State of New Hampshire covers almost 20 years, and has involved provided engineering, construction and O&M services for water systems under multiple contracts with the State of New Hampshire, Waste Management Division of the Department of Environmental Services (NHDES); these contracts, for multiple water systems, continue today and involve providing

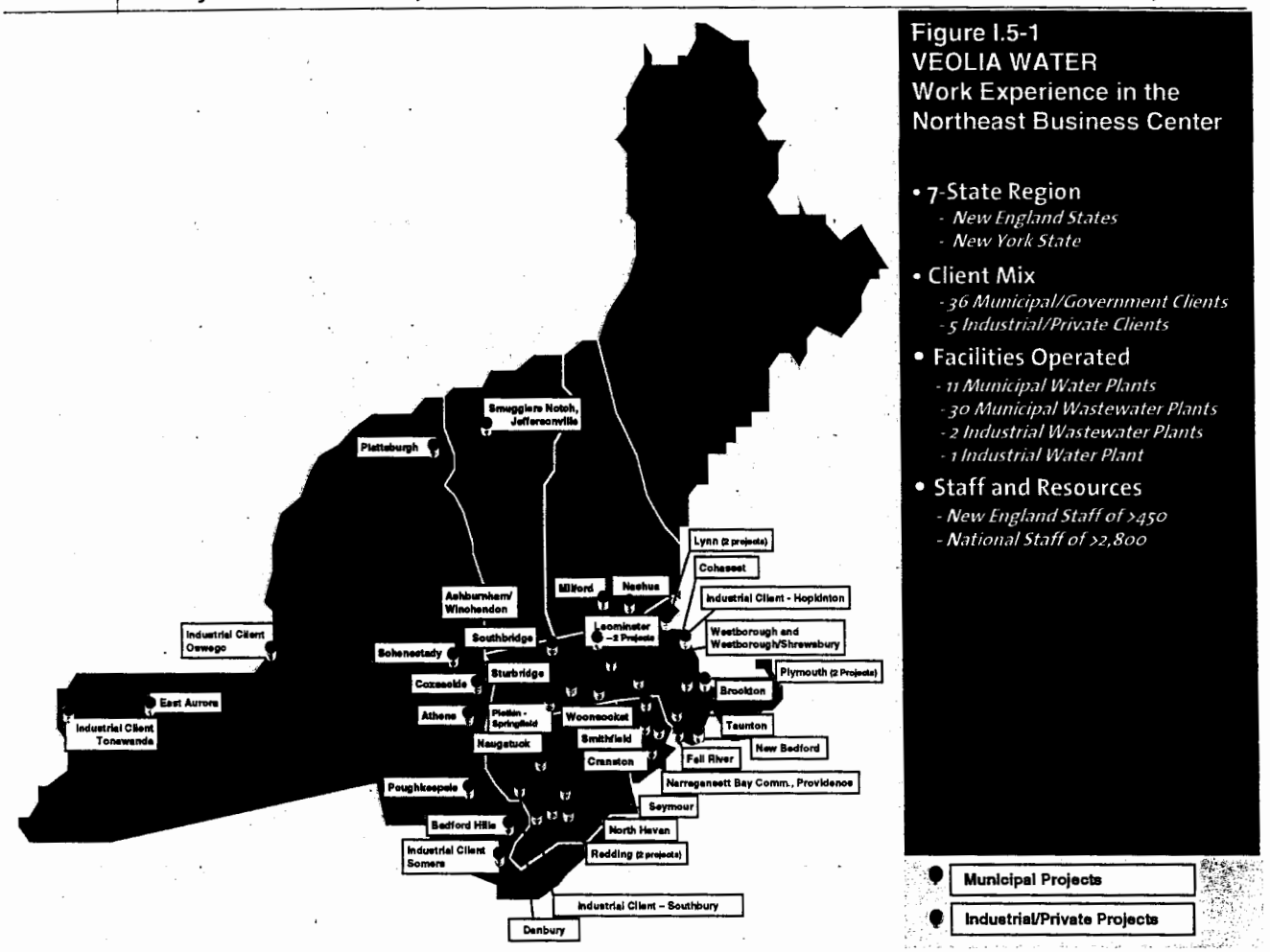


Figure I.5-1
VEOLIA WATER
Work Experience in the Northeast Business Center

- 7-State Region
  - *New England States*
  - *New York State*
- Client Mix
  - *36 Municipal/Government Clients*
  - *5 Industrial/Private Clients*
- Facilities Operated
  - *11 Municipal Water Plants*
  - *30 Municipal Wastewater Plants*
  - *2 Industrial Wastewater Plants*
  - *1 Industrial Water Plant*
- Staff and Resources
  - *New England Staff of >450*
  - *National Staff of >2,800*

O&M and related project services. Through these projects we provide a base of resources and certified State of New Hampshire operations staff; staff that will be available as a part of the base of support resources that we provide for this project.

Beyond this local experience, Veolia Water has more than 50 years of continuous experience in providing O&M services to governmental and industrial clients across the U.S. Our work in the operation and maintenance of water and wastewater facilities for municipal clients dates back more than 33 years, and today encompasses ongoing contracts with over 180 municipal/governmental entities across the U.S.

Throughout New England and the Northeast, as shown in Figure I.5-1 (above), Veolia Water has more than 40 active O&M contracts to provide water and wastewater treatment and related services to communities and industries large and small. From a tiny 0.008-MGD treatment plant at Joel Barlow High School in Redding, Connecticut, to a giant 134-MGD operation at Wilmington, Delaware, from condominium pump stations in Massachusetts to a ski resort, Smugglers Notch in Vermont, Veolia Water is committed to providing the highest quality services to protect the environment and provide safe and compliant services to our clients and our citizens.

Nationally, our firm's experience includes current work with the **City of Indianapolis, Indiana**, where we **operate and manage a water treatment and supply system that serves more than 1.2 million people** in and around the City. Like this proposed project with the City of Nashua, our partnership with Indianapolis began when, in 2002, the City

reacquired its water assets from a private owner and then transitioned the O&M responsibility for the system to Veolia Water under a 20-year agreement. The experience gained on the Indianapolis project will be applied to the benefit of your project through the involvement of many of the key technical and management staff from that project.

VEOLIA WATER O&M STATISTICS

- 180 Municipal Clients
  - 186 Municipal Wastewater Facilities
  - 104 Municipal Water Facilities
  - 3,635 Miles Collection System Lines
  - 7,400 Miles Distribution System Lines
  - 415,266 Meters Read
- 87 Industrial Clients
  - 76 Industrial Wastewater Facilities
  - 36 Industrial Water Facilities
- 1.34 Billion Gallons of WW Treated Daily
- 875 Million Gallons of Water Treated Daily
- 14 Million Population Served Daily

The water system in Indianapolis is one of the more than 100 municipal water systems that Veolia Water operates and manages throughout the U.S., and is among the thousands of water systems that Veolia Water companies operate and manage for communities throughout the world.

What this means to the City of Nashua is that we will bring to bear the national and international experience of our firm to provide you with a world-class water utility.

While we may draw upon resources from throughout the world, this project will be managed and supported at the local level, with our regional company, Veolia Water North America – Northeast LLC as the direct contracting entity to the City of Nashua for this project. This business unit of Veolia Water has the management, technical, financial and other resources needed to effectively serve the City of Nashua under this proposed long-term agreement.

Service Capabilities

Veolia Water is North America's leading water services provider for local and federal governments, business and industry. Our company designs, builds, equips, operates and manages various types of facilities, programs and systems. This capability allows us to ensure safe, compliant and efficient operation of municipal or government water and wastewater assets while steadily keeping customer costs lower than previously experienced. Municipal customers can also benefit from a full range of customer services, such as meter reading, and billing and collection.

Under an O&M services agreement, the community owns the assets, controls the water rates and sets the direction for the future development and growth of the system. Veolia Water serves as the technical partner to ensure quality services and can offer services ranging from facility operations and capital program management to customer service.

We never forget that our client is the system owner, and we are always aware of our role as your service provider.

Veolia Water has operations experience with virtually every type of water and wastewater treatment process and approach, and we have operated many communities' municipal water and wastewater treatment plants continuously for periods of 20 years or more. The extensive scope of services that we provide the communities we serve includes:

- **Operations & Facility Management** - Veolia Water's primary line of business, the operation, maintenance and management of environmental facilities. Our more than 33 year experience history spans the O&M of potable water, process water, collection and

distribution, wastewater, biosolids (sludge) and residuals, stormwater management and related systems. Under the contract O&M approach, we deliver the management, employees, consumable goods (e.g., chemicals and alternative disposal services), facility maintenance and purchasing power to provide a full-service approach to managing a client's facilities operations and management needs, all for a fixed, guaranteed contract price for the term of the agreement. We also guarantee to meet or exceed all permit requirements and provide a comprehensive maintenance management approach.

With more than 33 years of O&M experience, Veolia Water today serves over 600 communities across the U.S. We remain the leader in the O&M field, with nearly 200 municipal and commercial clients for whom we operate some 120 drinking water treatment systems capable of processing over 660 million gallons of water every day. Coupled with the resources of our parent company, Veolia Water, S.A., we can literally bring the world to the City of Nashua.

- **Maintenance Management** – Veolia Water's maintenance programs address the corrective, preventive and predictive maintenance of equipment and structures. We focus on establishing an asset management maintenance strategy and approach based on several fundamental factors, which include individual unit basis, reliability, efficiency and integration with other programs. Under our watch, the City can be assured that its facilities are maintained at their optimal condition, both aesthetically and functionally.
- **Regulatory Compliance & Permitting** - Veolia Water works with our O&M customers to ensure that they maintain environmental and regulatory compliance, while assuming full responsibility for our violations. Regulatory compliance becomes our company's business when we enter into an outsourcing agreement, under which we guarantee compliance within the design parameters of a given facility. We also provide the systems and engineering capabilities to add any needed flexibility within a given system. As explained earlier, we also enjoy a strong working relationship with all regulatory agencies in the State of New Hampshire, and we remain fully informed of any pending or contemplated regulatory changes. Additionally, we currently have two O&M contract with the NHDES, under which we operate and manage water systems with many of the same regulatory requirements as those that will be involved in the proposed operations and management contract with the City of Nashua; these projects are discussed in greater detail in the project summaries that are presented in Appendix B, Volume III.

Veolia Water, under a contract that began in 1986, has served the NHDES in the operation and management of a groundwater facility in Nashua--the first U.S. Environmental Protection Agency Superfund groundwater cleanup using a contract O&M agreement. Under a separate contract, we are operating a groundwater system at the OK Tools portion of the Savage Wells Superfund site. Both of these O&M project required addressing regulatory and permit requirements at the Federal and State levels.

- **Customer Service** - Veolia Water works with municipal agencies to ensure responsive customer service, which is unmatched, for both regulated and non-regulated utility systems. This expertise and experience includes all aspects of customer service, meter reading, meter repair and replacement, service turn-on and shut-off, billing and collections and/or call center management. And, we provide these services for more

than 40 of our current municipal contract O&M projects in the U.S., addressing the needs of a customer service base of more than 670,000.

- **Safety Programs & Employee Training** - Veolia Water's training programs are time-tested, and our safety programs achieve ratings among the highest in the industry. Indeed, our firm's safety program is 20% better than the wastewater/water industry average. In our employee training programs, our firm emphasize cross-training to improve the skills and range of capabilities of our staff. To enhance employee effectiveness in daily operation and to provide for career advancement potential as further incentive for training, Veolia Water maintains a tuition reimbursement program to encourage career advancement. Incentives for operators to advance their certification levels and responsibilities also are provided. In addition, safety training is a priority at all Veolia Water facilities, and staff achieving no lost-time accident milestones are rewarded.

One of the key public educational tools that **Veolia Water** makes available to many of the communities we serve is the **Water Box**, a hands-on tool for teachers to introduce their students to the importance of our water system and to demonstrate how it works to ensure the quality of the water delivered to homes and businesses in the community. The curriculum emphasizes the importance of safe drinking water, the realities of our diminishing natural resource, and fascinating facts on how water is treated. The Water Box program can be found only in communities served by Veolia Water and is structured to meet the state's teaching standards for science. For instance, in Tampa, Florida, and Indianapolis, Indiana, we have matched the Water Box with their standards for science so that the program is an accepted, effective tool for teaching science.

- **Community Relations/Community Involvement** - From supporting local schools to providing facility tours to creating Web sites and literature, Veolia Water provides public and community relations programs that are designed to help strengthen the understanding of water and other environmental issues in the communities that we serve. In each of our long-term projects, we make a commitment to being part of the community and a good corporate citizen. This commitment takes the form of contributions of time, money and materials for community programs; plant tours and open houses; scholarship programs focused toward providing needy students with the resources to pursue a career in environmental protection; and educational initiatives.
- **Engineering & Construction** – The engineering and construction arm of Veolia Water enables our firm to effectively manage and implement projects ranging from repairs and capital improvements to full-scale design/build projects. Veolia Water's Capital Program Management (CPM) group is responsible for directing and supporting design/build, design/build/operate (DBO) and capital improvements at our O&M projects. Under this approach, our O&M teams draw on the internal engineering and construction management expertise of our CPM group to cost effectively implement and manage capital programs for our clients. Using creative process design, our engineers and engineering partners can design new facilities complete with the latest technologies or make modifications to existing processes to improve performance and reduce operating costs.

Figure I.5-2. Veolia Water Companies – Water Systems Experience Internationally

Client/Location	Population (in millions)	Size (in MGD)
Adelaide, Australia	1.064	477.2
Shangai/Pudong Area, China	2.2	334.8
North Bohemia Region, Czech Republic	1.053	36.44
Prague, Czech Republic	1.2	265.37
Paris, France (Suburban Water System)	4.037	511.47
City of Paris, France	2.680	341.9
City of Lyon, France	1.121	39.55
State of Gabon, Africa	1.330	48.3
City of Berlin, Germany	3.840	300.55
London Suburbs (Three Valleys Water), UK	2.029	350.57

Major Water Programs in the U.S. and Internationally

Veolia Water companies are the world's leading water services provider, and we trace our experience back to 1853 and the founding of our ultimate parent company, Veolia Water, S.A. Around the globe, Veolia Water companies operate some of the largest water and wastewater systems in the world, including: the Paris city and suburban water systems, which deliver over 850 million gallons of water to more than 6 million consumers each day; the London suburban water system, which provide water to more than two million people each day; and the City of Berlin's water system, which supplies water to more than 3.8 million people every day.

In the U.S., Veolia Water manages one of the largest water partnerships in the industry, that for the City of Indianapolis. The City's water system can deliver over 200 million gallons a day of water to a population service base of more than 1.2 million.

This is one of the more than 100 water systems that our firm operates across North America, and from this base of experience we have selected the group of reference projects that are highlighted in the paragraphs that follow. More detailed discussions of each projects is provided in Appendix B, Part 1, which is presented in Volume III.

These reference projects are followed by a discussion of our firm's capital project work experience for municipal water and wastewater projects, which also are discussed in greater detail in the brochure included in Appendix D, Part 1, Volume III.

These reference projects have been selected to best illustrate the base of experience that our firm provides in the area of water systems O&M, as well as our depth of experience in serving clients in the New England region.

O&M Reference Projects

Veolia Water provides over 876 million gallons per day of water supply to the almost 150 governmental and industrial water systems that our firm operates and manages. This includes serving the water needs of over 3.9 million people across North America, with more than 110 water plants operated, managed and supported by Veolia Water's over 2,800 staff.

The project summaries that follow provide a select few examples of how our firm is now working with communities similar to Nashua to deliver the water supply services that meet the day-to-day needs of household, commercial and industrial users. Detailed summaries for these reference projects including client contact information, are presented in Appendix B, Part 1, Volume III. The key reference projects include:

- **Indianapolis, Indiana** – North America's largest public-private partnership for water services meets the drinking water needs of a population or 1.2 million each and every day. Twelve distinct treatment facilities can produce up to 200 million gallons of water per day of water. The system includes 4,000 miles of distribution lines, 31 wells and nearly 20 finished water storage facilities. Veolia Water was selected for our innovative transition plans, employee relations plans, technical approach, experience, management fees, customer service and local commitment. We are setting new standards for public-private partnerships through our performance-based fee and our pledge to accomplish $20 to $40 million each year in capital improvements. Almost immediately upon assuming O&M responsibility for the Indianapolis water system, we resolved long-standing water taste and odor issues. Our sophisticated customer service program includes a 24/7 call center to manage customer concerns regarding their water service. The customer service organization is responsible for meter reading for some 325,000 connections. We also provide billing and revenue collection for 600,000 accounts. In addition to billing for the waterworks, we provide sewer billing for Indianapolis, and we also supply utility billing for the nearby City of Elkart. In 2004, the Indianapolis-Veolia Water partnership was recognized with the prestigious Service Award by the National Council for Public-Private Partnerships.

> "The City of Indianapolis and Veolia Water have and continue to work closely together in a win-win partnership to realize economic and environmental benefits to our entire community, including a five-year rate freeze for our customers. We built this partnership with the interests of the citizens in mind and are pleased with the progress we've made in our first two years."
> -- Mayor Bart Peterson

- **Brockton, Massachusetts** – Since 1988, Veolia Water has provided O&M for both drinking water and wastewater treatment. The water operation encompasses two surface water treatment plants, rated at 24 MGD and 1.3 MGD. Our firm also has responsibility for a 40-MGD raw water pump station and finished water storage facilities. The City's wastewater facility is an 18-MGD plant that provides tertiary levels of treatment. The first contract with the City was innovative in that we provided the first year of O&M service for no cost because of our ability to achieve operational savings of more than $500,000 per year. Over the years the partnership between the City and Veolia Water has been recognized with awards and commendations, and, most recently, was renewed a 20-year term—making Brockton one of the longest-running contracts in the North America O&M industry.

> "Brockton is an example of how the public and private sectors can substantially benefit both environmentally and financially from long-term arrangements. The partnership has helped decrease pollution in our community that might not have happened had we not chosen to work with the private sector."
> -- Mayor John T. Yunits, Jr.

- **Lynn, Massachusetts** – When Veolia Water assumed responsibility for the City's then new 15.3-MGD water treatment plant in 1987, we already had a successful two-year

history as Lynn's wastewater treatment facility operator. Under this contract, our firm is an active partner with the City, consistently reducing the costs of plant operations and improving the quality of water delivered to the customer. The Lynn water project has achieved 13 years of zero lost-time accidents—an exemplary safety record. The project has received repeat honors from the state regulatory agency and the Water Works for our quality operation at Lynn. Under a separate 20-year contract, Veolia Water provides total asset management and capital improvements for the City's 25.8-MGD wastewater plant, assuming the maintenance risk for the term of the agreement. Both facilities are repeat award winners, for safety and environmental excellence over the years.

- **Leominster, Massachusetts** – Veolia Water began operating the City's 9.3-MGD wastewater treatment plant and providing related services in 1983. Thirteen years of successful O&M were rewarded when a 1996 20-year renewal awarded Veolia Water O&M of the City's 4-MGD and 1.2-MGD water treatment plants. Our contract also provided $4.5 million in design and construction for improvements to the water facilities. The City had estimated $8 million for the cost of these improvements. In 2002, we conducted a Security Vulnerability Assessment and Emergency Response Plan for the City's water treatment facilities to identify areas of water security risk and to recommend mitigation measures. This assessment focused on identifying critical assets used in the production and delivery of clean, safe water to those served by this system. The Security Vulnerability Assessment report provided recommendations to make those assets more secure. Veolia Water has also conducted hazardous materials and emergency response training for the City's water and wastewater facilities, and provides routine operations and maintenance training. Our operation at Leominster has received numerous honors, including O&M Excellence awards from the U.S. Environmental Protection Agency (EPA) and the George W. Burke Safety Award. Leominster staff have operated more than 20 years without at lost-time accident – a remarkable achievement.

> Leominster's O&M staff have worked their entire history – some 22 years – without a lost-time accident!

- **Atlanta-Fulton County, Georgia** – Veolia Water began operating the 90-MGD North Area Water Treatment Plant in 1990 and has received repeated contract renewals and been honored by dozens of excellence and safety awards from virtually every associated local, state and federal agency. The scope of work for this project has involved all aspects of facility O&M, as well as working with the plant owner to expand and upgrade the facility. Veolia Water implemented a pilot program to increase the plant's 30-MGD production capability to meets its rated flow capacity of 45 MGD with no capital expenditures. Subsequent efforts further increased the plant's rated capacity to 56 MGD. The plant is designed for an ultimate treatment capacity of 135 MGD. The demand for potable water is so great that the client began Phase II earlier than planned to upgrade the plant to 90 MGD. The plant has been running at this new flow capacity since March 1998. Veolia Water's O&M resulted in reduced water rates to consumers. Accumulated savings to ratepayers totaled nearly $15 million at the end of 2004.

> Accumulated savings to Atlanta-Fulton County ratepayers through reduced water rates totaled nearly $15 million at the end of 2004.

- **Maple Shade, New Jersey** – When Veolia Water assumed operation Maple Shade's water and wastewater facilities in 1988, the Township was under consent orders from

the New Jersey Department of Environmental Protection as well as the EPA. Within 10 weeks, we brought the wastewater facility into compliance. We have responsibility for Maple Shade's entire water and wastewater program. Facilities include 2.4-MGD and 2-MGD water treatment facilities and a 3.4-MGD tertiary wastewater treatment plant, along with more than 100 miles of collection distribution lines and associated services. Veolia Water has maintained the operation of the aging water treatment plants and distribution system without violations and without loss of service. The Township's water facilities, which date in part from 1925, have undergone continuing rehabilitation to guarantee consistent water quality. This has included the development and implementation of a capital improvement program and the replacement of distribution lines and other equipment that was no longer functioning properly because of age. Veolia Water assists Maple Shade with regulatory matters and has succeeded in defending the Township's position with State of New Jersey's Department of Environmental Protection (NJDEP) to raise the phosphate limits on its permit. The American Water Works Association awarded this project its President's Gold Performance Award two consecutive years.

- **Southern Water and Sewer District, McDowell, Kentucky** – Veolia Water and Southern Water formed a public-private partnership in 2000 to expand the District's water system and find solutions to water losses. Under this long-term, 20-year contract, our firm has designed, financed and built 24 miles of new distribution system, adding three pumps and three tanks to bring 500 additional connections into the water and sewer district. A second expansion project followed to bring additional customers onto the system. A third segment is underway that will bring the total of additional lines to approximately 100 miles and new connections to some 1,500. Additionally, Veolia Water implemented a management program to help integrate the Beaver-Elkorn and Mud Creek water districts into the newly formed Southern Water and Sewer District. Many customers along the distribution system were not connected and multiple homes were connected to a single meter. We offered customers the opportunity to connect to the system at a reduced connection fee with a deferred payment plan. We also provided the District with a first-year concession fee. District revenues will increase drastically as water losses are further curtailed and the customer base increases. In addition to arranging long-term financing for the District, we immediately began applying for State grants and low-interest loans to help the District expand even further. In 2005, the District's customer base of 6,030 is nearly double the original 3,800 served prior to Veolia Water's O&M.
- **Pikeville, Kentucky** – Under a contract that has been renewed or extended seven times since 1987, Veolia Water provides O&M for the City of Pikeville's utility systems, including water, wastewater, natural gas, and sanitation. Our first contract involved providing complete O&M services for the City's existing trickling filter wastewater treatment plant, as well as their 4.8-MGD water treatment facility. We

The City of Pikeville demonstrated its confidence in Veolia Water in 2004 for the eighth time. Yet another scope expansion turned over responsibility for the City's landscaping and parks department. Veolia Water provides regular mowing for the parks and cemeteries, landscapes park entrances and maintains the ballfields and pool. Further, we are charged with event scheduling for public and sports teams' use of the parks and ballfields. Veolia Water is a backbone of this community of 7,000.

assisted the City with the building of a new 2-MGD extended aeration wastewater plant. Using a DBO approach, Veolia Water worked the City's engineers to design and build this facility under a fixed, not-to-exceed price with a long-term warranty covering the plant and equipment. Veolia Water also assisted the City with the 201 Planning Process and obtained a new loan under the State Revolving Loan Fund. This contract also involved providing startup and management services for a new regional 6-MGD water treatment plant. Over the course of this contract Veolia Water has handled several disaster flood events. In 1997, as a result of stream flooding, roads were washed out, a mudslide claimed two houses, culverts were blocked, and flood pumps were put into operation. This event occurred while utility O&M resources were severely strained, mobilizing to handle the multiple problems simultaneously. The successful management of these events involved coordinating the assistance from outside contractors and the Kentucky Department of Environmental Services. Veolia Water has also maintained a strong commitment to the Pikeville community over the years, working to improve the overall quality of life by providing donations and assistance to meet community needs. Our Pikeville operation has been cited numerous times by various regulatory agencies.

While we may draw upon resources from throughout the world, this project will be managed and supported at the local level, with our regional company, Veolia Water North America – Northeast LLC, as the direct contracting entity. This business unit of Veolia Water has the management, technical, financial and other resources needed to effectively serve the City of Nashua under this proposed long-term agreement.

Capital Project Experience

Drawing upon the resources of our firm in the Northeast, and those of our proposed design and construction services partner, **Dufrense-Henry**, Veolia Water can effectively manage and implement all manner of capital projects for the Water Works at Nashua.

Veolia Water's CPM group, as discussed earlier, is a part of the regional technical and management resources that our firm provides to municipal clients. The focus of the work of this group is on the implementation and management of upgrades, improvements and other capital project work at Veolia Water operated and managed facilities. This group is composed of senior-level engineering design and construction professionals who are able to effectively manage and implement design and construction project, drawing on a combination of in-house resources and expertise, and local firms (pre-qualified subcontractors) that provide design, construction and related expertise.

The experience of Veolia Water and our affiliated companies includes engineering and design for the development and implementation of a wide range of treatment technologies for industrial and municipal applications. This work has included all aspects of plant design, construction, construction monitoring, acceptance testing and startup, as well as construction management, and the construction and modification for all manner of water and wastewater facilities. Another key area of experience that Veolia Water brings to our municipal projects is our work in providing for continuous facility O&M while a plant is undergoing upgrades, expansions or rehabilitation. Indeed, our firm has vast experience in working with engineers and contractors to ensure minimal service disruption and continued compliance.

The management and implementation of DBO projects is another area where Veolia Water companies demonstrates strength. Our firm is among the leading water and wastewater DBO firms in North America. Since 1998, Veolia Water has designed/built and now operates some 26 treatment facilities. Since 2002, our work includes new, from-the-ground-up plants as well as multi-million dollar upgrades to modernize systems, upgrade treatment capabilities and/or expand capacity.

The engineering and construction arm of the Veolia Water companies enables our firm to effectively manage and implement projects ranging from repairs and capital improvements to full-scale design/build projects. This group has more than 90 years of experience for a wide range of industrial and governmental clients. With staff resources that include engineering, construction management and other support functions, they provide the staff and other resources needed to deliver engineering and construction services for major repair and capital improvement type projects, and they also offer design/build project approaches for project work. Using creative process design, our engineers and engineering partners can design new facilities complete with the latest technologies or make modifications to improve on performance and operating costs.

Veolia Water, as discussed above, also has extensive experience in the area of providing ongoing facility O&M throughout the implementation of capital improvement work projects. We have participated in literally hundreds of capital projects for our clients over the years, and the majority of these projects have entailed providing continuous O&M while facility improvements were underway.

Veolia Water has been involved in literally hundreds of capital projects for our clients over the years, providing design, construction and O&M services. Some key examples of our firm capital project work experience includes:

- **Lynn, Massachusetts** – In 1990, Veolia Water oversaw a $53.8-million upgrade to secondary treatment at the wastewater plant. Between 1996 and 1998, our firm oversaw some $10 million in capital improvements at this facility, which included installing variable frequency drives for influent and effluent pumping, process water pumping modifications, and a new indirect sludge dryer. Veolia Water is currently implementing some $14 million in capital improvements to the wastewater facility under a three-year program, using a design/build approach. These improvements include a larger fluidized-bed incinerator to replace the two existing incinerators; two high solids centrifuges; modernized SCADA controls; screening upgrades; and an odor control program that includes covering all preliminary and primary tankage and treating the odors from these tanks. All of these improvements were made while Veolia Water provided ongoing O&M of the 25.8-MGD facility.
- **Indianapolis, Indiana** – Veolia Water has funded more than $89 million in capital projects to date under this agreement to provide for improvements to the City's aging water infrastructure. The City anticipates commissioning an additional $20 million - $40 million in capital projects in each of the 15 years of our contract. Veolia Water's engineering affiliate is managing this work, which is being performed by Veolia Water's staff, along with specialty contractors. In the first two years of our contract, we implemented or completed some $94 million in capital work. Throughout these vast and ongoing improvements, Veolia Water provides continuous, uninterrupted water

treatment services for 12 water treatment plants having a daily production capability of 200 MGD.

- **Taunton, Massachusetts** – This Total Asset Management project calls for Veolia Water's O&M of the City's 8.4-MGD wastewater treatment plant while overseeing an $11 million capital program to upgrade the facility to tertiary treatment. The City estimates it will benefit from $15 million in capital savings and $47 million in O&M savings through this 20-year partnership.
- **Tampa Bay Water, Florida** - On October 11, 2002, Veolia Water dedicated a new water regional water treatment plant for Tampa Bay Water in Florida, completing a more than two-year design/build project. The project began in April 2000 when, following a year-long selection process among four competitive teams, Tampa Bay Water awarded a $135-million, 15-year (with a 5-year option) contract to Veolia Water for the design, construction and operation, using the DBO delivery approach, of the agency's regional surface water treatment plant. In 2003, the facility received the prestigious Infrastructure Award from the National Council for Public-Private Partnerships (NCPPP). The project has included $79 million in capital (construction) costs, and $56 million in O&M fees, which are expected to generate a 21% savings, or about $85 million, over the 20-year life of the project.
- **Woonsocket, Rhode Island** – While operating this 16-MGD wastewater facility, Veolia Water oversaw $18 million in capital improvements and upgrades in this joint-venture design/build effort to upgrade the plant to tertiary treatment to meet consent order requirements for nutrient removal. Once called the worst in the State, the plant recently received an award from the state environmental agency for Most Improved Plant.
- **Cranston, Rhode Island** – In the past five years, Veolia Water has invested more than $3.5 million in capital projects for this Total Asset Management project. Veolia Water's engineering affiliate currently is working on some additional $9.3 million in upgrades as part of our current amended contract, which runs through 2027. We are operating this 23-MGD facility throughout ongoing improvements that include upgrading the plant to accommodate advanced treatment for biological nutrient removal, adding odor control processes and equipment, a new incinerator and a flue gas recirculation system.
- **Richmond, California** – In 2002, Veolia Water was contracted to oversee the design/build implementation of $7 million in capital improvements while operating City's 16-MGD wastewater treatment facility. The work was completed in less than two years, rehabilitating deteriorated systems and resolving long-standing odor problems. Delighted with Veolia Water's success at the wastewater facility, in 2004, the City of Richmond expanded our scope to include a similar effort to the 240-mile collection system—adding $20 million in capital to our O&M project scope.
- **Plymouth, Massachusetts** - On June 28, 2002, Veolia Water started-up a new sequencing-batch reactor (SBR) wastewater treatment plant for the Town of Plymouth. This 20-year project was implemented using a DBO project approach, and involved the design and construction of a new 3.1-MGD treatment plant with three SBR tanks (providing a peak treatment capacity of 9 MGD). Veolia Water worked with the Town to finance this project under U.S. Internal Revenue Service's 97-13 rules, using funding from the Massachusetts State Revolving Fund for the $23.3 million in capital costs. The new wastewater plant is located five miles inland from the original facility, and Veolia Water

has responsibility for equipment replacement, capital improvements and regulatory compliance. Our firm's O&M responsibility includes managing the Town's sludge disposal operations (700 dry tons per year, dtpy), as well as operating and maintaining the wastewater collection and conveyance system. A key challenge of this DBO project involved keeping the Town's existing wastewater plant in operation during the construction of the new facilities. This plant, now decommissioned, was an aged 1.75-MGD wastewater treatment plant that routinely exceeded the State's discharge limits for Plymouth Harbor.

As these projects demonstrate, Veolia Water is experienced in managing capital project work at water and wastewater facilities, while at the same time ensuring that plants stay in operation and in compliance. The experience of our proposed engineering and construction contractor, Dufrense-Henry, is highlighted later in the paragraphs that follow.

Dufrense-Henry

Dufresne-Henry, as discussed earlier in this section, will be the engineering and construction services partner to Veolia Water for this proposed water systems partnership with the City of Nashua. The firm is based in New England and traces its history to 1955.

Today the firm has offices throughout New England, as well as in New York and Florida, providing a range of services in planning, environmental science and landscape architecture. Dufresne-Henry also supports a contract operations division that provides assistance in operating municipal and industrial water and wastewater treatment facilities.

Dufresne-Henry offers comprehensive services in the engineering field, with nearly a half century of experience in the design of airports, buildings, sites, electrical and mechanical systems, solid waste management facilities, structures, wastewater treatment facilities and water resource projects.

The firm has direct work experience with the City of Nashua on an inflow/infiltration (I/I) study. This ongoing project involves working with the City's Department of Public Works on an evaluation of the sewer system. This project has allowed Dufrense-Henry to develop a relationship with City officials, as well as an understanding of the operations of the public works and underground utilities—both of which will be or direct benefit to their anticipated role on this project. As a part of this project, the firm is working with the City's GIS system to develop sewer tributary areas and subareas to determine field monitoring locations, allowable I/I and current I/I rates; allowing for the identification of problems areas and impact of reports.

Beyond this work with the City of Nashua, the firm's other key work experience in the State of New Hampshire includes projects with:

- **Town of Milford** - Water System Engineering - Dufresne-Henry has been providing water works engineering services to the Town of Milford for more than 15 years. This work has included master planning, implementing capital improvements projects, water treatment, SCADA and review and inspection of water system extensions. Additionally, they are currently working on projects including: the Holland Road water storage tank and transmission main; a water and sewer rate study; hydraulic modeling for the Town's water system; and construction oversight for road and utility

subdivisions. Dufrense-Henry has also provided extensive sewer system consulting and general public works consulting for the Town and Planning Board.

- **Tilton-Northfield Aqueduct Company** - System Evaluation - The Town and the Tilton-Northfield Aqueduct Company are negotiating a purchase of the private system by the Town. Dufresne-Henry has provided engineering services to the TNAC for many years. As part of the transaction process, the firm has provided a detailed system inventory and evaluation that included a system background, infrastructure inventory and evaluation, a summary of known problem areas, a review of water quality, and a list of recommended improvements to the water supply, distribution, and storage systems. Additionally, the firm performed an evaluation of the ADA compliance at the office building and presented recommendations for the building to meet ADA requirements.
- **City of Concord** - Vulnerability Assessment and Emergency Response Plan - On June 12, 2002, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 was signed into law. This Act amends the Safe Drinking Water Act to require that communities that have water systems serving more than 3,300 people prepare and submit a Vulnerability Assessment and Emergency Response Plan to the EPA. The Vulnerability Assessment analyzes water system components while the Emergency Response Plan is a guidance document that allows the city and water division to make decisions and respond to an emergency. Dufresne-Henry assisted Concord by evaluating site vulnerability and physical security, working with city personnel to fill out worksheets on the water system components and identifying "critical customers" and a chain of command.
- **Town of Barrington** - Comprehensive Master Plan - Barrington is a rural community with rolling hills, lakes and farms, and over the past 20 years the Town has become one of the fastest growing communities in the state. Barrington has one of the highest roadway miles per dwelling ratios in the state. Many of the roads are dirt or gravel and cannot handle the additional traffic volumes from new development. Other key issues facing the Town are the growing demand on municipal services, strip development and the lack of a true town center. Dufresne-Henry partnered with another consultant and the town to create a new Master Plan. They assisted the Town in planning for transportation improvements, land use management, zoning and site plan regulations and creating a plan for the new Barrington Town Center.
- **City of Keene** - Well Water Treatment Study - The City of Keene uses groundwater wells and surface water as its sources of supply. Historically, the wells comprised 20 percent of the City's total water usage. However, in recent years due to high disinfection byproduct formation, the City increased the use of its groundwater sources to over 60 percent. In doing so, there was an increase in consumer complaints related to discolored water. Keene selected Dufresne-Henry to perform a detailed well water treatment study for naturally occurring radon and the color producing elements of iron and manganese. Dufresne-Henry recommended treatment alternatives to improve water quality, estimated capital and O&M costs for planning purposes and identified potential funding options to lessen estimated capital investment.
- **Town of Durham** - Lamprey River Water Resource Upgrade - New Hampshire's Lamprey River is a valued asset that provides wildlife habitat, recreational

opportunities, picturesque scenery and primary or supplemental surface water supply or recharge for groundwater supply to four communities. With all of these demands on the river, it is no wonder that projects involving the Lamprey typically also involve scores of interests. This was the case in Durham as the Town and the University of New Hampshire sought to upgrade their joint supplemental water supply system. An intake, pump station, and transmission main from the Lamprey River intake to the Oyster River proved to be operating inefficiently, allowing evaporation and groundwater recharge to claim large volumes of water. In addition, the mixing of the supplies placed the whole supply at risk from contamination. Town and university officials asked Dufresne-Henry to identify potential improvements to their supplemental water system. Dufresne-Henry helped develop a comprehensive water resources management plan and designed a new transmission main that allows operators to transfer water from the Lamprey River directly to a treatment plant.

In the field of water system engineering the firm's other key experience includes:

- Water Supply Optimization Study - City of Bellingham, Massachusetts. Bellingham was in need of finding an additional water supply to support anticipated community growth and hoped to find at least another 2-MGD in water resources. Instead of searching for a new water source, the town decided to try the alternate route of optimizing current use of nine pump stations. Dufresne-Henry was retained to perform this study. A Dufresne-Henry engineer performed flow tests and obtained drawdown measurements on the pump stations. Field measurements found pumping inefficiencies due to fouled well screens, and worn and undersized pumps. Bellingham implemented Dufresne-Henry's recommendations and located 1-MGD by cleaning wells and increasing pump capacity through proposed Water Management Act Permit modifications. The community also benefited from time and cost savings rather than searching for a new water supply.
- New Water Source and Treatment Facilities – City of Maynard, Massachusetts. With the enactment of the Safe Drinking Water Act, Maynard was required to treat its surface water supply at White Pond. Dufresne-Henry completed studies over a seven-year period to determine the cost of treating a safe yield of 1-MGD. In the meantime, Maynard was enduring a water supply shortage and outdoor water bans. After two denials of a proposed treatment facility by voters, Maynard was forced to refocus the project to finding a new groundwater source. A source at Rockland Avenue was capable of providing a stunning 800-gpm from three rock wells. Treatment facilities were required to remove iron, manganese and radon from the new water supply. The key results and benefits from the work performed by Dufresne-Henry in conjunction with Maynard were compliance with EPA and the State of Massachusetts Department of Environmental Protection (MADEP) regulations, relief of long-term water supply shortages, capability to treat 3.1-MGD to supply an average day demand of 1-MGD, capability to provide additional water for future industrial growth and treatment of 2.1- MGD of ground water for $6 million versus treating 1-MGD of surface water (White Pond) for the same cost.

The firm's background and experience is further highlighted in the materials presented in Appendix B, Part 2, Volume III.

Section Six

VEOLIA Water

Section Six

SECTION SIX
Innovative (Alternative) Proposal

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Delivering the Best Value Through Innovative Approaches

In Section One of this Volume, **Veolia Water North America – Northeast, LLC (Veolia Water)** discussed in detail our plan and approach for addressing the Base Proposal defined by the **City of Nashua, New Hampshire's** Request for Proposals (RFP) for the operation, maintenance and management (O&M) of the water supply facilities for your community.

One of the keys to our success in working with clients similar to Nashua is our ability to deliver innovative approaches that provide for cost savings and performance guarantees. It is in this spirit that Veolia Water has developed and presented in this section our Alternative Proposal. This section defines the key elements and advantages of this approach. We have provided a separate Price Proposal, Section Two, Volume II, for the scope of services that will be part of this Alternative project approach.

Key Enhancements to the Base Proposal

The primary areas our Innovative (Alternative) Proposal that will reduce the costs of owning and maintaining the assets and improve customer service are as follows:

- Increased effectiveness of the City's spending on Capital and Maintenance:
  - Reduced maintenance costs and capital replacement dollars by using Reliability Centered Maintenance (RCM) and Life Cycle Costing.
  - Improved reliability of critical plant processes and equipment.
  - A fixed O&M fee for the City that incorporates into the Fixed Price Component all of the Unplanned Maintenance as defined in the Base proposal.
  - Reduced O&M costs over the Base Proposal of approximately $1.8 million over the life of the contract.
  - Reduced City Capital investment by having Veolia Water manage the City's capital program for the water system.
- Expanded and improved customer service approach:
  - Provide a 24/7 call center to resolve billing, payment and field operation inquiries from customers. This is an enhancement over what is currently offered to customers.
  - Offer water customers a "One-Stop Shop" for resolution of all water issues.
  - By selecting the Alternative customer service offering, avoid a $1-3 million investment in a utility billing software package and an estimated $100,000 in startup costs.

- Hold Veolia Water to a high standard of customer service responsiveness with customer service performance metrics.

6.1 - Increased Effectiveness of the City's Spending on Capital and Maintenance

6.1.1 - Reduced Maintenance Costs and Capital Replacement Dollars

Over the years, Veolia Water has made a significant investment in developing a cost effective and efficient Life Cycle Management program. The program is based on the principles of Reliability Centered Maintenance (RCM) and ensures that the maintenance program is tailored to meet the individual facility's needs.

RCM was developed in the 1970s by the U.S. civil aviation industry as a means to develop and quantify maintenance procedures for aircraft. The RCM approach is essentially a formal review process that systematically develops a maintenance plan that is geared toward improving how an asset is maintained to achieve the highest level of reliability and life expectancy. Though new to the water industry, RCM has been used with great success by the electrical power and gas utilities, major U.S. manufacturers, and the U.S. Navy.

The Navy's initial RCM pilot consisted of an evaluation of 31 ships in its fleet. The results were over a 70% reduction in maintenance costs, a 5% improvement in availability, and an extended life on average of eight to 10 years (Reference: Smith, Anthony M, *et al*, RCM Gateway to World Class Maintenance, Elsevier Publishing2004, ISBN # 0-7506-7461-x). The Navy has since made RCM core to its entire fleet.

Veolia Water recently completed an RCM review of a residuals handling system in one of the water facilities that we operate, and the results were as follows:

- $350,000 annual savings from a system redesign.
- $144,000 cost avoidance from increased system availability.
- 60% reduction in planned maintenance hours.
- $40,000 annual savings through redesign of the polymer feed system.

The RCM program identifies areas that need to be improved and focuses the capital spending on the economic return on investment and operational improvement. We believe that our RCM approach is ideally suited to building first class maintenance programs for our clients.

An RCM program could be implemented in Nashua over a period of three years. By using the RCM approach, one spends money early in the process to establish a program that pays out over time. You cannot improve a maintenance program overnight, but the benefits are there when you approach the implementation with patience and discipline.

6.1.2 - Improved Reliability of Critical Plant and Equipment

Veolia Water's RCM approach includes a thorough critically review of each asset in the system. Our proven methodology will result in a criticality ranking that is based on the assets role in providing safe and cost effective delivery of water. We have developed a process that allows us to review assets against a fixed set of criteria that will determine how we care for that asset over time. Our approach focuses maintenance activities towards predictive tasks.

The emphasis placed on predictive tasks helps to ensure that the potential failures are detected before they become functional failures and operating liabilities. This helps reduced operational consequences in three ways:

- Problems can be rectified at a time when stopping the machine will have the least effect on operations.
- It is possible to ensure all the resources needed to repair the failure are available before it occurs, which shortens repair time.
- Rectification is only carried out when the assets really need it, which extends the intervals between corrective interventions. This in turn means the asset has to be taken out of service less often.

Veolia Water has customized the RCM procedures for our water operations, and we will apply these techniques to develop sound maintenance plans for the City. We focus on criticality and failure evaluation to ensure that we are putting the resources where they add the most value to our clients.

6.1.3 - Fixed O&M Fee

Veolia Water is offering the City a fixed O&M fee that incorporates the Fixed Price Component and the Unplanned Maintenance component in the Base proposal. This is a benefit to the City as Unplanned Maintenance is a variable component of costs that are difficult to basis.

6.1.4 - Reduced O&M Fee

Veolia Water is offering the City a reduced O&M fee over the term of the contract. The reduced O&M fee is a result of RCM and capital program management. The savings reflected in the O&M Fee in our Alternative Proposal, as discussed in this section, are detailed in Section Two of our Price Proposal (Volume II).

6.1.5 - Reduced City Capital Investment – Veolia Water Capital Program Management (CPM)

PWW was driven to make capital investments to maintain and increase shareowner returns. The City has the opposite approach to capital investment, as capital investment is directly related to increasing rates. Over the next 20 years, the City may be required to invest up to $80 million for capital improvements. This capital investment will have a direct impact on the rates customers will be required to pay for service. Any savings in capital investment will be of direct benefit to the customers. Veolia Water is offering the City Capital Program Management that will deliver reductions in capital investments.

By offering the City Capital Program Management (CPM), Veolia Water can reduce the City Capital investment requirements by 15 to 20% over a 20-year term, compared to the conventional approach to capital investment.

Based on an aggregate capital investment of $80 million (assumes a $4 million annual capital investment) for the 20-year period, the expected aggregate savings would be $16 to $20 million.

This expected savings is based on the size and complexity of the PWW core distribution and treatment systems.

In reviewing the PWW Annual Reports to the PUC from 2002 to 2004, it is clear that there are significant ongoing expenditures for capital projects. Over this three-year period, approximately $2+ million has been spent by PWW on outside engineering firms, approximately $1 million a year on water main replacements projects, $4 million on source supply and treatment plant projects and millions on other miscellaneous capital projects. Based on a review of the "Water Treatment Plant Evaluation and Capital Improvement Plan" prepared by Fay, Spofford & Thorndike (FST) for the PWW systems (dated May 7, 2004), there is a $31,325,000 Recommended Capital Improvement Plan. PWW is in the process of implementing this plan, which will take many years to complete. Again, there will be a definite need for a comprehensive CPM program when the City takes over this system.

Veolia Water's responsibilities will be as follows:

- Developing the initial five-year capital plan.
- Preparing an updated five-year capital plan annually.
- Executing capital projects as approved by the City.
- Completing capital projects on time and on budget.

City Capital Program Challenges include:

- Reinvesting in the existing infrastructure to improve the condition of the system and to upgrade older pipelines and treatment facilities.
- Meeting increasingly stringent treatment requirements, such as those expected from the U.S. Environmental Protection Agency (EPA) for D/DBP and ESWTR.
- Supporting the growth of the region by furnishing abundant supplies of high-quality treated water
- Controlling customer rate increases.
- Addressing watershed and water quality issues

6.1.6 - Veolia Water CPM – Major Functions

- **Capital Planning** - To establish and prioritize capital projects to meet new regulations, protect existing assets and expand the system.
- **Engineering** - To design solutions, prepare studies and reports, manage projects, perform modeling, and ensure Quality Control.
- **Value Engineering** – To ensure the lowest life cycle cost within project constraints.
- **Project Management and Construction** - To offer the most cost-effective procurement approach and deliver capital projects on time and on budget.

Capital Planning

Veolia Water will meet with the City to review priorities and set goals for the overall program. In its role as a services provider to the City, Veolia Water will not only prepare the appropriate draft plans for City review, more importantly, Veolia Water will bring to the project:

- Creativity and innovation in the assessment of the situation, always addressing the cost and water quality needs of the City.
- Conceptualizing alternatives and the development of solutions that integrate with overall water quality and service goals.

Veolia Water's approach for developing the Capital Plan uses the following processes, as summarized in Appendix D (Part 1), Volume III of this submittal.

The planning function will be an ongoing activity that will provide information, which will serve as a tool for the City to:

- Assess the condition and needs of the system.
- Identify upcoming needs in the short-term and in the long-term.
- Assist the City in developing an overall Capital Program strategy and prioritization of projects.
- Provide an annual summary and analysis of regulatory initiatives that may require new capital over the next five years.

The assessments made in the planning process will focus on five primary drivers for capital expenditures:

- Regulatory requirements and mandates.
- Existing system major replacement, upgrades and improvements.
- Capital expenditures for service expansion.
- Capital expenditures for other issues of consistent concern.
- Safety.

Each project will include a justification and a proposed cost for consideration by the City. Veolia Water will submit three documents to the City for each project in the Capital Plan:

- Scope, justification and alternatives.
- Detailed cost estimate.
- Capital project requisition template.

Veolia Water will prepare a Recommended Capital Plan as well as an update to the five- year Capital Plan on an annual basis.

Engineering

The core CPM staff will be composed of the Regional VP of the CPM group, a dedicated CPM Project Manager and Construction Inspector for Nashua Water Works Capital Projects and key engineering staff from our local engineering partner, Dufresne-Henry, which is located in Manchester, New Hampshire.

Veolia Water's staff will have the primary responsibility for planning, engineering and overall project management of capital improvements. In addition, this group will be responsible for the engineering services associated with this contract.

Value Engineering

Veolia Water will oversee all engineering activities and provide Value Engineering and QA/QC. City input and approval protocol will be developed to ensure that the desired level of input and control is afforded the City.

Based on experience with similar systems worldwide, Veolia Water will address the following:

- Investment in replacement of existing distribution mains. Main extensions will be examined on a cost/benefit basis.
- Capital allocated to major replacement/maintenance of the treatment plants and associated facilities and equipment.
- Ensure that adequate hydraulic capacity will be available for outlying areas as expansion occurs.
- Effective management of the capital required to support continued growth.

Investment of City Capital dollars is ultimately a policy decision. As part of Veolia Water's CPM, the City will approve all capital projects. Veolia Water will identify, prioritize and recommend capital projects. Veolia Water will also assist the City in identifying the economic benefits of the investment in growth. Veolia Water will assist in identifying whether loans and grants are available for this purpose and the economic impact of the investment in new underground infrastructure to serve new communities.

The approach to the capital program under a municipal utility will be different than the approach under a private company, particularly since the City's intent is to minimize rate increases. As part of an initial review, Veolia Water has identified savings of $3.2 million associated with capital projects that are currently being proposed by PWW. Three examples of value engineering that could be realized by Nashua are detailed in Appendix G, Volume III, of this submittal, for the following FST-recommended projects:

- Raw Water Quality Management (Estimated $0.57 million NPV savings)
- Optimizing Coagulation (Estimated $ 1.5 million NPV savings)
- Alkalinity Supplementation (Estimated $1.1 million NPV savings)

Project Management and Construction Management

Implementation of capital projects by Veolia Water may follow one of these execution alternatives:

- Implementation of a capital project via a design/build approach on a professional fee basis or a cost-plus fixed-fee basis.
- Implementation of a capital project via conventional engineering and construction on a professional fee basis.
- Implementation of a capital project via conventional engineering and construction on a fixed-cost basis.

Each approach for capital project execution offers unique advantages and disadvantages. Veolia Water will work with the City to determine the best approach for execution of each

City Capital project. We will also perform the following for each City Capital project we execute:

- Establish a management structure and protocol for the cost effective and timely execution of capital projects.
- Ensure a high level of participation by locally owned businesses.

Under the design/build approach on a cost-plus, fixed-fee basis, work will be completed by existing staff or qualified local firms at cost plus a percentage for overhead and profit. The design/build approach has the advantage of placing total responsibility, from project design and construction, on one entity. Risk for cost overruns and performance remains with Veolia Water.

Under the conventional approach, a design engineering firm would be retained to prepare plans and bid documents. Bid documents would be advertised and bids received. The construction work would be awarded to the lowest responsible bidder. A dedicated CPM Project Manager and Construction Inspector will be responsible for oversight of engineering, bidding and construction management on designated projects.

Construction

Veolia Water's overall approach and strategy to the completion of construction work is the same whether it is self-performed, design/build or design/bid/build.

The highest priority in any project is safety in the completion of the work. All construction activities are managed to maintain project schedule, project budget and project quality. Veolia Water's perspective as a long-term operator is to provide quality designs and construction to assure long life, low maintenance and no downtime. Overall project value must consider all costs including operations, maintenance, repair and replacement as well as initial construction cost.

The design/build approach is extremely cost effective and allows the rapid completion of a large number of projects within a short period of time. It is particularly well suited for smaller and routine projects such as pipeline extensions, quick response, small upgrades, replacement of obsolete equipment units and other small, routine or specialized projects. Our approach is as follows:

- Whenever possible, work will be designed and constructed by Veolia Water in conjunction with subcontracts to strong local businesses.
- Construction work will be completed by current in-house construction forces or outsourced to qualified local firms.
- Pricing will be based on site-specific negotiated prices, cost-plus or other approaches that ensure the City of a cost effective construction approach.

Capital project management will be provided by Veolia Water's Capital Project Group with support from our local engineering subcontractor, Dufresne-Henry, Inc., as well as from groups within the Veolia Water organization. A sampling of Veolia Water's experience in managing capital programs is included in Section Five, our project experience profile.

6.1.7 - Integrated Capital, Operations and Maintenance Plans

Veolia Water will integrate the capital planning process and the O&M of the water utility assets through the development of specific plans. Examples of the specific plans to be developed:

- **Redundancy and Backup Power Plan** - As part of CPM, Veolia Water will provide a Redundancy and Backup Power Plan to ensure that the water facilities' standby power and lighting equipment are maintained and or replaced as needed, ensuring that the water treatment and distribution system facilities provide reliable operations.
- **Water Main Break Management Plan** - As part of CPM, Veolia Water will provide a Water Main Break Management Plan (BMP) that will lay out the approach and details to reduce break frequency. We will analyze the current break frequency and prioritize the needs for main replacement or rehabilitation to reduce water main break frequency.
- **Water Yield Plan** - The water yield plan is critically important to the City to be sure adequate raw water supplies that meet current and future customer demands. As part of CPM, Veolia Water will prepare a water yield study that will evaluate and estimate the existing and potential yield capacities of the water resources, of the water collection and extraction elements of the Water Works and of the water treatment, storage and distribution infrastructure to ensure that available water can be supplied to the customer. The evaluations will also identify points of restriction or imbalance within and between these system elements.

6.2 - Expanded and Improved Customer Service Approach

6.2.1 - Customer Service Project Understanding and Overall Approach

Veolia Water is pleased to present an Alternative Customer Service proposal for your consideration. Our Alternative approach is to deliver the full range of customer service offerings on a 24/7 basis and take full advantage of our proven, client- and customer-audited record of performance in other cities – a record that no other company can bring. **Benefits of this approach are improved customer service and significant cost avoidance.**

Customer service is a complex and inherently risky business, and we believe that managing it can best be accomplished by the contractor having responsibility of day-to-day customer service activities in-house. If one entity has responsibility for bill and revenue creation, but another entity has responsibility for meter reading and field service, it makes resolution of customer concerns much more complicated and time consuming. Based on our experience with other similarly sized clients, a single contract operator having full responsibility for customer service activities will result in **improved client and customer satisfaction.**

Additionally, the Alternative Approach offers **cost avoidance during the asset purchase by the City.** Nashua can avoid the purchase of Pennichuck's utility billing software system, **at an estimated cost of $1- $3 million dollars.** Also, startup costs by Nashua for telephony and system infrastructure related to supporting the utility billing software system would be avoided, at an estimated savings of **$100,000.**

Veolia Water is recommending a rent vs. buy option, under which the City of Nashua would enter into an agreement with Pennichuck to provide Veolia Water with access to Pennichuck's system and customer records for a period of time so that the records may be

loaded (converted) into Veolia Water's utility software system. After a period of parallel testing, Veolia Water would begin providing billing and payment processing for Nashua.

Veolia Water will establish a full-service management and customer service office in Nashua, making it the center of our Nashua Customer Service operation.

Veolia Water's Solid Expertise in Customer Service

Veolia Water has a solid record of providing 24/7 customer service to water and sewer utility clients. This is demonstrated by the full menu of customer-service offerings Veolia Water currently provides on a contractual basis to communities and cities of various sizes. Veolia Water generates billings, performs quality assurance, processes payments and answers customer inquiries for nearly 600,000 water and sewer accounts in the United States.

Some of Veolia Water's clients include the Indianapolis Department of Waterworks and the Indianapolis Department of Public Works, the towns of Cumberland and Speedway and the City of Elkhart. Veolia Water has managed these customer service contracts successfully for several years.

During the past three years, Veolia Water has utilized its expertise in customer service to significantly improve the level of service delivered to Indianapolis water customers. This is shown by a significant improvement in call answer rates and in customer satisfaction. During 2004, 82.7% of incoming calls were answered within 30 seconds, and customer satisfaction rates exceeded the national average for utilities.

See Appendix D (Part 3 – Veolia Water's Annual Report for the City of Indianapolis), Volume III, for a further explanation of the customer service turnaround in Indianapolis. Be assured that Veolia Water would use this same hard-earned expertise to provide quality customer service to Nashua customers.

Day-to-Day Management of "One-Stop Shop" for Customer Service

In the "One-Stop Shop" model, Veolia Water provides end-to-end services to Nashua water users. Those services include reading meters, generating bills, oversight of payment processing, offering a 24/7 call center to answer customer inquiries, and providing all water related field service operations. By having responsibility for end-to-end processes, Veolia Water can provide the highest level of service with the highest level of accountability.

The issue of accountability should be a key concern for the City of Nashua. If one entity does the billing and another entity reads meters and resolves field issues, it makes it difficult to hold the parties to a high standard of performance. In turn, it makes it more difficult for both of the parties to deliver a high level of service to customers. By having one entity deliver end-to-end services, the contractor can easily be held to a higher performance standard.

Appendix D (Part 2) provides a detailed discussion of our complete Customer Service Approach.

6.2.2 - Veolia Water's Customer Service Commitments

Veolia Water will provide customer service that is responsive to customer needs and concerns in both standard and unusual operating situations. This will include providing a "one-call" customer service center and 24/7 service to handle account inquiries and emergency service requests. A variety of payment options will be provided to customers, including the ability to pay water bills 24/7. We will also provide a walk-in service center with

in a location convenient to Nashua customers. Veolia Water's customer service offerings will be compliant with all City, local, state, and federal environmental, safety and other rules and regulations. We will work closely with the City to follow its customer service objectives, and we will maintain reliable systems to ensure quality and responsive customer service is provided to the citizens of Nashua.

A key to Veolia Water's success in establishing a tailored customer service program for other municipalities was the customer surveys we conducted to identify stakeholder issues and concerns. Knowledge of citizens' views of the existing water system enabled us to continue popular offerings and build solutions into our own Customer Service Plan from the beginning. Veolia Water's proposed Citizens Advisory Group will also help identify important customer service concerns. Veolia Water will perform similar surveys with members of the Nashua community to establish the foundation for our Customer Service Plan for the customers served by the Nashua Water system. Our Customer Service Plan will be dynamic, growing and changing, as necessary, to meet needs of Nashua's customers. A key part of our plan will be a thoughtful, effective transition program.

6.2.3 - Customer Service Transition

Customer service focuses on higher levels of customer service and cost avoidance. Our one-and-done philosophy enables customer service specialists to develop work orders to ensure timely resolution of customer issues.

During the transition, Veolia Water's Customer Service Specialists will **meet with existing staff and assess the current customer service procedures**. Effective communication with existing employees during this time period will be important to allay uncertainties and to help them feel included in Veolia Water's Customer Service team.

Development of a Nashua **Customer Service Policies and Procedures Manual (PPM)** will be a high priority. Veolia Water will consult with key Nashua water system stakeholders to determine the critical customer service issues to be addressed by the organization. Veolia Water will develop a Customer Service Plan that will detail our objective to be customer-focused, and we will direct the organization toward this goal.

During the transition period, our Customer Service Specialists will utilize Veolia Water's well-proven methods to **monitor day-to-day performance, assess individual skills and establish structured training programs to create and implement a multi-skilled workforce.**

Training Veolia Water employees on Nashua's policies and procedures prior to the transition period will be important so that Nashua's desired policies are uniformly followed. Training of Nashua-based employees on Veolia Water's customer service software system will also occur. Veolia Water has well-developed documentation and a training curriculum that will aid in the training process.

Customization of Veolia Water's call center software with a friendly Nashua-specific greeting will occur along with interactive voice recognition (IVR) software programming to capture Nashua's call center statistics. Veolia Water will also develop a Nashua water system Web site with a local feel to promote open communication with stakeholders. Cash handling and segregation of duties issues for security purposes will be assessed and changed if necessary.

Billing Software Conversion

It is our understanding that Pennichuck's existing billing system will not be provided to Veolia Water under the Alternative Proposal. By Nashua not purchasing Pennichuck's utility billing system, the City could avoid spending from $1 - $3 million dollars. Instead, Nashua would enter into an agreement for Pennichuck to provide Veolia Water with access to its customer accounts so that the data could be loaded into Veolia Water's utility billing software system. Pennichuck's cooperation and support would be needed during the conversion period while parallel systems are run and quality checks are conducted.

Veolia Water's Training Program for Customer Service Representatives

- A Policies and Procedures Manual (PPM) will be developed initially to define Nashua specific business rules.
- All Customer Service Representatives will be trained using the Nashua PPM to ensure that they are thoroughly knowledgeable of Nashua's specific policies.
- Veolia Water will use its highly structured training program and innovative software documentation with all customer representatives to ensure a high level of competency.

Typically, a billing software conversion takes several months to complete. During this critical period, Veolia Water's planning and systems are all designed to prevent inaccurate bills or the catastrophic possibility of the bills not being sent at all. Veolia Water's Customer Service Specialists will work closely with the prior utility owners as billing history and rules are converted into Veolia Water's customer service system, which will include a computer server dedicated for the Nashua water system.

While the systems are running parallel, Veolia Water's Quality Department will ensure that transition issues are resolved and that bills are correctly calculated until Veolia Water and the City are mutually satisfied with bill quality. After the completion of the conversion period and when Veolia Water's billing system goes live, our Quality Department will continue checking a statistically significant sample of bills during each billing cycle to ensure statement accuracy. This commitment to billing accuracy is an important philosophy of Veolia Water.

During the software conversion in Indianapolis a few years ago, important lessons were learned about the systems required to ensure billing accuracy and timeliness. This experience means Veolia Water Customer Service Specialists know what it takes, and they can deliver a successful billing software conversion for the Nashua water system.

Billing and Collection

Veolia Water plans to read meters and bill on the prescribed schedule, as noted in the RFP. A customized bill format for Nashua will be developed. For many customers, their only contact with the water utility is through the bills they receive. The City will also have the ability to use bill inserts to get information to your water system customers. The presentation of bills to the customer is, therefore, of utmost importance.

6.2.4 - Oversight of Payment Processing

Veolia Water proposes use of a secure lockbox in the City's name for processing of customer payments. The City has control over all funds and Veolia Water simply acts as your agent. Proper security measures will be used by Veolia Water personnel at all times. For instance, Veolia Water personnel who receive payments from customers at the lobby location will be

appropriately bonded. Veolia Water will maintain records of customer transactions, including payments, and will submit a daily payment register to the City. Veolia Water will maintain auditable processes and assist the City as needed on any audits.

Walk-in-Payment

Walk-in payment is a popular option and is a way in which better customer relations can be fostered. Under Veolia Water's Customer Service Plan, we will accept payments at a designated lobby location in Nashua, and we will consider other convenient locations for payment acceptance. We believe that providing an easily accessible payment location to residents, particularly one that is in Nashua, will be a key to improving customer satisfaction.

Collections

The collection of revenue is another critical function of any customer service organization. Veolia Water will put contingency plans in place to facilitate payment collection and minimize debt. Our collection processes will conform to the rules and regulations of the City. A major focus of our Customer Service Plan will be achieving efficiencies and facilitating the payment process for customers.

Through promotions ranging from inserts in the bills to community relations efforts, Veolia Water will explore additional payment options for customers, including expanded direct debit options, payment by phone and credit card, setting up budget plans for customers, and Internet payment services.

6.2.5 - Customer Contact Center

Contact Center Staff

Critical to an effective Customer Call Center is a well-trained and cross-trained workforce. Call Center staff will be integrated with the Veolia Water Customer Information System, which allows for logical and efficient access to customer data.

One and Done – This philosophy is central to our customer service focus and cannot be accomplished unless we provide the billing, collections and call center services. Our unique capability to do this improves customer service and takes it to a level not possible if a third-party is providing customer service.

Cross-trained staff will be knowledgeable about call center processes, water customers and other functions, such as billing, collections, work orders, water quality issues, meter reading and all aspects of the business. Such cross-training not only provides a customer service representative who is qualified to answer customer inquiries, but also allows interchange among staff members.

Responding to Customers

One of the key features of Veolia Water's Customer Service Plan is that Customer Service Specialists will be available 24 hours a day/7 days a week.

Handling All Contacts

Veolia Water will establish procedures to deal effectively with customer questions and complaints, whether they are received by mail, Internet, telephone or in person. Response will be immediate when possible. All incoming correspondence will be registered and set times allocated for replying.

The goal is that any question will be fully answered by the first line of response, a "one and done" philosophy. For complaints or inquiries requiring the presence of a field service technician, an appointment will be made with the customer when the complaint is received.

Response times to questions and complaints will be recorded and a key performance indicator will be used to monitor and improve the efficiency of service provided. Set response times will form a primary component of the Veolia Water's Customer Service Plan.

Auto-Call Distribution

Veolia Water will use an auto-call distribution (ACD) system in which customer calls can be grouped and distributed to the agents best equipped to handle the question. ACD provides the following advantages:

- A message center, which can provide general (non-account specific) information on water system activities while a customer is in the queue. Information will include outages, construction activity, flushing activity, directions to the water system and water system policies and hours of operation.
- Customer identification through pop-up screens before the call is picked up.
- Routing to first-available agent, message center or IVR.
- Language assistance for those customers who do not speak English and assistance for the hearing impaired.
- Real-time statistical displays for the call center, and reporting for management on productivity, wait time, idle time, time per call, etc.

6.2.6. Coordination with Field Operations

Under Veolia Water's Customer Service management plan, all contacts resulting in work to be carried out in the field will be scheduled by the contact center and, where appropriate, appointments made with the customer.

We will accept all customer contacts and resolve the customer's concerns. Employees in field operations are pivotal in terms of linking the revenue process to operations where necessary. They will be responsible for fostering good relationships with customers and will be trained in this regard.

Benefits of the Alternative Approach

Top Reasons Why Nashua Should Select Veolia Water's Alternative Proposal for Customer Service are as follows:

1. The City avoids having to purchase a utility billing system from Pennichuck.
2. Veolia Water will establish a "One-Stop Shop" with one phone number for all water billing and field operations issues.
3. The City maintains strict control over customer payments via a lockbox, receives detailed reporting of customer transactions, and the City retains control of all payments received.

4. A The City receives a customer service lobby in Nashua, an IVR phone system with Nashua-specific messages, and a Nashua-focused Web site.
5. Veolia Water provides economies-of-scale.
6. Veolia Water offers lessons learned in large utility operations and customer service, to develop best practices for delivering high quality customer service.
7. Nashua water customers receive Billing Quality Assurance/Quality Control.
8. Veolia Water offers staffing flexibility to meet high call volumes and reduce call abandonment rates, 24/7.
9. Guaranteed performance metrics – Veolia Water offers to place a portion of its service fee at risk.

Veolia Water's Alternative Customer Service Offering

To ensure that the highest **level of service** is delivered by providing all base offerings PLUS:

- Generate accurate water bills and process payments in a timely fashion while using extensive quality assurance measures.
- Establish a customer lobby in Nashua to handle walk-up customer service traffic. Frontline staff will be empowered to make decisions and provide timely responses to customers.
- Utilize Veolia Water's Customer Contact Center, staffed 24-hours-a-day/7 days-a-week to answer customer inquiries, including resolving emergency issues in the field.
- Provide a Nashua-focused Web site with customer payment and billing information along with up-to-date notifications to customers about water quality and ongoing projects.

6.2.8 - Quality to Ensure Success

Veolia Water believes strongly in evaluating the services that are delivered to customers in terms of their perceptions and in measurable standards.

Review of performance is critical to ensuring that we maintain or exceed our customers' expectations. As a part of the customer service approach that we will deliver to the City of Nashua, we will establish key performance standards that will be rigorously monitored.

6.2.9 - Customer Service Innovations

The Veolia Water Alternative Customer Service approach discussed in this section will deliver a number of benefits and innovations, including:

- **Billing Inserts** – Use billing inserts to encourage alternatives for payment and to promote City-approved not-for-profit or community events or causes.
- **Performance Metrics Fee Risk** – As detailed in Section One, guarantee call center and responsiveness performance measures that put the Performance Metrics Fee at risk.
- **24/7 Call Coverage** - Provide customers with around-the-clock live, immediate response to questions or concerns.
- **"One-and-Done"** - Ensure that a customer call is handled from beginning to end by the representative receiving the call to improve customer satisfaction.
- **Responsiveness** - Respond within the required time period to emergencies.
- **24/7 Payment Acceptance** – Allows customers to pay water bills at their convenience, 24/7.

6.2.10 - Challenges and Solutions

Challenges	Solutions
Customers feel as though the Customer Service organization is not responsive.	Listen, utilize focus groups, form a Customer Advisory Panel, resolve problems, provide training to each Customer Service Specialist.
Adequately handling of customer contact volumes.	Determine causes of customer contacts, offer additional account information choices, Web-based payments and account balances.
Minimizing call waiting and lost calls.	Install additional phone lines, utilize technology (ACD and IVR), and realign operations to provide additional Customer Service Representatives during peak call periods.

6.3 - Management and Staffing Approach – Veolia Water Alternative Proposal

As discussed in this section, Veolia Water has developed an enhanced customer service approach focused on providing the City with enhanced value and long-term cost savings and a proposal for a comprehensive Capital Program Management approach. Our organizational chart for this Alternative Proposal is shown on Figure I.6-1 (next page).

The Customer Service group will include billing and collections, customer contact management and integration with Field Operations. Leading this group will be a **Customer Service Manager**. This will be a full-time position, and this person will be responsible for managing the day-to-day work of the Customer Service Group, a group which will include three Customer Service Clerks.

The Customer Service Manager will be assisted in this role by our Customer Service Director from the City of Indianapolis project, **Ms. Lora McCormick, MBA**. She is a Project Director with Veolia Water in Indianapolis, and on this project with the City of Nashua she would be responsible for assisting with the management and the implementation of Veolia Water's Customer Service Plan. Ms. McCormick's resume is included in Appendix A, Volume III.

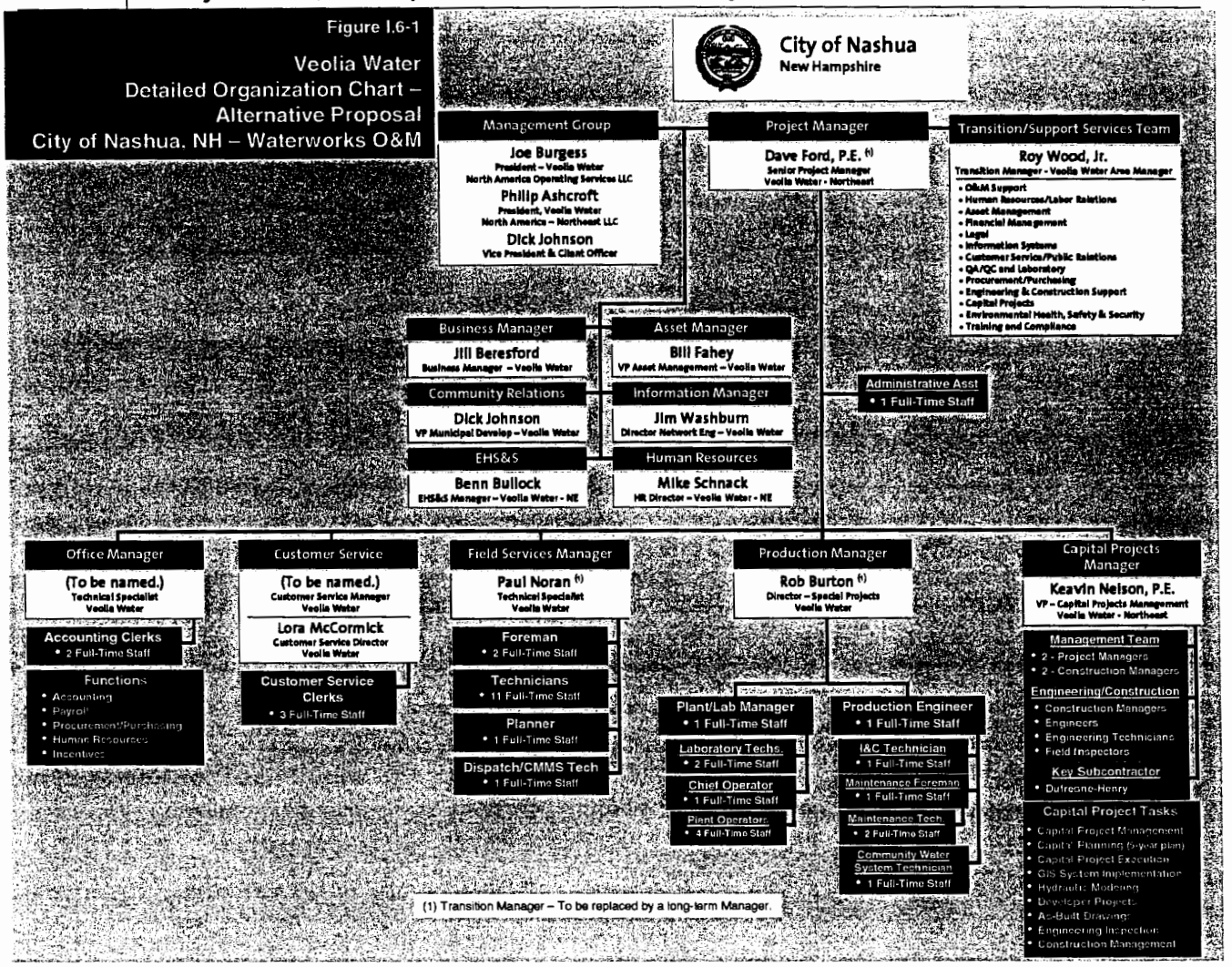
The Capital Program Management (CPM) group, headed by Keavin Nelson, P.E., includes four full-time staff (two Engineering Project Managers and two Engineering and Construction Managers/Inspectors), who will provide for CPM activities and Supplemental Services.

Veolia Water will supplement our in-house staff with the services of our partner Dufrense-Henry.

Under the Alternative Proposal approach, our staff complement would number 43, which includes the full-time O&M staff complement discussed in Section Two of this Volume, along with one additional Customer Service Manager and two engineers (a Project Manager and a Construction Manager).

Figure I.6-1

Veolia Water
Detailed Organization Chart – Alternative Proposal
City of Nashua, NH – Waterworks O&M



6.4 - Summary

Veolia Water strongly feels that our Alternative Proposal offers the best value, utilizes the full expertise and resources our firm has to offer, and delivers the lowest cost of services to the City. This Alternative Proposal ensures that the City's assets and interests are maintained and that Local ownership and control is preserved.

Submitted to:

City of Nashua
New Hampshire

Ex. 1.5

Proposal

Volume II – Price Proposal

RFP1305-061505

Operation and Maintenance of the Water Utility

July 14, 2005

(Revised: September 6, 2005)

VEOLIA
Water

September 6, 2005

Ms. Katherine Hersh
Community Development Division
City of Nashua
Central Purchasing Office
229 Main Street
Nashua, NH 03060

Subject: Volume II – Price Proposal (Revised)
RFP1305-061505 -
Operations and Maintenance of the Water Utility

Dear Ms. Hersh:

In response to the clarifications requested by Mr. George Sansoucy in the letter of August 31, 2005, **Veolia Water North America – Northeast, LLC (Veolia Water)** has prepared a revised Price Proposal volume that reflects the requested changes. Specifically, we have separated non-recurring costs from the annual costs. Additionally, as reflected in the changes to Volume One of our submittal, we have provided a core group of Veolia Water staff with expertise and experience in the areas of regulatory oversight to assist in regulatory and municipal rate-making and analysis. These staff are indicative of the types of professionals that we can make available to assist the City with this process, and we will be glad to discuss the specific supplemental services we can provide, according to your needs.

Our original Proposal submittal of July 14 and this revision have both been prepared in specific response to your Request for Proposals (RFP), and serve to demonstrate our firm's commitment to delivering the best value to the City of Nashua for this proposed long-term water system operations and management contract.

The Pricing approach that we have defined in this Volume of our Proposal is based on our understanding of the City's specific needs and goals for this project, and our experience in the transition and long-term management of similar water systems. This experience includes our current work with the City of Indianapolis, Indiana, where we operate and manage a water treatment and supply system that serves more than 1.2 million people in and around the City. Like this proposed project with the City of Nashua, our relationship with Indianapolis began in 2002 when the City acquired the water assets from an investor-owned utility and then transitioned the O&M responsibility for the system to Veolia Water under a 20-year agreement. This base of experience will be applied to the benefit of the City of Nashua's project through the involvement of many of the key technical and management staff from that project.

The water system in Indianapolis is one of the more than 100 municipal water systems that Veolia Water operates and manages throughout the U.S., and is among the thousands of water systems that Veolia Water companies operate and manage for communities throughout the world. What this means to the City of Nashua is that we will bring to bear the national and international experience of our firm to provide you with a first-class water utility.

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC
200 Cordwainer Drive, Suite 202, Norwell, MA 02061
TELEPHONE: 781-792-0640 - FACSIMILE: 781-792-0653
Veoliawaterna.com

VEOLIA Environment

This Price Proposal, as presented complete in this volume, is based on our separate Technical Proposal for the management and operation of the water systems that will be acquired from the Pennichuck Corporation. We understand that this project will involve providing operation, maintenance and management (O&M) services for what is collectively referred to as the Water Utility, which includes the water utility assets of the Pennichuck Corporation, namely, those of Pennichuck Water Works.

In preparing our original Proposal and this revised submittal, we have reviewed all of the data available for the Water Utility and made assumptions based on our experience in operating and managing similar water systems under long term agreements. Based on this, Veolia Water has crafted a plan and approach to forming a long-term contractual relationship with the City of Nashua. Our commitment to the City and those served by the Water Utility centers on:

- Supporting you throughout the asset acquisition process. **We will be at the table supporting your efforts in the eminent domain proceedings.**
- Delivering enhanced value through our Base Proposal offers and expanded Innovative Proposal offering. In the true spirit of what our company is all about, **we exceed the scope of this RFP by offering a significant watershed program** that will transform public transparency and safeguard the community's interests - **establishing a citizens advisory group**, and, importantly, **conducting a two-year study that will offer comprehensive solutions for protecting the community's water source**. Our community involvement will include the development of programs to educate and increase the awareness of water resources management, water operations and treatment, and water education.
- Implementing a project management and operations approach that ensures you maintain control of the system. We will **help you in establishing direct control over the system**, present and future operating and capital costs, water rates and the path and required programs for your fellow citizens' future.

It is Veolia Water's desire to enter into a performance-based contract that creates a contractual relationship between the City and our company—an approach that transfers environmental compliance and water quality responsibility to us while local government owns the asset and controls present and future destiny of the system. To facilitate this, we have responded to the Base Proposal requirements, as defined in your RFP, and provided a highly advantageous Innovative (Alternative) Proposal, one that expands on the value and overall cost savings that can be delivered under this long-term contract.

As stated at the start of this letter, our revised Price Proposal submittal has been prepared to be responsive to your RFP of March 25, 2005, the addenda and clarifications issued to date as well as the referenced letter from Mr. Sansoucy, and is presented in three volumes, this Price Proposal Volume (revised), which is based on the information presented in our separate Technical Proposal Volume (as revised) and the Appendix Volume (as revised).

As the President for Veolia Water's Northeast LLC, I will be the Project Principal and primary point of contact, and I have executed this Proposal transmittal letter.

Veolia Water's contact person for the procurement process will be:

Ms. Sandra Sullivan
Vice President Municipal Business Development
Veolia Water North America- Northeast, LLC
140 Pettaconsett Avenue, Cranston, RI 02920

Telephone: 401-467-7210, ext. 110
Cell Phone: 401-965-8922
Fax: 401-781-5260
E-Mail: sandra.sullivan@veoliawaterna.com

I invite you to contact Ms. Sullivan, or me, if you need any additional information or have any questions regarding this Proposal. We look forward to the opportunity of working with the City of Nashua through this public-private partnership.

Sincerely yours,

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC

Philip G. Ashcroft
President

Volume II
Price Proposal

Submitted to:

City of Nashua
New Hampshire

RFP1305-061505

Operation and Maintenance of the Water Utility

July 14, 2005

(Revised: September 6, 2005)

VEOLIA Water

Executive Summary

VEOLIA Water

Executive Summary

THE BEST OF BOTH WORLDS:
LOCAL CONTROL AND PUBLIC OWNERSHIP WITH A PERFORMANCE-BASED CONTRACT

VEOLIA WATER'S COMMITMENT TO NASHUA INCLUDES COST SAVINGS, WATER-QUALITY AND WATERSHED PROTECTION WITH AN EXPERIENCED TEAM

In Volume One of this Proposal, **Veolia Water North America – Northeast, LLC (Veolia Water)** discussed in detail our plan and approach for addressing the Base project, as defined by the **City of Nashua, New Hampshire,** in your Request for Proposal (RFP) for providing operation and day-to-day management of the water supply facilities for your community.

The focus of this work will be on delivering the City's water customers drinking water of high quality and in full compliance with all applicable standards, laws, rules and regulations. In tandem with these goals is the mandate to provide uninterrupted water service, with no affects on the quality of water or the level of service delivered.

Veolia Water also understands that one of the keys to our success in working with clients similar to Nashua is the ability to deliver innovative approaches that provide cost savings and performance guarantees. It is in this spirit that we have developed and presented in Section Six of Volume I our Innovative (Alternative) Proposal. That section defines the key elements and advantages of our proposed alternative approach.

Our Price Proposal, as presented in this volume, provides a pricing method based on both the Base and the Alternative plans, and documents the savings and clear benefits that are offered by this approach.

How We Can Help You

We applaud the **City of Nashua** for your efforts to take control of the water system and assets serving your community, the area's watershed, as well as rates affecting local citizens. The eminent domain process creates a complex and demanding set of circumstances. We at Veolia Water are ready to support you in that process with an experienced team.

Not only are we America's most experienced water contract services provider, we are the company that, in Indianapolis, Indiana, supported the nation's most significant effort to transform an investor-owned utility into an efficient water system controlled by the community.

And we believe we can help Nashua *now*, during the eminent domain process, and *later*, as you establish the most efficient system for producing quality water at an affordable price.

We will be at the table supporting your efforts in the eminent domain proceedings. Specifically, Veolia Water will support you in several ways, including:

- *Credibility* - We can **strengthen your position in this fight** through our proposed plan and approach, as defined in this Proposal. Our transition plan and in-depth experience bring enormous credibility forward on your behalf.
- *Lower Costs* - We will **dramatically lower your costs** through our proposed programs, practices and technologies. Our economies- of-scale will allow us to seek the lowest life-cycle costs for both capital and operating cost considerations, supporting your economic model for the asset acquisition.

Veolia Water is committed to forming a contractual relationship centered on:

- **Significant Cost Reductions**
- **Priority Given to Hiring Existing Employees**
- **Watershed Protection Recommendations**
- **A Clear Plan for Communication and Information Distribution to the City and the Region**
- **Customer Satisfaction Expansion**
- **Performance-based Fee for Monitoring and Improved Service Delivery**
- **Local Community Commitments**
- **Value Engineering Savings**
- **Support to Assist Local Employees for a Transition Period**
- **Best Practices in Asset Management and Security Assessment**

- *Experience* - More than any other company, we have **in-depth experience in transitioning water systems from one party to another party** and have transformed the investor-owned utility serving the nation's 12th largest city into what is now the nation's most significant water services contract.

We will help you establish direct control over the system, from operating and capital costs to rates, in order to establish a path of success and savings for generations to come.

The acquisition of the Water Works will result in an entirely new structure for the operation of the water system with ownership and control by the City of Nashua. All staff under the performance-based contract will be focused strictly on the delivery of quality water with a capital improvement program and watershed protection activities. The administrative organization for this concept will change dramatically from the present investor-owned utility. The change in structure will eliminate stockholder returns and redirect all surplus funds to the infrastructure of the system and rate stability.

Our Base Proposal Approach

Veolia Water has developed the Base Pricing Proposal, as presented in Section One of this Volume, to provide the City of Nashua with a responsive Proposal to your RFP for the O&M of the Nashua Water Works. Some key items to note with regard to our Base Proposal include:

- We **meet, or exceed, the City's requirements** set forth in the RFP and Addenda.
- As a reflection of Veolia Water's community spirit, **exceeds the scope of the RFP** by **offering a significant watershed protection program** that will safeguard the community's interests and transform any public concerns or doubts into confidence.

Our program establishes a Citizen's Advisory Group, and, more importantly, conducts a two-year study that will offer comprehensive solutions for protecting the community's water source and buffer zones. **The cost of this program is $200,000 and is included in our Fixed Fee.**

- Our **community commitment** will include the development of programs to educate and increase the awareness of water resources management, water operations and treatment, and water education.
- Providing for a **comprehensive asset management program** to include an initial fixed asset Condition Study and Maintenance Plan based on condition of assets taken by the City of Nashua.
- Providing for a **Vulnerability Assessment & an Emergency Response Plan**.
- Providing a **Conservation Plan**.
- Providing a **Meter Conversion Plan**.
- Providing the customers of the Nashua Water Works with **reliable delivery of high quality drinking water** and a **high level of customer service** with open access to the service provider.
- Ensures that the newly-acquired City **assets are preserved** through professional operations, maintenance and capital planning.
- Using our **experience gained in Indianapolis**, where we are the company that supported the nation's most significant effort to transform an investor-owned utility into an efficient water system controlled by the community.
- **Provides the City with an Annual Capital Plan**, funded by Veolia Water for $50,000 as part of our Fixed Service Fee, **exceeding RFP requirement.**
- Provides a **comprehensive Asset Management program**, to include an Initial Condition Study funded by Veolia Water for $35,000 in the first year of the Services Contract.
- Complies with all **regulatory requirements**.

Veolia Water's overriding objectives in our Base Proposal is to demonstrate to the City of Nashua that you can be confident you will realize significant benefits through our plan and approach to the transition of services and the day-to-day management of the water system.

Our Alternative Proposal Approach

Veolia Water will provide for all of the services requested in the RFP, and all of the services as outlined in our Base Proposal, plus the additional scope of work as outlined in our Innovative (Alternative) Proposal in Volume I, Section Six.

Veolia Water's Alternative proposal includes the following enhancements over our Base Proposal:

- Reduced maintenance costs and capital replacement dollars by using reliability centered maintenance (RCM) and life cycle costing.
- Improved reliability of critical plant processes and equipment.

- A fixed O&M fee for the City that incorporates the Fixed Price Component and the Unplanned Maintenance Component in the Base proposal.
- A reduced O&M fee over the Base proposal.
- Reduced City Capital investment by having Veolia Water manage the City Capital Program.
- Expanded and improved customer service at a reduced overall cost.

Veolia Water provides a detailed discussion of the approach to this Alternative Proposal in Volume One, Section Six, of this proposal. The Price Proposal for the Alternative is included in Section Two of this Volume.

Benefits and Potential Cost Savings Provided by Alternative Proposal

By choosing Veolia Water's Alternative Proposal, which includes our RCM and CPM programs and our enhanced customer service approach, the savings realized to the City of Nashua are substantial. The potential savings resulting from the Alternative Proposal include:

- **RCM Savings** - It is estimated that the savings to the City would be approximately $1,800,000 over the life of the contract. These savings are a result of reduced labor, materials and supplies.
- **CPM Savings** - It is estimated that the savings to the City, based on an aggregate of $80 million for the 20-year period (annual capital expenditure averaging $4,000,000), would be between $12 and $16 million.
- **Cost Avoidance During the Asset Purchase** – The estimated benefit of cost avoidance during the eminent domain process will be approximately $1 to $3 million. The City of Nashua can avoid the purchase of Pennichuck's utility billing software system.
- **Startup Costs** – Veolia Water estimates that startup costs of approximately $100,000 related to setting-up telephones service and system infrastructure could be avoided.

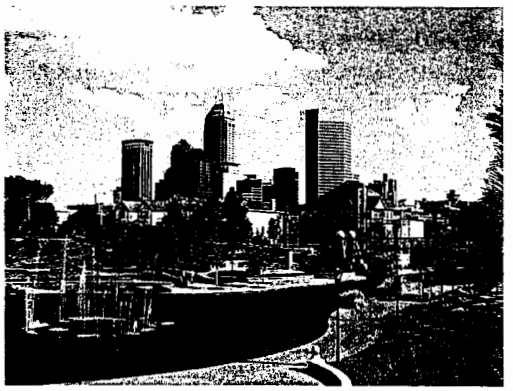
Veolia Water's Alternative Proposal is designed to save the City of Nashua – and your ratepayers – an estimated $15 – 20 million over a 20-year contract term.

Delivering the Best Value to the City of Nashua

Veolia Water is unique in our ability to ensure your objectives are met. We will be your local neighborhood operator with access to the resources of world's most experienced water company. Our company has transitioned more employees (public and private) than any other water services provider. Veolia Water's record of success is evident from maritime New England to the desert Southwest, from large cities to smaller communities – 600 in all, from coast to coast.

Just down the road in Leominster, Massachusetts, we have effectively and efficiently managed the community's water and wastewater system for almost 20 years, working through service and system improvements and helping them to meet the challenges every city faces. On a larger scale, we manage the nation's largest public-private partnership. By acquiring assets from a regulated utility company, **Indianapolis has witnessed the tremendous benefits of local control, rate stability, customer service improvements, and enhanced performance on water quality such as taste-and-odor improvements.**

We have direct, relevant experience in New England that will ensure Nashua's Water Works system is smoothly transitioned and that ongoing operations are efficient, yielding the highest-quality water the facilities are capable of producing. We also bring world-class industry experience in current security practices to assist you in protecting your water system.



In 2002, Indianapolis took back control of its water system and selected us to manage their system. Benefits to date include a five-year rate freeze, customer satisfaction that greatly exceeds the national utility average, and a sharp decrease in water quality complaints.

Our core competencies will be put to good use when coupled with the skills of Pennichuck employees. The management and operations plan we have created is empathetic to employees, **who will be given preference for all positions** needed to effectively operate the water system. We recognize that throughout the years, these individuals have formed the backbone of the water system.

In the remainder of this Price Proposal we demonstrate how we will deliver value through a well-defined approach to addressing the Base project, as documented in Section One of this Proposal, and the Innovative (Alternative) approach, Section Two of this Proposal.

Section One

VEOLIA Water

Section One

SECTION ONE
Base Proposal

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Delivering the Best Value Through Innovative Approaches

In Volume One of this Proposal, **Veolia Water North America – Northeast, LLC (Veolia Water)** discussed in detail our plan and approach for addressing the Base project defined by the **City of Nashua, New Hampshire,** in your Request for Proposal (RFP) for providing operation and day-to-day management of the water supply facilities for your community. The focus of this work is on delivering the City's water customers' drinking water of high quality and in full compliance with all applicable standards, laws, rules and regulations. In tandem with these goals is the mandate to provide uninterrupted water service, with no affects on the quality of water or the level of service delivered.

Veolia Water has developed the Pricing Proposal presented in this section to provide the City of Nashua with a responsive Proposal to your RFP for the O&M of the Nashua Water Works. Our Proposal:

- Meets or exceeds the requirements set forth in the RFP and Addendums.
- As a reflection of Veolia Water's community spirit, **we exceed the scope of the RFP by offering a significant watershed protection program** that will safeguard the community's interests and transform any public concerns or doubts into confidence. Our program establishes a citizen's advisory group, and, more importantly, conducts a two-year study that will offer comprehensive solutions for protecting the community's water source and buffer zones. **The cost of this program is $200,000 and is included in our Fixed Fee.**
- Our community commitment will include the development of programs to educate and increase the awareness of water resources management, water operations and treatment, and water education.
- Provides a comprehensive Asset Management program to include an initial fixed asset Condition Study and Maintenance Plan based on condition of assets taken by the City of Nashua.
- Provides a Vulnerability Assessment and an Emergency Response Plan.
- Provides a Conservation Plan.
- Provides a Meter Conversion Plan.
- Provides the customers of the Nashua Water Works with reliable delivery of high quality drinking water and a high level of customer service with open access to the service provider.
- Ensures that the newly acquired City assets are preserved through professional operations, maintenance and capital planning.

- Uses our experiences gained in Indianapolis, where we are the company that supported the nation's most significant effort to transform an investor-owned utility into an efficient water system controlled by the community.
- Provides the City with an Annual Capital Plan, funded by Veolia Water for $50,000 as part of our Fixed Service Fee exceeding RFP requirement.
- Provides a comprehensive asset management program, to include an Initial Condition Study funded by Veolia Water for $35,000 in the first year of the Services Contract.
- Complies with all regulatory requirements.

Methodology

Veolia Water's plan and approach to deliver on these objectives is focused on providing the day-to-day operations and management of the water system assets and has as its overriding goal the commitment to provide Nashua's customers with the highest quality service. The ways in which we will deliver on these commitments are discussed in the paragraphs that follow.

Veolia Water's Proposal and Service Fee are based on a careful review of the specifications in your RFP and also on the contractual concepts under which we normally conduct our business.

Where appropriate, we have included assumptions and clarifications that we believe are reasonable and necessary to bring them in line with our experience in the industry, with normal industry standards and our company policies.

Although the City was not able to provide the level of information typically available during a due diligence process, Veolia Water was able to use the information provided as a part of the RFP, PUC documents from the last three years, and various other engineering reports that are available to the general public in the development of this price proposal. In addition, we have been able to use our experiences and nationally recognized benchmarks to ensure that our cost estimates were as accurate as possible with the limited information available.

Veolia Water's Proposal achieves the City's objectives of providing services in a safe, secure, effective and efficient manner and in accordance with all applicable laws, rules and regulations by: (1) ensuring the long-term reliability and regulatory compliance of its Water Works through our operations plans developed over 33 years in the operations and management of municipal utilities; (2) ensuring future rate stability by providing liability protections, performance guarantees, incentive-based compensation and budgetary guarantees; and (3) ensuring long-term protection of City assets by implementing a comprehensive Asset Management program and proposing to provide for short- and long-term capital planning for the Water Works.

Veolia Water's proposed Service Fee provides for the full operation and management of the City of Nashua Water Works.

Table II.1-1, which follows, outlines the key elements of the scope that will be covered under this proposed Service Fee.

Table II.1-1. Veolia Water – Proposed Service Fee – Elements of Work Scope

Service Fee Element	Key Cost Factors
Fixed Price Component	All costs needed to meet the requirements of the RFP, including staff, chemicals, materials and supplies, telephone and telemetering, vehicle fuel, operational engineering, and planned maintenance costs such as preventive and predictive maintenance. Other services included are as follows: • Capital planning with an annual value of $50,000 • A comprehensive water shed evaluation with a value of $200,000 • Initial Condition assessment of $35,000
Unplanned Maintenance	Unplanned maintenance events are those tasks that are non-routine or corrective in nature. Some examples would be water main breaks or leaks, valve or hydrant replacements, water meter replacements, pump and motor failures and extensive water well maintenance. Our approach to unplanned maintenance is explained in Appendix F, Volume III. Veolia Water proposed to pay for any unplanned maintenance event, under $500, as a part of our fixed fee.
Supplemental Services	Veolia Water's approach to Supplemental Services is explained in detail in Appendix F, Volume III.

Pricing Assumptions

Veolia Water has provided for a comprehensive Technical Proposal, Volume One, in response to the City's RFP. Because of limited available information, we have made some assumptions relative to the cost of O&M of the Water Works. Table II.1-2, which follows, provides a listing of some of the key assumptions that we made in developing our Proposal.

Table II.1-2. Veolia Water – Proposed Service Fee – Assumptions and Comments

Assumption	Assumption Detail
Production Flow	The water treatment facility has a rated maximum capacity of 35-MGD. Our price is based upon an average daily production of 14.1-MGD.
SCADA	The water treatment and distribution system has a fully functional SCADA system.
Operating Costs	Veolia Water's price is based upon information gathered from the PUC reports from 2002 through 2004. All costs associated with this Proposal are based upon the system as it existed at the issuance of the RFP.
Laboratory Cost	Veolia Water's fixed price component assumes all in-house testing and

Table II.1-2. Veolia Water – Proposed Service Fee – Assumptions and Comments

Assumption	Assumption Detail
	outside testing as required by current law.
Chemical Cost	All process chemicals are provided for in Veolia Water's fixed price component, which are based upon the current treatment processes in use, as identified in engineering reports of public record, and comparisons to prices in the 2002 through 2004 PUC reports.
Planned Maintenance	Veolia Water's fixed price component covers all predictive and preventive maintenance.
Fixed Price Component Escalation	Veolia Water proposes that the fixed price component will be adjusted annually according to the CPI for Nashua. Because of the volatility of the cost of employee medical insurance, Veolia Water proposes that the fee is escalated by a blended rate of the CPI-U and a mutually agreed upon Employment Cost Index (ECI) as published by the U.S. Department of Labor, Bureau of Labor Statistics. Veolia Water further proposes that certain costs such as chemicals, maintenance, and other variable items, be tied to increases in production rates and number of customers.
Records and Reports	Veolia Water will provide and maintain well-documented records of operation, maintenance, laboratory analysis, training, safety, process control, materials, alarms and other significant operational events. All records and reports will be made available to the City in accordance with the Services Agreement.
GIS and Hydraulic Model	Veolia Water assumes that the City will provide a fully functional GIS system compatible with the computerized management systems and a fully functional calibrated hydraulic model.
Water Quality and Water Treatment Facilities	Veolia Water has assumed that all of the Water Works production facilities will be capable of reliably treating the raw water at the current average and peak demand while meeting current regulations. In addition, we assumed that all production equipment has been provided preventive and predictive maintenance and is in industry standard operating condition.
Condition Study	A Condition Study will be performed within 180 days of the commencement of the work under this contract. This will provide the City with documentation on the fixed asset condition, as this relates to the capital replacement recommendations.
Watershed Management	Veolia Water has assumed that annual testing will be required on the watershed to develop operational controls and to make capital plan recommendations. We have included the cost of watershed management and watershed education programs. Veolia Water will perform a comprehensive watershed study in years one and two of the Contract, at a cost of $200,000.
Residual Disposal	Veolia Water has provided for a cost to dispose of residuals to the City

Table II.1-2. Veolia Water – Proposed Service Fee – Assumptions and Comments

Assumption	Assumption Detail
	sewer system, as is current practice.
Utilities	Veolia Water did not include the cost of electricity, heating fuel or natural gas. Veolia Water would be willing to cap power use per MG treated and pumped upon further and appropriate due diligence.
Water Meters	Veolia Water has assumed 20% of the meters will have AMR. Normal meter testing and repair has been included in our Fixed Price Component.
Vacation Buyouts	No vacation accruals were provided, so no value of accrued vacation leave for employees who elect to roll over their vacation balance has been considered. This liability should remain with the current owner.
Sick Leave Buyouts	No sick leave accruals were provided, so no value of accrued sick leave has been considered. This liability should remain with the current owner.
Severance Pay	We have assumed no liability for severance pay for existing employees that are severed from employment with Pennichuck Water Works.
Permitting	Veolia Water proposes to assume responsibility for timely application for permits but not for the cost or assuming the risk that the permits are actually issued by the permitting authority.
Computers and IT Equipment	Veolia Water has assumed that sufficient computers, IT and telephone equipment will be provided by the City at the time of transition to manage all the functions of the Water Works. This includes personal computers (PCs) and a telephone system adequate for the operation of customer service. Replacement of PCs is included in our fee at a rate of five units per year.
Vehicles	City will provide Veolia Water with all vehicles required to meet the obligations of the management contract, and Veolia Water is responsible for maintenance and insurance for such vehicles. We have also assumed that any City-owned vehicles will be replaced by the City on a mutually agreed upon replacement schedule.
Capital Repairs and Replacement	Major repairs and replacements, as defined in this section and in Appendix F, Volume III.
Street Openings	City will provide permits necessary for public right-of-way construction at no cost to the vendor.
Police Details	When required, the City will provide police details at no cost to the vendor.
Taste and Odor	No information on taste and odor problems was provided in the RFP. Therefore, Veolia Water has assumed that taste and odor is not a chronic or acute problem and can adequately be controlled with currently proposed chemical quantities. Chemical treatments within the watershed and pond system have not been included in our Fixed Fee

Table II.1-2. Veolia Water – Proposed Service Fee – Assumptions and Comments

Assumption	Assumption Detail
	and are assumed to be a supplemental service.
Emergency Response	Veolia Water will dispatch personnel to Water Works emergencies within 30 minutes of notification and in a reasonable manner, and provide a 24-hour access telephone number to ensure prompt response.
Transition Services	Veolia Water has included over $250,000 in transition costs to smoothly assume the operation and maintenance of the Water Works. During the transition, we will complete an inventory of equipment, supplies and materials that are on hand at commencement and will leave the Water Works with the same equivalent value at the end of the term.
Water Facilities Security System	Veolia Water understands that an electronic surveillance system is installed in the water facilities. We have assumed that the electronic system as well as other security considerations comply with Homeland Security recommendations and meet the requirements of the City without the use of security guards.
Insurance	The Veolia Water's cost includes industry standard insurance structure for Workers Compensation, General Liability, and Business Automobile Insurance.
Annual Capital Plan	Veolia Water has budgeted $50,000 to provide an annual Capital Plan to the City of Nashua.

Financial Terms and Cost Detail

Veolia Water's proposed annual price for service, under the scope of services defined in your RFP for the Base Proposal, will be: **$4,996,203**.

This annual price for service is based upon receiving upfront payments totaling **$1,380,000** to cover mobilization and transition costs.

At the City's option, the mobilization and transition costs can be paid over time, versus an upfront payment, which will make the annual price for services under the scope of services defined in your RFP for the Base Proposal - $5,150,234.

It should be noted that this cost is expressed in 2005 dollars. This annual lump sum fee is inclusive of the requirements of the RFP, and the items shown in Table II.1.1 (presented earlier) and the assumptions discussed in Table II.1-2 (above).

Scalability

The pricing has been developed based on the total PWW assets being acquired by the City. Based on the 2004 NHPUC report, this would serve a total of 24,576 customers.

As required by the RFP, Veolia Water has developed a detailed methodology for pricing in the event the City was only able to acquire the "Core System." The "Core System" would include

the Nashua Treatment Facility with its ponds and dams and the other facilities within the corporate limits of Nashua.

Of the 24,576 customers in the PWW, 21,383 customers are located in the City of Nashua. In the event the City was only able to acquire the 21,383 customers located in Nashua, a price adjustment would be made. The price adjustment would be a revised Fixed Price Component. The Unplanned Maintenance Unit Pricing and the Supplemental Services Unit Pricing would not change.

The Fixed Price Component to serve only the "Core System" of 21,383 customers was developed by evaluating each cost item to manage the assets of PWW and adjusting them to reflect the cost of only serving the "Core System."

The Fixed Price Component to serve only the "Core System" is not a direct ratio of customers as there are a number of price components that will not vary, based on elimination of the satellite systems. Examples of fixed price components that would not change would be the project manager, staffing at the WTP, and the field operations manager. The Fixed Price Component to manage the assets and serve only the 21, 383 customers located in the "core system" are in our pricing proposal.

Veolia Water will offer the City a reduction of $65 per customer in the Fixed Price Component for total customers less than 24,576 and more than 21,383.

Additional Legal Qualifiers/General Qualifier

As requested by the Request for Proposal (RFP), Veolia Water is attaching a draft form of an Operations, Management and Maintenance Service Agreement ("Service Agreement").

The Draft Service Agreement, as presented in Appendix E, Part 1, details the risk sharing allocation under which Veolia Water conducts business. The Service Agreement is intended to be for illustrative purposes only, but should serve as the basis for future negotiation. Veolia Water's Proposal is conditioned on the parties negotiating a final agreement that carries forth the general partnering aspects contained within the Service Agreement.

Additional Note to Draft Service Agreement

The Draft Service Agreement, as presented in Appendix E, Part 1, contains several required clarifications. Veolia Water has provided a revised page 5 of the Draft Service Agreement to replace the existing page 5 (see Attachment II.1-1 at the end of this section), as well as a revised page 11 of the Draft Service Agreement to replace the existing page 11 (see Attachment II.1-2, at the end of this section).

The revision on page 5 occurs under Section 4.3; and the revision on page 11 occurs under Section 10.1.3.

Furthermore, Veolia Water expects to use as a basis for contract negotiations the Definitions and Examples provided in Appendix F, Volume III for "City Capital," "Planned" and "Unplanned Maintenance" and "Supplemental Services."

Veolia Water still puts forth this Draft Service Agreement for illustrative purposes, however, the above clarifications represent the intent of our proposal in these areas.

Key Cost Areas

Water Production

Limited information was available to evaluate the existing water production facilities for the Water Works. However, through the use of information available from the system's 2002 - 2004 PUC Annual Reports and various publicly available engineering reports, Veolia Water was able to make a best-efforts estimate of the capabilities and cost of O&M of the system.

In developing water production operational and maintenance goals and controls, Veolia Water will use established, proven management systems such as our Process Control Management Plan, Standard Operating Procedures, Computerized Maintenance Management, and Triple I safety and environment database for comprehensive management of water treatment systems. (Please refer to Section One, the Technical Approach of this Proposal, for more detailed information on our plan and approach in this area.)

Of particular note, Veolia Water will provide for:

- A comprehensive Watershed Study in years one and two of the services contract, funded by Veolia Water for $200,000.
- Annual water quality testing with the watershed.
- Annual commitment to watershed, water quality education and community outreach.

Field Services

As with Production, limited information was available to evaluate the existing field services for PWW. However, through the use of information from the system's 2002 - 2004 PUC Annual Reports and various publicly available engineering reports, Veolia Water was able to make a best-efforts estimate of the capabilities and cost of O&M of the system.

In developing field services operational and maintenance goals and controls, Veolia Water will use established, proven management systems such as our Field Services Management Plan, Standard Operating Procedures, and Computerized Maintenance Management to provide the required field services. (Please refer to Section One, the Technical Approach of this Proposal, for more detailed information on our plan and approach in this area.)

The major Field Services to be provided are as follows:

- Repair of water main breaks and leaks
- Repair of service line breaks and leaks
- O&M of fire hydrants
- O&M of distribution system valves
- Meter reading
- Meter testing and repair
- Field customer services including turn-ons, shut-offs, special meter reads
- Investigation and resolution of field customer complaints
- O&M of storage tanks

- Water distribution system flushing
- O&M of booster stations.

Annual Performance Metrics Fee – Base Proposal

In this discussion, Veolia Water outlines our proposed Annual Performance Metrics Fee Program, an important feature of both the Base and Alternative Proposals. This section provides explanatory information so that performance incentives being offered as a part of our Base Proposal may easily be understood. Section Two of this Price (Cost) volume provides a discussion of the performance metrics for the Alternative Proposal.

Performance metrics are an important tool to focus the City of Nashua, stakeholders and regulators, Veolia Water and its soon-to-be-employees on the **most important key drivers of the business**. Performance metrics are an important tool that Veolia Water proposes to objectively measure the performance to be rewarded. Veolia Water's experience has shown that performance metrics improve results, with higher client satisfaction and a higher level of overall performance. Public openness about performance appears to be a particularly important issue to Nashua stakeholders.

The performance metrics presented in this section are specific to Veolia Water's Base Proposal, which offers customer services related to utility operations, except items related to customer billing and collections and the supporting activities. In the Base Proposal, the City will provide all the administrative support required for handling customer inquiries, bill generation, payment processing and collection. Veolia Water assumes that the City will also maintain the accounting systems to track billing, payment and collection activities.

Performance Metrics – Base Proposal

The performance metrics that Veolia Water is recommending under the **Base Proposal are presented for five key areas**, and are as follows:

- **Emergency Responsiveness (20%)** -- *Dispatching personnel to emergency distribution and customer service problems within 30 minutes.* This is an important measure to address system emergencies such as a water main break or a significant hydrant damage to limit the damage and disruption to surrounding residents and property. The response time will be measured from the time of notification to the time a knowledgeable person is dispatched to the site to assess the problem in the field:

Performance Measure	2007	2008	2009	2010	2011
Dispatching personnel to emergency distribution and customer service problems within 30 minutes of notification	95%	96%	97%	97%	97%

- **Employee Safety (20%)** -- *Improving employee safety.* It is important to provide a safe working environment to deliver quality service to the customers and maintain the assets. The OSHA Injury Frequency and the OSHA Lost-Time Frequency will be measured and managed:

Performance Measure	2007	2008	2009	2010	2011
Employee Safety	Establish a baseline with 3 years' data	3% less than the 2007	3% less than the 2008	3% less than the 2009	3% less than the 2010

- Meter Misreads (20%) -- *Decreasing the rate of meter misreads.* Meter misreads cause customer dissatisfaction and impact revenues:

Performance Measure	2007	2008	2009	2010	2011
Meter Misreads	Establish a baseline with 3 years' data	3% less than the 2007	3% less than the 2008	3% less than the 2009	3% less than the 2010

- Fire Hydrant Repairs/Replacements (20%) – Inoperable fire hydrants will be repaired or replaced using City capital within 15 days. This is important for fire protection:

Performance Measure	2007	2008	2009	2010	2011
Fire Hydrants Repairs/Replacements	95%	95%	96%	96%	97%

- Turn-Ons and Shut-Offs (20%)-Responding to requests for turn-ons and shut-offs within 24 hours. – This measure is responding within 24 hours of the scheduled date/time for turn-on or shut-off for customers in good standing. None emergency turn-ons and shut-offs will only be scheduled during normal working hours.

Performance Measure	2007	2008	2009	2010	2011
Responding to customer requests for turn-ons and shut-offs within 24 hours	90%	91%	92%	93%	94%

Future Improvements Beyond Five Years

Veolia Water recognizes that the Incentive Fee factors cannot be static over the term of the Management Agreement. We want to continuously improve in all areas. We prefer to be measured and compensated for our performance in areas that are important to our key constituents -- the City of Nashua, our customers, regulators, legislators, developers, suppliers and team members. We believe that the measures of success should be developed on a forward-looking basis. Our performance measures will drive excellence in O&M activities in the early years of our relationship, as measured by the areas outlined below above.

Benefits to the City

Veolia Water singularly has the experience and knowledge to successfully use performance incentives in its contract with the City of Nashua. Our experience includes developing the management reporting and tools to track and thoroughly document incentive performance. It also includes knowledge of how to communicate performance to the community in a

positive, open way, resulting in increased public knowledge and awareness. Selection of Veolia Water as the contract provider for the O&M of the Nashua Water Works system will bring to bear Veolia Water's expertise and solid performance record to the benefit of the Nashua community.

Capital Replacements Definition

Veolia Water offers the following definition for City capital:

- City Capital Project means: (i) item(s) that will be of a long-term nature having a useful life in excess of three years, as defined by manufacturers' specifications; and (ii) those items that require a modification, alteration, addition to, and/or improvement to an existing facility with a construction, installation (including materials) or purchase value in excess of $5,000; and (iii) repair or replacement of equipment that has met or exceeded its useful life with a construction, installation (including materials) or purchase value in excess of $5,000; and (iv) items for construction, placement of new facilities (e.g., piping, hydrants, valves, equipment, wells, etc., including material costs) and capital purchases that significantly improve operations and or maintenance, aesthetics, long-term capital conditions or other aspects not generally associated with ongoing operations and maintenance.

Capital project cost shall include field work, engineering, and inspection services. A detailed listing of projects that would be included as city capital is Appendix F, Volume III, of this Proposal submittal.

Unplanned Maintenance

Veolia Water provides a detailed definition of both planned and unplanned maintenance in Appendix F, Volume III of this Proposal submittal. Table II.1-3, below, provides the fee schedule for the unplanned maintenance activities anticipated for this project.

Table II.1-3. Veolia Water Cost Proposal – Fee Schedule for Unplanned Maintenance
Labor and Equipment Rates for Unplanned Maintenance

	Rates per Hour		
Labor Costs	**Regular**	**Premium**	**Other**
Plant Maintenance Foreman	$51.21	$76.81	--
Plant Maintenance Technician	$43.33	$65.00	--
CWS/WQ Systems Technician	$38.95	$58.43	--
I&C Technician	$50.33	$75.50	--
T&D Working Foreman	$45.96	$68.94	--
T&D Field Ser. Tech 1	$38.95	$58.43	--
T&D Field Ser. Tech 2	$43.33	$65.00	--
Dispatcher	$43.33	$65.00	--

Table II.1-3. Veolia Water Cost Proposal – Fee Schedule for Unplanned Maintenance Labor and Equipment Rates for Unplanned Maintenance			
Planner	$45.96	$68.94	–
Equipment			
Backhoe	--	--	$27.00
Dump Truck	--	--	$27.00
Compressor	--	--	$14.00
Service Truck	--	--	$17.00
Small Equipment (generator, trailer, etc.)	--	--	$5.00

- Regular hours are normal working hours, Monday through Friday, for non-holiday periods, and are fully burdened.
- Premium Pay is the rate for time and one half paid for Saturday, Sunday and holiday periods, as wells as for Monday through Friday after normal working hours, and are fully burdened.
- Materials and Supplies -Materials and supplies used by Veolia Water will be invoiced as part of the charges for work performed by Veolia Water at a price equal to the actual cost plus 12%.
- Outside Services/Contractors - The use of contractors by Veolia Water for unplanned maintenance will be invoiced as part of the charges for work performed by Veolia Water at a price equal to the actual cost plus 12%.
- Annual Adjustment to Fee Schedule -The fee schedule for unplanned maintenance shall be adjusted on each anniversary date of the Agreement, using the same adjustments as is set forth for adjusting the Fixed Fee. On each adjustment, the fees set forth above will be increased by the required amount, and then rounded to the nearest dollar amount.

Unplanned Maintenance Risk Sharing Proposal

It is our mutual goal to reduce unplanned maintenance expenses in future years. Veolia Water is proposing an innovative approach that shares the risk going forward while providing performance metrics for both parties to reduce unplanned maintenance.

Veolia Water proposes that after the second year of the contract, both parties mutually agree to fix the unplanned maintenance cost for year three based on the average costs of years one and two. The unplanned maintenance cost for years one and two will be paid by the City of Nashua. The unplanned maintenance cost for year three will be fixed and will be paid by the City. Any over spend of costs at the end of year three will be split between both parties in equal amounts. Any under spend of costs in the third year will also be shared. This process will be repeated through the term of the contract. Veolia Water is confident that a properly implemented planned maintenance approach will help control and manage the cost of unplanned maintenance, and we are willing to share that risk.

Supplemental Services

Water systems are constantly expanded and affected by changing conditions and customer demands. As requested in the City's RFP, Veolia Water has proposed a list of Supplemental Services that can be requested by the City of Nashua.

As discussed in our Technical Proposal (Volume 1), Veolia Water will, using our in-house resources as well as those of our proposed engineering/construction services subcontractor, Dufrense-Henry, provide engineering and construction management services required for meeting the Supplemental Service requirements for the Water Works system, for which we will be compensated as Supplemental Services, according to the fee schedule defined in Appendix F, Volume III.

Scope of Work and Unit Pricing

Appendix F contains a detailed outline and a schedule of unit prices for the Supplemental Services offered by Veolia Water.

In addition to the schedule included in Appendix F, Veolia Water offers to provide support in regulatory and municipal rate making and analysis as a Supplemental Service. Veolia Water has experience in both regulatory and municipal oversight. The cost of this service will be based upon the desired scope of work and will be priced for both internal and external resources as required and upon the request of the City.

Innovative Approaches

Veolia Water proposed and discussed in detail a number of innovative approaches in our Operations Plan in Section One, Volume I, and examples of these include:

- Comprehensive watershed evaluation/study
- Minimizing City Capital investment and improving reliability
- Real-Time scheduling and routing of field activities and crews
- Computerized maintenance management system (CMMS)
- Energy savings evaluation
- Process Control Management Plans
- Performance metrics

Veolia Water, as discussed in detail in our Technical Proposal, Volume I, has developed an Alternative Proposal to offer the City enhanced values and services approaches. The project approach for the Alternative is defined in Section Six, Volume I, and the Fee (Cost) approach for the Alternative is presented in Section Two, Volume II.

Section Two

VEOLIA Water

Section Two

SECTION TWO
Innovative (Alternative) Proposal

VEOLIA WATER'S COMMITMENT TO THE CITY OF NASHUA
Delivering the Best Value Through Innovative Approaches

In Volume I, Section Six, of our Technical Proposal, **Veolia Water North America – Northeast LLC (Veolia Water)** discussed in detail our Alternative plan and approach that exceeds the requirements of the Request for Proposal (RFP) and includes all of the items in the Base Proposal for the **City of Nashua, New Hampshire,** for the operation and management of the water supply facilities for your community.

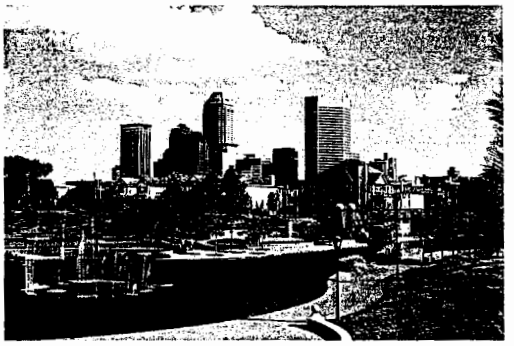
Our Innovative (Alternative) Proposal as outlined in Volume I, Section Six, with pricing in this section, includes all of the components of the Base Proposal and is enhanced as follows:

- Reduced maintenance costs and capital replacement dollars by using Reliability Centered Maintenance (RCM) and Life Cycle Costing.
- Improved Reliability of Critical Plant and Equipment.
- A fixed O&M fee for the City that incorporates the Fixed Price Component and the Unplanned Maintenance Component in the Base proposal.
- A reduced O&M fee over the Base proposal.
- Reduced City Capital Investment by having Veolia Water manage the City Capital Program.
- Expanded and improved customer service at a reduced overall cost.

Costing Approach

The Alternative Proposal includes the provisions offered by Veolia Water in the base operations and maintenance contract, plus customer service (billing, call center, payment processing), City capital program management, and provides for enhanced asset management to include RCM and Life Cycle Costing. The Alternative Proposal makes Veolia Water the one-stop shop for all water-related customer concerns and Water Works management and oversight, all while the City retains ownership of the Water Works assets and is responsible for setting rates and determining the future of the system.

The Alternative Proposal will enable the City of Nashua to provide the highest level of service and increased performance at the lowest overall risk.



In 2002, Veolia Water began a $1.5 billion, 20-year contract with the City of Indianapolis for O&M, capital project management, and customer service facets of the City's waterworks system, a system that currently serves more than 1.2 million people.

Section One of our separate Technical Proposal (Volume I), provides a thorough explanation of the benefits and features of performance metrics. It also shows Veolia Water's excellent record in utilizing performance metrics to increase overall customer satisfaction annually.

Alternative Proposal - Pricing Approach

Veolia Water will provide all of the services requested in the RFP, and all of the services as outlined in our Base Proposal (Volume I, Section One), plus the additional scope of work as outlined in this section and in our Innovative (Alternative) Proposal (Volume I, Section Six).

Table II.2-1, which follows, outlines the key elements of the scope that will be covered under this proposed Service Fee.

Table II.2-1. Veolia Water – Proposed Alternative Service Fee – Elements of Work Scope

Service Fee Element	Key Cost Factors
O&M Fee	Includes all of the Fixed Price Component and the Unplanned Maintenance in the Base Proposal. All costs associated with Reliability Centered Maintenance (RCM) and Life Cycle Costing. In the alternative proposal, RCM and the Capital Program Management are mutually inclusive. Veolia Water's fixed price includes all costs associated with preparing the Annual and 5-year Capital Project Plan to be updated and submitted each year for the City to review and approve. Provides for all customer service functions including billing, collections and Call Center services. **In year three, the unplanned maintenance will be in the Fixed O&M Fee**. Unplanned maintenance will be a variable supplemental fee adjusted in years one and two of the contract to set a baseline. Starting in year thee, **unplanned maintenance is transferred to Veolia Water**, and contract management and oversight effort and costs by City are reduced.
Fixed Price Component – Unplanned Maintenance	Included in the O&M Fee.
Fixed Price Component – Enhanced Customer Service	Included in the O&M Fee.
Fixed Price Component – Capital Planning	Included in the O&M Fee.
Variable Price Component Capital Program Management	The Capital Program will be funded by the City. The cost for administering the City's Capital program will be based on the attached hourly rate schedule. Engineering fees will not exceed 7-9% of total project costs. Construction Management Fees will not exceed 8-12%. Actual construction costs will be based on

Table II.2-1. Veolia Water – Proposed Alternative Service Fee – Elements of Work Scope

Service Fee Element	Key Cost Factors
	selection of the responsible low bidder and funded directly by the City. Contractor and material invoices recommended for payment will be submitted to the City for approval and payment.
Supplemental Services	City will fund the actual costs of supplemental services for the Alternative Proposal. Appendix F contains a detailed schedule of Supplemental Services offered. In addition to the schedule included in Appendix F, Veolia Water offers to provide support in regulatory and municipal rate making and analysis as a Supplemental Service. Veolia Water has experience in both regulatory and municipal oversight. The cost of this service will be based upon the desired scope of work and will be priced for both internal and external resources as required and upon the request of the City.

Alternative Proposal - Pricing Assumptions

Table II.2-2, which follows, provides a listing of some of the key assumptions that we have made in developing our Alternative Proposal and the pricing that is presented later in this section. Section One, Volume II (the Price Proposal for our Base Proposal approach), provides a comprehensive list of the pricing assumptions that are applicable to the Alternative, unless specifically excluded.

Listed here are items that are either in addition to, or to be used in place of, those assumptions.

Table II.2-2. Veolia Water – Proposed Alternative Service Fee – Assumptions and Comments

Assumption	Comment
Enhanced Customer Service	Veolia Water's fixed price is based upon providing all customer service functions normally associated with a water utility such as the Nashua Water Works -- including billing and collections, customer contact, one-call customer service and a full-service lobby.
Enhanced Asset Management	Veolia Water's fixed price includes the costs associated with providing RCM and Life Cycle Costing.
Operating Costs	Veolia Water's price is based upon information gathered from the PUC reports from 2002 through 2004. All costs associated with this Proposal are based upon the system, as it existed at the issuance of the RFP.
Capital Program Management: $4 million budget	Veolia Water assumes a $4 million annual capital budget and will dedicate two full-time engineering positions to manage these projects. Cost estimates for the City's Capital Program submitted to the City for

Table II.2-2. Veolia Water – Proposed Alternative Service Fee – Assumptions and Comments

Assumption	Comment
for Capital projects Annually	approval annually and will include costs for engineering, construction management and construction. City will fund the actual capital program.
O&M Fee	The Unplanned Maintenance in Veolia Water's O&M Fee will be fixed starting in year three of the contract.
O&M Fee Escalation	Veolia Water proposes that the fixed price component be adjusted annually according to the CPI for Nashua. Because of the volatility of the cost of employee medical insurance, Veolia Water proposes that the fee be escalated by a blended rate of the CPI-U and a mutually agreed upon Employment Cost Index (ECI) as published by the U.S. Department of Labor, Bureau of Labor Statistics. Veolia Water further proposes that certain costs such as chemical costs, maintenance costs, and other variable items be tied to increases in production rates and number of customers be tied to increases in production rates and number of customers.
Utilities	Veolia Water did not include the cost of electricity, heating fuel or natural gas for stationary objects. Veolia Water would be willing to cap power use per MG treated and pumped upon further and appropriate due diligence.
Capital Repairs and Replacement	Any and all work performed or equipment repaired or replaced that does not come under our definition of City Capital.
Transition Services	Veolia Water has included over $525,000 in transition costs to smoothly assume the operation and maintenance of the Water Works. During the transition, we will complete an inventory of equipment, supplies and materials that are on hand at commencement and will leave the Water Works with the same equivalent value at the end of the term.

Scalability

The pricing has been developed based on the total PWW assets being acquired by the City. Based on the 2004 NHPUC report, this would serve a total of 24,576 customers. As required by the RFP, Veolia Water has developed a detailed methodology for pricing in the event the City was only able to acquire the "Core System." The "Core System" would include the Nashua Treatment Facility with its ponds and dams and the other facilities within the corporate limits of Nashua.

Of the 24,576 customers in the PWW, 21,383 customers are located in the City of Nashua. In the event the City was only able to acquire the 21,383 customers located in Nashua, a price adjustment would be made. The price adjustment would be a revised Fixed Price Component. The Unplanned Maintenance Unit Pricing and the Supplemental Services Unit Pricing would not change.

The Fixed Price Component to serve only the "Core System" of 21,383 customers was developed by evaluating each cost item to manage the assets of PWW and adjusting them to reflect the cost of only serving the "Core System."

The Fixed Price Component to serve only the "Core System" is not a direct ratio of customers as there are a number of price components that will not vary, based on elimination of the satellite systems. Examples of fixed price components that would not change would be the project manager, staffing at the WTP, and the field operations manager. The Fixed Price Component to manage the assets and serve only the 21, 383 customers located in the "core system" are in our pricing proposal.

Veolia Water will offer the City a reduction of $65 per customer in the Fixed Price Component for total customers less than 24,576 and more than 21,383.

Additional Legal Qualifiers/General Qualifier

As requested by the City in your Request for Proposal (RFP), Veolia Water is attaching a draft form of an Operations, Management and Maintenance Service Agreement ("Service Agreement").

The Draft Service Agreement, as presented in Appendix E, Part 1, details the risk sharing allocation under which Veolia Water conducts business. The Service Agreement is intended to be for illustrative purposes only, but should serve as the basis for future negotiation. Veolia Water's Proposal is conditioned on the parties negotiating a final agreement that carries forth the general partnering aspects contained within the Service Agreement.

(Please note that there are two key changes to the Draft Service Agreement that is provided with our Appendix, Volume III, Appendix E, Part 1. These changed pages are provided as Attachment II.1-1 and Attachment II.1-2 at the end Section One of this Price Proposal volume. The changed pages provided replace, and supersedes those that are provided as a part of the Draft Service Agreement that is provided in the Appendix Volume.)

Annual Performance Metrics Fee – Alternative Proposal

In this section, Veolia Water outlines its recommended performance metrics for the Alternative Proposal Offering. Performance metrics are an important tool that Veolia Water proposes to use to objectively measure performance to be rewarded. Veolia Water's experience has shown that performance metrics improve results with higher client satisfaction and a higher level of overall performance.

Performance Metrics

The performance metrics that we propose for the Alternative Proposal are presented for four key areas, and are as follows:

- Customer Service
- Field Services
- Technical Area
- Water Quality

The detailed metrics within these four categories as proposed for the Alternative Proposal are as follows:

- **1 - Customer Service** - Three major performance metrics will be tracked:
  - a – (10%) Annually survey a statistically representative sample of residential and commercial customers with a measurable year-to-year increase in customers rating Veolia Water responsive. – This is an essential way for customers to provide feedback and an opportunity for Veolia Water to improve customer service. It appears that has been several years since customers in the Nashua area have been surveyed on their level of satisfaction.

Performance Measure	2007	2008	2009	2010	2011
Annually surveying a statistically representative sample of the customers who contacted the Company with an annual improvement in satisfaction.	Establish baseline	Improve on prior year	Improve on prior year	Improve on prior year	Improve on prior year

  - b – (10%) Answering 75% of Calls Within 30 Seconds – This will demonstrate the responsiveness to all incoming calls by a customer.

Performance Measure	2007	2008	2009	2010	2011
Answering 80% of calls within 30 seconds.	70%	73%	75%	75%	75%

  - c – (10%) Increase Collection Rate as a Ratio to Billings – This will demonstrate Veolia Water's ability to provide and improve on the rate of collection as compared to billings.

Performance Measure	2007	2008	2009	2010	2011
Improve Collection Rate on an annual basis as compared to prior year.	Establish a baseline of 3 years data	Improve on prior year	Improve on prior year	Improve on prior year	Improve on prior year

- **2 - Field Services** – Three major performance metrics will be tracked:
  - a – (8%) Responding to correct emergency distribution and customer service problems within 30 minutes. – This is an important measure to address system emergencies such as a water main break and significant hydrant damage to limit the damage and disruption to surrounding residents and property. The response time will be measured from the time of notification to the time a knowledgeable person is dispatched to the site to assess the problem in the field.

Performance Measure	2007	2008	2009	2010	2011
Responding to correct emergency distribution and customer service problems	95%	96%	97%	97%	97%

Performance Measure	2007	2008	2009	2010	2011
within 30 minutes of notification.					

- b – (8%) Responding to requests for turn-ons and shut-offs within 24 hours. – This measure is responding within 24 hours of the scheduled date/time for turn-on or shut-off for customers in good standing. Non-emergency turn-ons and shut-offs will only be scheduled during normal working hours.

Performance Measure	2007	2008	2009	2010	2011
Responding to customer requests for turn-ons and shut-offs within 24 hours.	90%	91%	92%	93%	94%

- c – (8%) Responding to field service problems within 48 hours of call. – This measure is responding within 48 hours of the scheduled date/time for field customer service problems. Non-emergency service problems will only be scheduled during normal working hours. This is an important measure to customer service problems such as low pressure, noisy meter, water quality problems, and high meter readings.

Performance Measure	2007	2008	2009	2010	2011
Responding to customer service problems within 48 hours of notification.	90%	91%	92%	93%	94%

- 3 - Technical Area – Five major performance metrics will be tracked:
  - a – (6%) Capital Program Adherence. – Stay within set limits of total $ of approved capital program, inclusive of all costs, as compared to the projected capital costs. Increase to 97% over five years.

Performance Measure	2007	2008	2009	2010	2011
Capital program adherence.	95%	95%	96%	96%	97%

  - b – (6%) Meter Misreads. – Meter misreads cause customer dissatisfaction and impact revenues.

Performance Measure	2007	2008	2009	2010	2011
Meter Misreads.	Establish a baseline with 3 years data	3% less than the 2007	3% less than the 2008	3% less than the 2009	3% less than the 2010

  - c – (6%) Water Main Break Frequency. – Water main breaks disrupts service, traffic and increased maintenance costs. As a part of our capital program management, the water main break frequency will be reduced through the optimum investment of City Capital.

Performance Measure	2007	2008	2009	2010	2011
Water Main Break Frequency.	Establish a baseline with 3 years data	2.5% less than the 2007	2.5% less than the 2008	2.5% less than the 2009	2.5% less than the 2010

- d – (6%) Fire Hydrant Repairs/Replacements. – In operable fire hydrants will be repaired or replaced using City capital within 15 days. This is important for fire protection.

Performance Measure	2007	2008	2009	2010	2011
Fire Hydrants Repairs/Replacements.	95%	95%	96%	96%	97%

- e – (6%) Employee Safety. – It is important to provide a safe working environment in order to deliver quality service to the customers and maintain the assets. The OSHA injury frequency and the OSHA lost-time frequency will be measured and managed.

Performance Measure	2007	2008	2009	2010	2011
Employee Safety.	Establish a baseline with 3 years data	1% less than the 2007	1% less than the 2008	1% less than the 2009	1% less than the 2010

- 4. Water Quality – Two major performance metrics will be tracked:
  - (6%) Meet Primary Water Quality Standards. – Meet all of the EPA primary water quality standards on an annual basis for the core system. This is important to ensure that customers consistently receive safe, high quality drinking water. Increase to 99% over five years.

Performance Measure	2007	2008	2009	2010	2011
Meet Primary Water Quality Standards.	98%	98%	98%	99%	99%

Financial Terms and Cost Detail

Veolia Water's proposed annual **Fixed O&M Fee is $4,907,894, as compared to the $4,996,203 Base Proposal Fixed Price Component**. The Alternate Proposal represents a savings of **$88,309** per year over the Base Proposal, related to the savings by employing Reliability Centered Maintenance. Both of these costs exclude all mobilization and transition costs paid for upfront.

The alternate annual price for service is based upon receiving upfront payments totaling **$1,875,000** to cover mobilization and transition costs.

At the City's option, the mobilization and transition costs can be paid over time, versus an upfront payment, which will make the proposed alternative annual Fixed O&M Fee $5,062,000, as compared to the $5,150,234 Base Proposal Fixed Price Component.

Enhanced Customer Service is an additional $311,000, and we estimate that unplanned maintenance could range from $850,000 to $1,150,000 per year, before full risk transfer to Veolia Water and inclusion in the Fixed O&M Fee.

The Alternative proposal Fixed O&M Fee Build-Up is detailed in Table II.2-3, below.

Table II.2-3. Alternative Proposal O&M Fee Build-Up

Component of Fee	$ Alternate Proposal
Comparable Fee to the Base Proposal Fixed Price Component	$4,907,894
Add Enhanced Customer Service	$311,000
Estimated Range in Unplanned Maintenance*	$850,000 to $1,150,000
Total Fixed O&M Fee Range	$6,068,894 to $6,368,894
* To be established after two year base line	

In comparing the services and costs in our Base Proposal with the Alternative Proposal, the Base costing only includes the Fixed Price Component. *To compare the total cost of the Alternate Proposal to the Base Proposal, the City's cost of customer service and the cost of unplanned maintenance must be added to the Base Proposal Fee.*

The Comparison of the proposed Alternate Fee and the Base Fee with build-up is in Table II.2-3a Below.

Table II.2-3a. Alternative Proposal O&M Fee Build-Up Compared to the Base Fee with Build-Up

Component of Fee	$ Alternate Proposal	$ Base Proposal
Comparable Fee to the Base Proposal Fixed Price Component	$4,907,894	$4,996,203
Add Enhanced Customer Service	$311,000	$311,000 *(estimated City Costs of Customer Service)*
Estimated Range in Unplanned Maintenance*	$850,000 to $1,150,000	$850,000 to $1,150,000 *(not part of base fee)*
Total Fixed O&M Fee Range	$6,068,894 to $6,368,894	$6,157,203 to $6,457,203
* To be established after two year base line		

We estimate that the Alternative will provide the City an aggregate savings for the 20-year term of $1.8 million from the implementation of RCM.

Potential Near- and Long-Term Savings

By choosing Veolia Water's Alternative Proposal which includes RCM and CPM programs and our enhanced customer service approach, the savings realized by the City of Nashua are substantial. The potential savings resulting from the Alternative Proposal include:

- **RCM Savings** - It is estimated that the savings to the City would be approximately $1,800,000 over the life of the contract. These savings are a result of reduced labor, materials and supplies.
- **CPM Savings** - It is estimated that the savings to the City, based on an aggregate of $80 million for the 20-year period (annual capital expenditure averaging $4,000,000), would be between $12 and $16 million.
- **Cost Avoidance During the Asset Purchase** – The estimated benefit of cost avoidance during the eminent domain process will be approximately $1 - 3 million. The City of Nashua can avoid the purchase of Pennichuck's utility billing software system.
- **Startup Costs** – Veolia Water estimates that startup costs of approximately $100,000 related to setting up telephones service and system infrastructure could be avoided.

Veolia Water's Alternative Proposal is designed to save the City of Nashua – and your ratepayers – an estimated $15 – 20 million over a 20-year contract term.

Submitted to:

Exh 2.5

City of Nashua
New Hampshire

Proposal

Volume III – Appendix Volume

RFP1305-061505

Operation and Maintenance of the Water Utility

July 14, 2005

VEOLIA
Water

September 6, 2005

Ms. Katherine Hersh
Community Development Division
City of Nashua
Central Purchasing Office
229 Main Street
Nashua, NH 03060

Subject: Volumes I (Technical Proposal), II (Price Proposal) and III (Appendix) - RFP1305-061505 - Operations and Maintenance of the Water Utility

Dear Ms. Hersh:

In response to the clarifications requested by Mr. George Sansoucy in the letter of August 31, 2005, **Veolia Water North America – Northeast, LLC (Veolia Water)** has revised our Proposal to reflect the changes and additions requested. The items provided with this letter serve to update and/or replace pages, sections and, in the case of the Price Proposal, the volumes submitted as a part of our Proposal of July 14, 2005.

Included with this letter are the following items:

- **Volume I – Technical Proposal** – Changed pages and sections that are to be replaced in our original submittal. The changes are as follows:
  - Executive Summary – Replace the entire section.
  - Section Two – Replace the entire section.
  - Section Three – Replace the entire section.
  - Section Four – Replacement pages have been provided for I.4-1, I.4-5, I.4-6, 1.4-7 and I.4.-13.
  - Section Six – A replacement page has been provided for I.6.16.

- **Volume II – Price Proposal** – As requested in the letter of August 31, a full-revised Price Proposal is being submitted. This new volume supersedes our previous submittal.

- **Volume III – Appendix A** – Additional resume for staff added on organizational chart revisions from Volume I.

- **Volume III – Appendix F** – Replacement pages for III.F-11 and III.F-12

All of the revisions have been dated September 6, 2005 to reflect the meeting and presentation scheduled for that date.

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC
200 Cordwainer Drive, Suite 202, Norwell, MA 02061
TELEPHONE: 781-792-0640 - FACSIMILE: 781-792-0653
Veoliawaterna.com

VEOLIA Environment

As the President for Veolia Water's Northeast LLC, I will be the Project Principal and primary point of contact, and I have executed this Proposal transmittal letter.

Veolia Water's contact person for the procurement process will be:

Ms. Sandra Sullivan
Vice President Municipal Business Development
Veolia Water North America- Northeast, LLC
140 Pettaconsett Avenue, Cranston, RI 02920

Telephone: 401-467-7210, ext. 110
Cell Phone: 401-965-8922
Fax: 401-781-5260
E-Mail: sandra.sullivan@veoliawaterna.com

I invite you to contact Ms. Sullivan, or me, if you need any additional information or have any questions regarding this Proposal. We look forward to the opportunity of working with the City of Nashua through this public-private partnership.

Sincerely yours,

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC

Philip G. Ashcroft
President

VEOLIA Water

July 14, 2005

Ms. Janice Tremblay, C.P.M.
Purchasing Manager
City of Nashua
Central Purchasing Office
229 Main Street
Nashua, New Hampshire 03061-2019

Subject: **Volume III – Proposal Appendix Volume**
RFP1305-061505 -
Operations and Maintenance of the Water Utility

Dear Ms. Tremblay:

In response to your specific Request for Proposals (RFP), **Veolia Water North America – Northeast, LLC (Veolia Water)** has prepared and presented as a part of this submittal our separate Technical and Price Proposals for the management and operation of the water systems that will be acquired from the Pennichuck Corporation. We understand that this project will involve providing operation, maintenance and management (O&M) services for what is collectively referred to as the Water Utility, which includes the water utility assets of the Pennichuck Corporation, namely, those of Pennichuck Water Works.

This volume provides Appendices, supplemental information that supports the detailed information presented in our separate Technical Proposal and Price Proposal volumes.

This Proposal submittal has been prepared to be responsive to your RFP of March 25, 2005 (and the addenda and clarifications issued to date). As the President for Veolia Water's Northeast, LLC, I will be the Project Principal and have executed this Proposal transmittal letter. Veolia Water's contact person for the procurement process will remain:

Mr. Richard Johnson, Project Vice President
Veolia Water North America – Northeast, LLC
200 Cordwainer Drive, Suite 202, Norwell, MA 02061
Telephone: 781-792-0640 - Fax: 781-792-0653 - E-Mail: richard.johnson@veoliawaterna.com

I invite you to contact Mr. Johnson, or me, if you need any additional information or have any questions regarding this Proposal submittal. We look forward to working with the City of Nashua through this project initiative.

Sincerely yours,

VEOLIA WATER NORTH AMERICA – NORTHEAST, LLC

Philip G. Ashcroft
President

Volume III
Proposal – Appendix Volume

Submitted to:

City of Nashua
New Hampshire

RFP1305-061505

Operation and Maintenance of the Water Utility

July 14, 2005

VEOLIA Water

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Appendix G – Capital Program Management – Value Engineering

Appendix A

VEOLIA Water

David W. Ford, P.E.

Senior Project Manager/Engineering Services Manager

Education:

BS, Civil Engineering, Worcester Polytechnic Institute, 1979

Registrations/Certifications:

Registered Professional Engineer, New Hampshire, 1987
Wastewater Treatment Operator, New Hampshire (currently inactive)
Water Distribution System Operator, New Hampshire (currently inactive)

Professional Memberships/Activities:

Water Environment Federation
American Water Works Association
American Public Works Association

Background:

Mr. Ford is a Senior Project Manager and Engineering Services Manager with the Capital Program Management group (CPM) of Veolia Water North America – Northeast, LLC (Veolia Water). In this role he is responsible for managing and supporting design/build, design/build/operate (DBO) and capital project work at contract operations, maintenance and management (O&M) projects sites in the State of New Hampshire, as well as in the other areas served by Veolia Water's Northeast Business Center.

Mr. Ford is experienced in directing and supporting all manner of design and construction projects for municipal water and wastewater facilities. This experience includes directing labor resources and managing operations, maintenance, budgeting, permit compliance, design and construction of water and wastewater systems, plus other public infrastructure. Mr. Ford has been responsible for developing capital improvement and operating budgets, engineering contract and construction contract administration, and for projects that were accomplished using the DBO approach.

Prior to joining Veolia Water, Mr. Ford was Director of Public Works for the City of Rochester, New Hampshire. In that role he was responsible for operation, maintenance and new construction associated with City's water and wastewater systems, roadways and drainage systems. His duties also included communicating with state and federal regulating agencies and making presentations to clients, planning boards, various elected officials and the public.

Mr. Ford has also served as a Quality Assurance Engineer, with responsibility for implementing and coordinating design activities associated with the Quality Assurance Program at a nuclear power station. Among his quality assurance duties were multidisciplinary audits of design calculations, drawings and specifications, and development and presentation of training classes on design quality control procedures. In addition, he has prepared construction drawings and specifications, cost estimates and permit applications for various civil and environmental engineering projects for private, municipal and institutional clients.

Experience:

- ***2000-Present***: Serves as Senior Project Manager with Veolia Water's Capital Program Management group (CPM), with responsibility for supporting O&M projects in the State of New Hampshire and the other areas served by the Northeast Business Center. Prior to this, served as the Northeast Regional Service Center Manager for Veolia Water's engineering and construction group. Both roles have involved responsibility for providing engineering and construction oversight and support for capital improvement and related projects in New England and New York, and for providing engineering and construction support for water and wastewater treatment plants being contract operated and managed by Veolia Water in that service area. Key experience includes:
  - Oversight and management of facility improvements completed using a DBO approach for the City of Cranston, Rhode Island's 23-MGD secondary wastewater treatment plant. Plant is being upgraded to a tertiary wastewater treatment facility. Direct responsibility for the management of $1.5 million in improvement projects, providing oversight of engineering and construction contractors.
  - Managing the final phases of upgrades for the City of Lynn, Massachusetts' wastewater facilities, and providing support for the combined sewer overflow design/build project for the City.
  - Member of the startup and transition team, and will provide project management support for a 20-year DBO contract to provide Total Asset Management for regional merchant biosolids operations for the Borough of Naugatuck, Connecticut. This agreement involves providing O&M for the Borough's 10-MGD secondary wastewater treatment plant and sludge incineration facilities. Veolia Water is also providing oversight of a $19 million capital improvement program, which includes upgrade of the biological nutrient removal treatment units, as well as the installation of a new 70-wet-ton-per-day fluidized bed incinerator and sludge dewatering equipment.

- ***1997-2000:*** Served as the Public Works Director for the City of Rochester, New Hampshire, with direct responsibility for:
  - Directing the design of upgrades for a 5-MGD advanced wastewater treatment plant. (Design and Construction Cost: $20 million).
  - Directing the design of 4.5-MGD water treatment plant and activated carbon filter replacement project.
  - Directing engineering and construction for multiple sewage pumping station upgrades.
  - Directing a water treatment plant SCADA system upgrade project implemented using the design/build approach. (Construction Cost: $150,000).

- ***1992-1997:*** Served as the Superintendent of Public Works for the City of Wolfeboro, New Hampshire's Public Works Department. Had direct responsibility managing the design of $500,000 in improvements as part of the upgrade of a secondary wastewater treatment plant.

- ***1990-1992:*** Served as a Project Manager with Provan & Lorber, Inc., Contoocook, New Hampshire.

- ***1986-1990:*** Served as a Project Engineer with Phillips Engineering, Ossipee, New Hampshire.

- ***1981-1986:*** Worked as an Engineer with Stone & Webster Engineering, Boston, Massachusetts.

- ***1981:*** Worked as an Engineer with Tibbets Engineering Corporation, New Bedford, Massachusetts.

- ***1979-1980:*** Worked as an Engineer with Bemard Johnson, Inc., Washington, D.C.

Richard Johnson

Vice President – Municipal Project Development

Education:

MS, Public Administration and Public Policy, Suffolk University, 1987
Honorary Masters, Public Policy, Southeastern Massachusetts University, 1987
BA, History, Bridgewater State College, 1975

Professional Affiliations:

National Association of Housing and Redevelopment Officials, Massachusetts Chapter
Massachusetts Housing and Finance Agency
Southeastern Massachusetts Economic Development Corporation
Lowell Finance Development Corporation
Lowell Plan
Bank of Taunton, Vice Chairman of the Board of Directors

Background:

Mr. Johnson is a Vice President of Municipal Project Development with Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). In this role, he works with municipal and governmental clients on the development of contract operations, maintenance and management (O&M); design/build/operate (DBO); and related public-private partnership opportunities.

Mr. Johnson has more than 32 years of experience in public service, as a government employee and as an industry employee. He has worked with public agencies in the Northeast and New York to promote water/wastewater partnerships, building successful efforts for communities including: Woonsocket, Rhode Island; Plymouth and Lynn, Massachusetts; and Naugatuck, Connecticut, among others.

As Mayor for 10 years in the City of Taunton, Massachusetts, and a City Manager for five years with the City of Lowell, Massachusetts, Mr. Johnson is familiar with municipal government procedures and has assisted numerous Veolia Water clients with public policy issues. He has also worked as an Adjunct Professor at Suffolk University in Boston, Massachusetts.

Experience:

- ***1995-Present:*** Serving as Project Vice President of Business Development for Veolia Water in the Northeast business center. Responsible for the development of public/private partnerships in the water and wastewater industry throughout the Northeast and the New York State service area. Interacts with consultants, public officials, unions and public work administrators to develop a strategy of shared responsibility between the public and private sector for operations and capital improvements of water/wastewater systems. Coordinates all corporate participants to meet goals established by local communities through their procurement processes. Provides oversight for the submittal of Veolia Water' response to community requests including legal, marketing, technical, engineering, operations and finance departments of Veolia Water.

- ***1992-1995:*** Served as the City Manager for Lowell, Massachusetts. Major accomplishments achieved during his term in office included:
  - Closed a municipal landfill and implemented alternative collection methods, privatized trash pickup, initiated curbside recycling program
  - Initiated and developed Lowell Pride campaign
  - Reorganized and streamline municipal workforce, saving $3 million annually
  - Balanced the City of Lowell's three-year, $13 million budget deficit in seven months
  - Balanced City budget for fiscal years 1992-1995 with surpluses in years 1993 and 1994
  - Increased the City of Lowell's bond rating to BAA!
  - Negotiated six union contracts with 1% salary increase per year
  - Introduced Section 108 revolving loan pool
  - Established Lowell 2000 steering committee
  - Originated new economic development and housing strategy
  - Established new Convention Bureau
  - Created new Human Services Department
- ***1982-1992:*** Served as the Mayor of the City of Taunton, Massachusetts. Major accomplishments achieved during his term in office included:
  - Negotiating all municipal contracts
  - Relining and replacing over 50 miles of water lines, expanded sewer service
  - Revitalizing and rehabilitating the Taunton School District and municipal buildings
  - Initiating and implementing one of the first curbside recycling plans in the state
  - Establishing trust funds for health insurance and workman's compensation, saving $2 million annually
  - Instituting a community development department to maximize state and federal grants, which resulted in $10 million in grant funds in five years
  - Launching energy improvements, saving over $300,000 annually
  - Developing 200 subsidized housing units for elderly, Taunton Housing Authority
- ***1989-1990:*** Served as County Commissioner for Bristol County, Massachusetts.
- ***1976-1982:*** Served as the Executive Director of the Taunton Housing Authority.
- ***1974-1976:*** Worked as an Administrative Assistant to the Mayor of Taunton, Massachusetts.
- ***1970-1974:*** Served as the Director of Recreation for the City of Taunton, Massachusetts.

Philip G. Ashcroft

President - Veolia Water North America – Northeast LLC

Education:

London Executive Program, London Business School
BSc, Geology, Physics, Chemistry, Durham University

Professional Affiliations:

Institute of Directors
Institute of Water Officers, Eastern Region President

Background:

Mr. Ashcroft is the President of Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). In this role he is responsible for managing a business operations group that provides operations, maintenance and management (O&M), design/build/operations (DBO) and related services to municipal, other government and industrial clients in the State of New Hampshire, the other New England states and New York. This includes over 40 current projects, employing over 550 operations, administrative and management staff.

Mr. Ashcroft has more than 34 years of business and corporate management experience, which has included work experience in the process and manufacturing industries. Prior to joining the Veolia Water operations group in North America, he managed the operations of Three Valleys Water, a water supply system that serves 2.4 million people in communities north of London, England; a utility operations group that is a subsidiary of Veolia Water.

Mr. Ashcroft's work has involved the management of organizational changes, both direct and line-functional responsibilities, bringing to bear his ability to restructure major business environments by reviewing business performance, implementing new working practices and improving labor utilization to radically improve efficiency and profit performance. This has included the successful merger of North Surrey Water and Three Valleys Water in England.

Experience:

- ***2005-Present:*** Serves as the President of Veolia Water's Northeast regional operations group, which is responsible for the delivery of O&M, DBO and related services to municipal/governmental and industrial clients in the Northeast business center's service area. Serves as the Project Principal for O&M and other projects undertaken by the Northeast Business Center in the State of New Hampshire and other parts of the region.
- ***2001-2004***: Served as Senior Vice President of Major Utility Operations for Veolia Water North America, with responsibility for transitioning major utility operations in North America to the management systems and operating and administrative standards of Veolia Water Canada and Veolia Water. Participated in strategic planning and the development of the corporate-wide asset management program.
- ***2001-2002:*** Served as Operations Director of Three Valleys Water, directing the merger of Three Valleys Water with North Surrey Water. Three Valleys (a subsidiary of Veolia Water, S.A.) is responsible for the entire water system serving an area north of London, England (population of 2.4 million). O&M responsibilities included the maintenance of the surface water and groundwater treatment plants; supervision and maintenance of the distribution system, including meter reading and connections; and billing, collections, connections and customer information requests. Two major water treatment plants are a part of this system, including the Iver Treatment Works (a 63-MGD water facility,

which uses physical treatment, advanced chemicals, polishing and disinfection with ozone and granular activated carbon adsorption), and the Clay Lane Treatment Works (a 42-MGD plant that uses physical treatment, advanced chemicals, polishing and disinfection treatment plant with granular activated carbon adsorption).

- ***2000***: Served as Managing Director, North Surrey Water, and Head of Operations, Three Valleys Water Plc./Veolia Water. Managed the merger of North Surrey Water with Three Valleys Water to achieve greater synergies and operational efficiencies while driving a major change program in both companies.
- ***1998-2000:*** Served as Operations Director, Three Valleys Water Plc/Vivendi, the largest of the Veolia Water UK Water Operations companies. This system served approximately 1 million customers and a population base of more than 3 million. Key accomplishments included reducing operating expenditures by £3 million in the first year, for a system with annual revenues of over £145 million. Developed and introduced processes to fundamentally review business performance and then to radically improve efficiency.
- ***1993-1998:*** Served as Divisional General Manager and Divisional Director, South West Water Services, Ltd., England. Held profit and loss responsibility within a geographical area of 2,500 sq km for all clean and wastewater products and services. Developed a company-wide integrated distribution networks strategy and HR strategy.
- ***1990-1993:*** Served as Director and General Manager, Armitage Shanks Integrated Systems, a manufacturer and distributor of washroom systems. Restructured the company, introduced Total Quality Management to achieve ISO 9000. Re-equipped the manufacturing facility with leading edge technology and introduced systems to achieve computer integrated manufacturing.
- ***1988-1989:*** Served as Vice President and General Manager, Williams Brothers, a subsidiary of Blue Circle, Inc., Atlanta, Georgia. Responsible for three businesses, two ready-mix concrete and one aggregates.
- ***1986-1988:*** Served as Human Resources Manager, Blue Circle Cement in England. Introduced radical improvements in labor utilization and a new package of terms and conditions at all of this company's cement producing plants.
- ***1982-1986:*** Served as Operations Manager, Blue Circle Cement, Dunbar Cement Plant, England. Responsible for operations at a multi-kiln plant with one million tones per year output. Increased productivity by 100% while maintaining plant output through the introduction of new working practices and the rebuilding of the plant with new technology and processes.
- ***1980-1982:*** Served as Industrial Relations Manager, Blue Circle Cement, Corporate Office, England. Advised line managers across the spectrum of Industrial Relations issues within an aggressive multi-union environment.
- ***1970-1980:*** Worked as a Graduate Trainee, Plant Operations Manager, then Deputy General Manager, Blue Circle Cement. Held various line management roles in Production and Distribution at the Northfleet plant in Kent and the Maison plant in Suffolk.

J. Joseph Burgess

President - Veolia Water North America

General Background:

Mr. Burgess is the President of Veolia Water North America Operating Services, LLC. In this role, he manages the company's operations and project performance, with responsibility for customer satisfaction, service delivery and overall performance for industrial and governmental clients.

Mr. Burgess joined Veolia Water in 2002 as the Vice President and General Manager of the Northeast Business Center of Veolia Water North America Operating Services, LLC (Veolia Water), and in that role, he managed a business operation that provides contract operations, maintenance and management (O&M), design/build/operations (DBO) and related services to municipal, other government and industrial clients in the six New England states and New York.

Mr. Burgess then served as the Senior Vice President and Chief Operating Officer for Veolia Water, directing the delivery of O&M, DBO and related services throughout North America.

Mr. Burgess has a strong base of experience with strategic planning, operations management and leadership. He was a founding member of the Water Partnership Council, a water industry group dedicated to helping communities and companies in the U.S. meet their water and wastewater needs in the safest, most environmentally sound and cost effective manner possible. This group is formed of Veolia Water, together with other leading providers of operational services for water and wastewater treatment facilities, and was established in 2001 to advance the cause of sustainable water quality.

Mr. Burgess joined Veolia Water from Covanta Water Systems, where he was the Executive Vice President for that company's water systems operations. While with that company, he was responsible for the startup of this firm's water business, currently a $70 million a year division, and was instrumental in establishing the company as a design/build and DBO services provider.

Experience:

- ***1/2005-Present:*** Serves as the President of Veolia Water North America Operating Services, LLC, the parent company for the regional entities of Veolia Water which are involved in the delivery of O&M, DBO and related services to municipal/governmental and industrial clients throughout North America. Provides oversight and management support for the operations of Veolia Water North America – Northeast, LLC, which is responsible for the delivery of services to clients in the State of New Hampshire and other parts of the Northeast.
- ***2003-Present:*** Served as Senior Vice President and Chief Operating Officer for Veolia Water, with responsibility for directing the performance and ensuring the quality of contract O&M, DBO and related services for municipal and industrial clients throughout North America.
- ***2002:*** Served as General Manager for the Veolia Water Northeast Business Center, which provides O&M, DBO and related services to government and municipal clients in New England and New York. Responsible for regional management and direction of multiple projects to ensure client satisfaction, contract compliance and budget control. This included providing oversight and management support for Veolia Water's O&M projects in the State of Rhode Island, including our current contract with the Narragansett Bay Commission for the O&M of the Bucklin Point Wastewater Treatment Facility.

- ***1997-2002:*** Served as the Executive Vice President for Covanta Water Systems, Fairfield, New Jersey. Responsible for startup of Covanta's water business, a provider of DBO services for water, wastewater, stormwater and desalination treatment facilities; a business unit with over $70 million in revenue.
  - Directed and provided oversight of over $200 million of construction activity with Covanta acting as prime contractor. Coordinated design/estimating activities on all bids. Responsible for final pricing decisions, project execution and performance.
  - Acquired the DualSand™ technology patent in 2000; this business unit achieved $15 million in revenue in the first year of commercial operations of this technology.
  - Established the company as a leading competitor in the DBO, filtration and desalination markets.
- ***1989-1996:*** Served as Vice President of Business Operations for Covanta Energy, Fairfax, Virginia.
  - Held profit and loss (P&L) responsibility, and served as the primary client contact for the region with 10 operating waste-to-energy facilities and revenues exceeding $225 million. Generated income/cash growth of over 10% annually through maximizing waste deliveries, special waste programs and cost control.
  - Created a regional management structure that improved service delivery for financial analysis, cash flow, budgeting, planned maintenance, environmental compliance and safety services.
  - Re-permitted the Alexandria, Virginia, and Lake County, Florida, facilities to allow for medical waste processing, increasing income at those facilities by more than 20%.

  Prior to this he served as the Regional Business Manager for Covanta Energy in Fairfax, Virginia, the largest waste-to-energy facility in North America.
  - Renegotiated facility service agreements to allow for outside jurisdiction waste streams and special waste streams to be processed at facility, which increased the facility's revenues by over $10 million annually.
  - Renegotiated the Fairfax facility's power purchase agreements to reduce costs by over $2 million annually.
  - Managed change order requests for the Fairfax facility construction effort within 3% tolerance budget.
  - Petitioned the State of Virginia for sales tax exemptions on all environmental equipment, including odor control equipment, successfully and saved the project $2 million.
  - Established a steering committee to develop an initial safety program for Covanta waste-to-energy facilities. Sat on initial corporate safety committee and established the company's safety reporting and audit programs.
- ***1981-1985:*** Worked in various positions with Monsanto Company in Houston, Texas.
  - Joint Venture accountant for Monsanto/Cononco petrochemical JV. Served on the JV divestiture team, with responsibility for developing methodologies for setting sales price and ongoing cost sharing for over $600 million of shared site utility and services infrastructure. Developed and assisted with negotiating pricing for sale of phenolic resin business. Served as Cost Control Supervisor for construction and startup of $110 million Alimet™ manufacturing facility.

Education:

BA, Accounting and Finance, University of Florida, Gainesville, Florida, 1981

Professional Affiliation:

Water Partnership Council – Founding Member

C. Jill Beresford

Business Manager/Financial Partner – Northeast Business Center

Education:

University of Guelph, (English) Canada
M.B.A., Boston University, 1991

Background:

Ms. Beresford is the Business Manager and Financial Partner for Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). In this role she is responsible for coordinating the delivery of support resources for Veolia Water O&M teams at various facilities in the New England and New York service area. Ms. Beresford draws from the regional resource team of Veolia Water, which provides experts in management, technical and operations areas.

Ms. Beresford's background and experience includes more than 27 years of finance and business management experience in the U.S. and internationally.

Experience:

- ***2005-Present***: Serving as the Business Manager and Financial Partner for Veolia Water in the Northeast Business Center.
- ***2003-2005:*** Served as the Vice President of Business Operations with Adelphia Media Services. Hired to implement the turn-around, bankruptcy emergence/sales process plans and infrastructure building for one of Adelphia's three regions. Adelphia is the third largest bankruptcy in U.S. history and the largest surviving Chapter 11. Job responsibilities included working with bankruptcy team for legal review of over 10,000 contracts for the region; re-statement of financials for S.E.C. purposes back to 1999; documenting, writing and implementing Sarbanes-Oxley processes; building infrastructure of $100 million region with 200 employees.
- ***1988-1999:*** Worked in a variety of roles with BPI Packaging Technologies, Inc., a company that converted plastic resins into film for industrial applications and retail carry-out bags for the grocery, convenience store and food packaging markets. The Company conducted an IPO in 1990 to fund an aggressive expansion, following a successful turn-around from near bankruptcy in 1989. The Company grew from $6 million to $30 million annual sales by 1997. A strategic decision by the CEO mid-1997 resulted in a reduction of sales to $10 million within six months and a return to near-bankruptcy conditions. In June 1998, the Board of Directors replaced the CEO and Chairman of the Board, resulting in a promotion to the interim CEO, Chairman of the Board position. The balance sheet was restructured in early 1999 through a combination of debt and equity financing funded by a private investor and resulted in a change of control.

  - Interim Chairman of the Board/CEO/CFO (1998 – Jan 1999) - Promoted by Board of Directors to Interim Chairman/CEO/CFO position following the termination of former Chairman/CEO.

  - President and Chief Operating Officer (1996 – 1998) - Responsible for all performance improvement in day-to-day activities of 24/7/363 manufacturing facility with primary focus on developing strategy to increase sales of patented and proprietary high margin products.

  - Chief Operating Officer (1993 – 1996) - Responsible for all day-to-day activities of the Company with primary focus on start-up of a new facility and requisite infrastructure.

- Vice President of Marketing (1988 – 1993) - Responsible for niche-marketing the Company in a commodities industry.

- ***1978-1986:*** Served as Vice President and Account Director with Grey Advertising in Canada. Responsible for management of Procter & Gamble (six brands), General Foods (two brands) and Beecham Products (five brands).

William (Benn) B. Bullock, II

Environmental, Health, Safety and Security (EHS&S) Manager

Education/Training:

AS, Management, Johnson and Wales University, Providence, Rhode Island, 1978
BS, Management, Johnson and Wales University, Providence, Rhode Island, 1980
Supervisory Training Program - USFilter and General Dynamics
Veolia Water EH&S Train the Trainer Courses
HAZWOPER – Spill Response Training
Process Safety Management Training
Hazardous Waste Management/SARA Title III Training
Fleet Safety/DOT Training

Background:

Mr. Bullock is an Environmental, Health, Safety and Security (EHS&S) Manager for Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He provides oversight, management and enforcement for the EHS&S programs at contract operations, maintenance and management (O&M), design/build, and design/build/operate (DBO) projects sites throughout New York and New England. In addition, he manages environmental compliance and health and safety for process water and related business units for other affiliated company facilities and operations.

Mr. Bullock is skilled in developing and implementing site-specific health and safety plans and emergency response plans and performing injury and accident investigations. He also has over 33 years of experience in project management, health and safety management and industrial operations.

Experience:

- ***2000-Present:*** Serves as the Veolia Water EHS&S Northeast Regional Manager, with responsibility for health and safety and environmental compliance for operations, facilities and projects in the Northeast Region and Eastern Canada. This includes oversight for more than 180 facilities in the states of Massachusetts, New Hampshire, Connecticut, Washington, D.C., Delaware, Maryland, Maine, New Jersey, New York, Pennsylvania, Rhode Island and Vermont, as well as Eastern Canada.

- ***1996-2000:*** Served a Plant Manager with Veolia Water for a Regeneration Plant in South Windsor, Connecticut. Was instrumental in bringing this Process Water facility and into HS&E compliance.

- ***1969-1996:*** Worked in progressively responsible positions with General Dynamics Corporation's Electric Boat Division in Groton, Connecticut, ending career at this firm as a Facilities Manager. Spent 25 years involved in the submarine construction business. Responsibilities at General Dynamics included supervision of the management and trade's personnel in charge of maintenance, testing and certification of the facilities 365 cranes. Had direct involvement with the facility EH&S department, the Navy, OSHA, NRC (nuclear regulatory commission), Connecticut State and Federal agencies.

- ***1966-1969:*** Served in the U.S. Navy stationed in New London, Connecticut.

Robert R. Burton

Director of Special Projects

Certifications:

Grade IV water Plant Operator, Iowa
Grade III Wastewater Plant Operator, Indiana

Professional Memberships/Activities:

American Water Works Association

Background:

Mr. Burton is a Director of Special Projects with Veolia Water North America – Central, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He is assigned to Veolia Water Indianapolis, and is responsible for the development and implementation of the Operations Division's annual Business Plan, including process improvements and benchmarking, and budget management for the $39 million annual budget.

Mr. Burton has more than 12 years of experience in the operations and environmental management of water and wastewater treatment facilities, water distribution systems, sewer collection systems, public works departments, including client relations, budget renewals, new project development, compliance monitoring, budget preparation and reporting, and monthly and annual reports.

Experience:

- ***2003-Present:*** Serves as the Director of Special Projects with Veolia Water Indianapolis LLC, which operates and manages Veolia Water's 20-year, $1.5 billion contract with the City of Indianapolis, Indiana, which includes all operations, maintenance and management (O&M), capital project work and customer service facets of the City's waterworks system, a system that currently serves 1.1 million people. Responsible for budget management for the Operations Division's $39 million annual budget. Developed a forecasting and variance reporting system for the Division. Led process improvement activities for all aspects of the Division; field services, distribution, production, procurement, fleet and warehousing. Led the development of the Operations Division's 2005 operating budget. Currently leading a team to develop an IT disaster recovery/emergency response plan for the Indianapolis project.
  - Served as the Director of Field Services (2003-2004), responsible for the Distribution, Field Services and CCS areas of the company. Assisted with the transition of the newly formed department, reorganization of the department personnel, work flow process improvements, budget development and development of the interdependencies and synergies between Field Services and other departments as well as outside agencies and contractors.
- ***2000-2003:*** Served as Project Manager for Veolia Water's O&M project with the City of Boonville, Indiana. Managed the daily operations of a 1.44-MGD wastewater treatment plant, 2.1-MGD water treatment plant, distribution and collection systems, combined sewer overflows, 12 lift stations, and meter reading. Assisted the City with plans and oversight for the construction and startup of a new 5-MGD wastewater treatment facility.
- ***1998-2000:*** Served as Project Manager for Veolia Water's O&M project with the City of Storm Lake, Iowa. Responsibilities included oversight of daily operations and maintenance activities of the 4.65-MGD water treatment plant, 10 water wells, 5-MGD wastewater treatment plant and 17 lift stations. Ensured effective facility performance, budget management and permit compliance.
- ***1997-1998:*** Served as Operations Manager for Professional Services Group's (predecessor company) O&M project with the City of Boonville, Indiana. Managed the operations of the 2.1-MGD groundwater

treatment facility and 1.7-MGD activated sludge wastewater treatment plant. Responsibilities included laboratory supervision, QA/QC program implementation, telemetry operation, regulatory reporting, training and computer operation. Supervised the construction of a 500,000-gallon elevated storage tank, prepared monthly operations and financial reports to the City.

- ***1993-1996:*** Served as Water Treatment Plant Operator for the City of Henderson, Kentucky. Responsible for the operation of a 12-MGD surface water treatment facility. As Wastewater Plant Maintenance Operator (1992-1993), provided maintenance to the 7-MGD activated sludge wastewater treatment plant.

Scott A. Edwards

Vice President - Marketing Communications

VEOLIA Water

Education:

BA, Psychology, Louisiana State University

Background:

Mr. Edwards is Vice President of Marketing Communications for Veolia Water North America Operating Services, LLC (Veolia Water). He provides strategic direction to the company's marketing and communications activities.

At Veolia Water, Mr. Edwards is responsible for marketing communications and community relations functions related to the company's operations in the U.S. and Canada, playing a leadership role in the development of the company's public relations, public affairs, community relations, strategic business development and industry relations nationwide.

He has more than 15 years of experience in the marketing communications field and eight years of experience in environmental services. He has received a number of communications industry awards for his clients. Mr. Edwards also plays an active role in Veolia Water's corporate communications program.

He actively travels throughout the country understanding how water impacts our nation's communities and businesses. Given his experience and expertise, he understands that Veolia Water must continue to serve as a good corporate steward and citizen.

Experience:

- ***1997-Present***: Responsible for integrated marketing and communications programs for the water and wastewater outsourcing/privatization market leader. Responsible for all facets of marketing communications including national and local communications, advertising (print and broadcast), media relations, trade shows, community relations, advertising, direct marketing, sales literature, newsletters/magazines, speech writing, videos, editorials, event and trade show management, market research and related functions.

- ***1994-1997***: Responsible for market information, sales support and all communications for a publicly traded environmental services and recycling company.

- ***1989-1994***: Managed business-to-business and issues accounts for various governmental affairs, industrial, energy and real estate clients at a leading Houston advertising and public relations firm.

- ***1986-1989***: Began career and received strong public relations experience in a variety of settings for consumer, professional services and industrial clients.

Donald G. Ellis

Vice President and Human Resources Manager

Education/Training:

BS, Business Administration, University of Dayton

Training Seminars: Hiring, FMLA, ADA, Workers Compensation and DER compliance

Professional Membership:

Pittsburgh Human Resources Association

Background:

Mr. Ellis is Vice President and Human Resources and Labor Relations Manager with Veolia Water North America Operating Services, LLC (Veolia Water). He is responsible for managing human resources support for Veolia Water Canada, Inc. project sites, as well as those of Veolia Water at other sites across North America. Mr. Ellis is responsible for working with local management teams to transfer staff and to hire any other local staff required for operations and related projects.

Mr. Ellis has more than 25 years of experience and has been involved in developing human resources policies and procedures and worked with managers to administer benefits and other personnel programs. He has a strong base of experience in supporting the human resource needs of contract operations, maintenance and management (O&M) project sites.

Experience:

- ***2000-Present:*** Serves as the Human Resources and Labor Relations Manager for VWCanada and Veolia Water, and supports startup and transition activities nationally. Provides human resource management for the general administration of Veolia Water's Human Resources department.
- ***1996-1999:*** Served as Human Resource Supervisor for Cutler-Hammer/Eaton Corporation, Beaver, Pennsylvania. Duties included performing all human resource functional activities in support of a plant employing 680 people with two unions and sales of $150 million. Administered all personnel policies, AA Plans, ADA/FMLA guidelines, and other routine plant activities; coordinated and developed training programs; obtained labor agreements; recruited and staffed hourly and salaried personnel.
- ***1988-1996:*** Served as Human Resource Manager for WHEMCO, West Homestead, Pennsylvania. Primary human resource focal point for four plants spread throughout three states, employing 500 people in both union and non-union settings. Developed employee handbook, implemented self-funded medical and workers compensation programs, negotiated labor agreements, established job requirements and training programs in support of ISO 9001 and improved training process.
- ***1984-1988:*** Served as Personnel Superintendent for Wheeling Pittsburgh Steel Corporation, Steubenville, Ohio. Served as a labor contract administrator responsible for the administration of personnel policies, employee benefit programs, labor contracts, grievance resolution, expediting arbitration and recruiting involving 3,500 employees. Initiated meetings with state representatives.
- ***1973-1984:*** Worked with United States Steel (USX), Mon Valley Works, Pittsburgh, Pennsylvania. Held various positions throughout the Works including Labor Contract Administrator, Safety Engineer, Industrial Engineer and Laborer.

William J. Fahey

Project Manager

Education:

MBA, University of Massachusetts, 2000
BS, Marine Engineering, Massachusetts Maritime Academy, 1987

Registration/Licenses:

Grade 5-C Wastewater Treatment Plant Operator
United States Coast Guard License – Third Assistant Engineer of unlimited horsepower, steam or diesel

Professional Affiliations:

American Water Resources Association
American Society of Civil Engineers

Background:

Mr. Fahey is a Project Manager with Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He has more than 18 years of engineering, construction and operations and maintenance and management (O&M) experience related to wastewater collection and treatment systems.

Mr. Fahey is involved in supporting projects in the State of New Hampshire, as well as other parts of the region. Prior to this, he served as the Asset Manager for Maintenance at the Massachusetts Water Resources Authority's (MWRA's) Deer Island Wastewater Treatment Plant. In this role, Mr. Fahey directed a group of engineering and operations staff, consultants and others in providing maintenance services for this facility, which is the second largest secondary treatment plant in the U.S.

Mr. Fahey is experienced in managing staff, budgets, asset management programs, and capital replacement plans. His background also includes process engineering and project management in industrial wastewater, industrial pretreatment as well as all aspects of preventive, predictive and corrective maintenance.

Experience:

- ***1999-Present:*** Serves a Project Manager with Veolia Water in the Northeast business center, providing support to engineering and O&M projects in the region.
  - Served as the Asset Manager, Maintenance, for Veolia Water Systems (the engineering and construction arm of Veolia Water), assigned to the MWRA, Boston, Massachusetts. Responsible for developing long-term strategic maintenance plan for the $3.4 billion Deer Island Wastewater Treatment Plant. This plan includes a balance of preventive, predictive, corrective and reliability centered maintenance. Other responsibilities include managing a staff of 13 and a budget of $1.5 million; developing and maintaining the capital replacement plan; and implementing and managing the Facility Asset Management Program. Mr. Fahey also develops the model for all plant maintenance and asset management; ensuring optimization of the plant's

Computerized Maintenance Management System and plans and schedules all maintenance work and inventory resource allocation.

- Served as owner representative on a comprehensive maintenance optimization strategy implementation on a Primary Clarifier Battery, which resulted in substantial savings for the Authority. It is anticipated that this program will reduce maintenance costs by 40% to 60%.

- ***1996-1999:*** Served as Program Manager, Construction Coordination, with Veolia Water Systems, assigned to the MWRA. Responsible for the management of $13 million in warranty claims for the Deer Island plant. Responsibilities included coordinating activities of the maintenance staff and contractors to ensure timely completion of warranty items; managing daily activity of the Construction Coordination Department; and serving as technical liaison to the Authority's legal division on all warranty claims.

- ***1994-1996:*** Served as Project Manager, Process Engineering, for Veolia Water Systems, assigned to the MWRA. Managed all process engineering activities for the operation of the wastewater systems from initial check out and startup, through integration and then final operation. Responsible for coordinating and completing operability surveys of assigned construction packages. Worked with multidisciplinary design teams and construction personnel to resolve and correct defective design and construction. Worked with process control and operations staff to troubleshoot problem systems. Represented Deer Island O&M departments at startup meetings.

- ***1988-1994:*** Held various engineering and project management positions with Veolia Water Systems, assigned to the MWRA. Responsibilities included conducting inspections of industrial wastewater discharges in the MWRA district to ensure compliance with federal, state and local laws; inspecting various industrial process and wastewater treatment systems; providing technical support to MWRA legal staff in regard to wastewater compliance issues; reviewing proposed industrial treatment plant designs to ensure that systems adhered to proper engineering design practices; and conducting inspections of new and existing gas/oil separators, ensuring that new construction complied with applicable regulations.

- ***1987-1988:*** Served as Diesel Power Plant Operator for E&C, assigned to the MWRA. Responsible for O&M of diesel and electric pumps; and monitoring water flow, chlorine residual, and reservoir levels.

John H. Fritsch

Project Manager

Education:

AA, Applied Science, North Shore Community College 1971
New England Regional Wastewater Institute
Coursework in Wastewater Treatment and Laboratory, Lowell University
Coursework in Power Plant Operations, The Peterson School of Steam Engineering

Certifications/Licenses:

Grade I Water Operator Certification, New Hampshire, #2169
Grade 4 Wastewater Operator Certification, New Hampshire, #608
Grade 4 Wastewater Operator Certification, ABC, #S487226R5
Grade 7 Wastewater Operator Certification, Massachusetts, #0767
CPR/First Aid Certification
40-Hour Hazardous Waste Site Operations Health and Safety Training
8-Hour Hazardous Waste Site Supervisor Health and Safety Training
24-Hour Hazardous Material Technician Certification

Professional Memberships:

New England Water Pollution Control Association
New Hampshire Wastewater Treatment Plant Operators Association
New Hampshire Water Pollution Control Association; Education Committee

Background:

Mr. Fritsch is a Project Manager with Veolia Water North America – Northeast, LLC, and is based in New Hampshire. He has over 28 years of experience operating treatment facilities, with an emphasis on managing groundwater remediation facilities.

Mr. Fritsch has been involved in nearly every phase of facility operation, from managing startup activities, to daily facility operation and through to site closure procedures.

Experience:

- ***1991–Present:*** Serving as Project Manager for Veolia Water's contracts with the New Hampshire Department of Environmental services for remediation activities at the OK Tools Site and Gilson Road Superfund Site in Nashua, New Hampshire. Administered the contract O&M of a 0.43-MGD groundwater treatment facility. Responsibilities included contract negotiation, client relations, and management of the annual budget. Oversaw daily standby maintenance activities, including sludge landfill closure, supervised a staff of 14, forecasted and monitored budget, and performed process troubleshooting. Currently managing the dismantling of the treatment system and post-closure activities for this site.

- ***1991:*** Served as Startup Manager for Metcalf & Eddy Services, Inc. (a Veolia Water predecessor company). Responsible for startup activities at a groundwater treatment facility in Garden City, New York. Treatment involved groundwater extraction, air stripping and liquid- and vapor-phase carbon with on-site regeneration.

- ***1986-1991:*** Served as Chief of Operations for Metcalf & Eddy Services, Inc. Managed operations of a groundwater treatment facility in Nashua, New Hampshire. Operations included contaminated groundwater pumping, metal removal, multi-media sand filtration, high-temperature air stripping, vapor incineration, extended aeration, wastewater treatment, a 180-kW steam turbine and generator and soil gas extraction system.

- ***1977-1986:*** Worked as a Senior Operator for the Greater Lawrence Sanitary District of North Andover, Massachusetts. Responsible for the operation of a 52-MGD activated sludge wastewater treatment plant with primary sedimentation, cyclonic grit removal, activated sludge, chlorination, dissolved air flotation, vacuum filtration, belt filter presses and multiple hearth incineration systems.

- ***1973-1977:*** Worked as an Operator for the Boston Metropolitan District Commission in Deer Island, Massachusetts. Participated in the operation of the 400-MGD Deer Island primary wastewater treatment plant with sludge thickening, anaerobic sludge digestion and chlorination.

James P. Galipeau

Senior Area Manager - Northeast Business Center

Education:

Coursework in Business, University of Massachusetts (Dartmouth)
Business Studies, American Management Association
Wastewater Treatment, California State University, Sacramento
Multiple Hearth Incineration Process, Jones & Henry
Wastewater Technology Collection Systems, NEIETC
Hazardous Waste Operations/Emergency Response, Operations Level
Hazardous Waste Operations/Emergency Response, Technician Level

Certifications/Licenses:

Grade 7C Wastewater Treatment Plant Operator, Massachusetts
Grade 2 Collection System, New England Water Pollution Control Authority
Grade IV Wastewater Treatment Plant Operator, Association of Boards of Certification

Professional Memberships:

Water Environment Federation
New England Water Pollution Control Association

Background:

Mr. Galipeau is a Senior Area Manager with Veolia Water North America - Northeast, LLC (Veolia Water), an autonomous business unit of Veolia Water North America Operating Services, LLC. He has more than 16 years of experience in the operation and maintenance (O&M) of industrial and municipal wastewater treatment facilities. Mr. Galipeau has additional experience in safety, hazardous waste labeling, handling and storage and in compliance and reporting responsibilities with OSHA, DEP and the U.S. Environmental Protection Agency.

Experience:

- ***1998-Present:*** Serving as an Area Manager with Veolia Water, with responsibility for providing oversight, management and support for O&M and design/build/operate (DBO) projects in New Hampshire, Massachusetts and Rhode Island, as well as other parts of the region. Responsibilities include contract, financial and technical oversight and support to facility project managers, as well as client support and customer service for projects including:
  - Total asset management of the City of Taunton, Massachusetts' wastewater treatment facility and Pollution Prevention (P2) program. The City is funding $11 million in capital improvements at its 8.4-MGD wastewater plant. In addition to traditional operation and maintenance, Veolia Water assumed complete responsibility for all facility maintenance and repair expenses as well as capital repair or replacement items. Project work is being implemented using a design/build/operate approach.
  - Contract O&M for the Town of Smithfield, Rhode Island's wastewater facilities.
  - Contract O&M for the Narraganset Bay Commission's 31-MGD Bucklin Point, Rhode Island, wastewater treatment facility. Upon assuming responsibility for the wastewater treatment plant, Veolia Water immediately funded and implemented numerous capital improvements to improve

facility performance that included installation of Stamford baffles in the final clarifier; electrical soft starts on the four 25-MGD tidal effluent pumps; a dissolved air flotation pump; return sludge variable frequency drives; and dissolved oxygen monitors. These enhancements improved performance while reducing electrical costs.

- Contract O&M for water and wastewater facilities for the cities of Brockton, Cohasset, New Bedford, Lynn, and Fall River, Massachusetts.

- ***1994-1998:*** Served as Project Manager for the contract O&M for the City of New Bedford, Massachusetts' 30-MGD wastewater treatment facility. Responsibilities included management of the technical operation, physical maintenance and analytical programs; development of maintenance, clerical, technical and subordinate supervisory staff positions; administration of contract and assisting with pre-startup activities related to the City's new secondary treatment facility.

- ***1993-1994:*** Served as Operations Manager for the contract O&M of the City of New Bedford, Massachusetts' water pollution control facility. Responsible for ensuring effective plant performance and compliance with permit standards. Planned, organized, directed and controlled the operation of the City of New Bedford's water pollution control facility on all shifts.

- ***May 1993-September 1993:*** Served as Regional Safety Supervisor for contract O&M projects in the Northeastern U.S. Developed comprehensive safety, risk management and hazard communication programs at 12 privately contracted water and wastewater plants in New Jersey, New York, Rhode Island, Massachusetts and Ontario, Canada.

- ***1990-1993:*** Served as Chief Operator for contract O&M of the maintenance of the City of New Bedford's 30-MGD wastewater treatment plant, Massachusetts. Responsible for technical operation and physical maintenance of the City's wastewater treatment plant during scheduled shifts. Duties included operation of a multiple-hearth incinerator, daily laboratory analysis and liquid stream process control.

- ***1987-1990:*** Worked as an Environmental Technician for Olin-Aegis, Inc., New Bedford, Massachusetts. Responsible for the operation and maintenance of a privately owned wastewater treatment plant and fluorocarbon solvent recovery system. Duties included liquid stream process control, solids handling and effluent analysis using an atomic absorption photo spectrometer.

- ***1991-1997:*** Served as Analyst in Finance and Accounting Department of Indianapolis Water, the private company that managed the City of Indianapolis, Indiana's water system prior to the current contract with Veolia Water. Responsible for forecasting cash flow and managing banking relationships and $20 million credit lines.

Daniel C. Moran, P.E.

Process Engineer

Education:

MS, Civil Engineering, University of Texas at Austin, 1992
BS, Mechanical Engineering, University of Notre Dame, Indiana, 1985

Registrations/Licenses:

Professional Engineer, Indiana
Grade WT-5 and WT-3 Water Treatment Plant Operator Certification, Indiana
Class A-SO Wastewater Treatment Plant Operator Certification, Indiana

Professional Memberships/Activities:

American Water Works Association (AWWA)
AWWA Academic Awards Committee (1999-2002)
AWWA Taste and Odor Committee (2000-2003)

Background:

Mr. Moran is a Process Engineer with Veolia Water North America – Central, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He is assigned to Veolia Water Indianapolis, and is responsible for process and water quality issues for the drinking water production facilities.

Mr. Moran has more than 20 years of engineering experience, including evaluation and implementation of process modifications to optimize water treatment plant performance; oversight of capital improvement upgrades to water treatment facilities; and negotiation with regulatory agencies on compliance issues. Process evaluations include design of pilot and/or bench scale testing programs aimed at meeting increasingly stringent water quality goals. Previous experience includes planning, design and implementation of environmental engineering projects for commercial and industrial clients.

Experience:

- ***2003-Present:*** Serves as Process Engineer for Veolia Water Indianapolis, LLC, which manages and operates Veolia Water's 20-year, $1.5 billion contract with the City of Indianapolis, Indiana, which includes all O&M, capital project work and customer service facets of the City's waterworks system, a system that currently serves 1.1 million people. Responsible for process and water quality issues for the drinking water production facilities, which consist of 12 water treatment plants with a combined capacity of 212 MGD. Also responsible for process control, operational troubleshooting, capital integration and research and development. Manages algaecide application program to mitigate problematic algal blooms in three water supply reservoirs. Coordinates research partnership with Indiana University-Purdue University at Indianapolis on watershed and reservoir management aimed at understanding and improving quality of Indianapolis water supplies, particularly related to problematic algae blooms. Coordinates Indianapolis Water involvement with various outside groups, including universities, consultants, and governmental agencies, on other treatment and water quality research and development activities.
- ***2002-2003:*** Served as Production Director, Veolia Water Indianapolis, during one-year transitional period, with responsibility for management of a $14 million budget and 86 personnel. Department responsible for operation, maintenance and water quality of 12 water treatment plants and control of 22 pumping stations.
- ***1998-2002:*** Served as Process Engineer for Indianapolis Water Company. Professional responsibilities consisted of evaluation and implementation of process modifications to optimize water treatment plant

performance; oversight of capital improvement upgrades to water treatment facilities; and negotiation with regulatory agencies on compliance issues. Process evaluations included design of pilot and/or bench scale testing programs aimed at meeting increasingly stringent water quality goals. Specific projects included development of operations protocol for disinfectant application at a 16-MGD water treatment plant, which resulted in reducing disinfection by-product concentrations while directly saving over $1,500,000 in planned facility upgrades; design review and construction oversight for the conversion of gaseous and solid water treatment chemicals to equivalent liquid chemicals at four water treatment plants with a combined capacity of 172 MGD; disinfection benchmark evaluations calculations used as the basis for design of three chlorine contact basins with over 11 MG of combined capacity; operation of conventional treatment, ozone disinfection and UV pilot plants.

- ***1995-1998***: Served as Senior Project Engineer, EarthTech, Indianapolis, Indiana. Provided consulting engineering services to commercial, industrial and governmental clients related to environmental regulations. Projects included groundwater remediation, hazardous waste treatment and management, and industrial permitting.
- ***1992-1995***: Served as Engineer, Hargis and Associates, Inc., La Jolla, California. Provided consulting engineering services primarily related to groundwater contamination and remediation. Worked extensively with large aerospace manufacturing clients on chlorinated solvent contamination issues.
- ***1990-1992***: Served as Graduate Research Assistant, Department of Civil Engineering, University of Texas at Austin, Texas. Conducted laboratory experiments to evaluate the effect of particle size and operating parameters on deep-bed water filtration. Operated a pilot-scale filter column and monitored for head loss, turbidity, and particle counts. Experiments were conducted at various flow rates and using various sized media on softened water from the Davis Water Treatment Plant in Austin, Texas. Developed laboratory procedures for accurate particle size measurements
- ***1985-1990***: Served as Design Engineer, LTV Aerospace & Defense, Dallas, Texas. Designed mechanical and hydraulic systems for advanced aircraft. Provided oversight and evaluation of full-scale system tests for first flight qualification of mechanical and hydraulic systems. Developed installation specifications to ensure proper operation of systems prior to flight.

Publications:

- Moran, D.C., A. Brassart, and J.M. Jeter. 2001. Variable Source Water Quality and Enhanced Coagulation Step 2 Testing: A Potential Compliance Nightmare. Proc. of the 2001 AWWA Annual Conference. Washington, D.C.: AWWA.
- Malley, Jr., J.P., B.A. Petri, G.V. Hunter, D. Moran and M. Nadeau. 2001. Full-Scale Implementation of Ultraviolet Disinfection in Groundwater Treatment Systems. Denver, Colorado. AwwaRF and AWWA.
- Petri, B.M., G. Fang, J.P. Malley, Jr., D.C. Moran, and H. Wright. 2000. Groundwater UV Disinfection: Challenges and Solutions. Proc. of the 2000 AWWA Water Quality Technology Conference. Salt Lake City, UT: AWWA.
- Moran, D.C., M.C. Moran, R.S. Cushing, and D.F. Lawler, 1993. Particle Behavior in Deep-Bed Filtration: Part 1 – Ripening and Breakthrough. JAWWA 85(12) 69.
- Moran, M.C., D.C. Moran, R.S. Cushing, and D.F. Lawler, 1993. Particle Behavior in Deep-Bed Filtration: Part 2 – Particle Detachment. JAWWA 85(12) 82.
- Moran, D.C., M.C. Seib, R.S. Cushing, and D.F. Lawler, 1992. Particle Size in Filtration: Dynamics of Ripening, Breakthrough and Breakoff. Proc. of the 1992 AWWA Annual Conference. Vancouver, B.C.: AWWA.

Chandra Mysore, PhD, PE, DEE

Director for Drinking Water Programs

Education:

Ph.D., Environmental Engineering, University of Colorado
MS, Water Resources and Environmental Engineering, University of Hawaii
MS, Irrigation Engineering, University of Hawaii
BE, Civil Engineering, National Institute of Engineering, India

Registrations:

Professional Engineer: Georgia and Louisiana
Diplomate in Environmental Engineering, with expertise in Water and Wastewater Treatment

Professional Memberships/Activities:

American Academy of Environmental Engineers
American Water Works Association
International Ozone Association
International UV Association

Background:

Dr. Mysore is the Director for Drinking Water Programs with the Central Technical Support (CTS) group of Veolia Water North America Operating Services, LLC (Veolia Water). The role of this group is to provide technical support services to facilities owned, operated and managed by Veolia Water companies throughout North America.

Dr. Mysore has more than 20 years of experience in water, wastewater, soil and groundwater treatment systems employing advanced oxidation processes (Ozone/UV/H_2O_2), membranes, and biological filtration while working for local, federal, private and academic institutions.

Dr. Mysore has participated in numerous bench-scale, pilot and full-scale studies and has extensive experience in the design, construction, startup and commissioning of water and wastewater treatment systems. He was a part of the Veolia Water team for the design of Tampa Bay Water's new 66-MGD surface water treatment plant. This included managing and directing a bench-scale study aimed at characterizing the NOM (DOC=12-40 mg/L) and conducting enhanced coagulation studies (simulating the ACTIFLO® process) to determine coagulant dosages. Recommended static mixer with side stream for ozonation and participated in the preparation of the proposal, equipment selection, reviewing computations, plans, and specifications, design, permitting of the ozonation process. This static mixer design resulted in tremendous savings in capital, operation and maintenance costs with a small footprint for the ozonation process. He supported process studies at pilot-scale and studied bromate formation. Dr. Mysore also participated in partnership meetings and startup for Tampa Bay Water's new surface water plant.

Dr. Mysore has performed considerable research work in the area of membrane treatment, dealing with many of the issues and challenges that face your current desalination plant. He is currently managing the development of a low-pressure membrane knowledge base, which is focused on developing a comprehensive source of knowledge related to MF/UF membrane system planning, permitting, startup, and operations and maintenance. For this project, Dr. Mysore is overseeing the data garnering effort from Veolia Water utilities around the globe.

Experience:

- ***1998–Present:*** Serves as the Director for Drinking Water Programs with the CTS group of Veolia Water. The role of this group is to provide technical support services to facilities owned, operated and managed by Veolia Water companies throughout North America. Prior to this work as a part of the research and development team for Veolia Water's North American Technology Center in Atlanta. Involved in managing projects related to water and wastewater, submission of proposals to the USEPA, writing reports, presenting papers at national and international conferences, publishing in peer-reviewed journals and assisting in privatization efforts (operations, maintenance and management, O&M, and design/build/operate, DBO, projects) and troubleshooting at water plants. Also supervises several engineers, scientists and technicians.

  - Served as part of the Veolia Water due diligence, startup and support teams for the 20-year, $1.5 billion contract with the City of Indianapolis, Indiana. This project includes all O&M and customer service facets of the City's waterworks system, which serves more than 1.1 million people. This system is being managed and operated by Veolia Water under a long-term privatization agreement, and includes four surface water treatment plants, ranging in size from 16 to 96 MGD, and eight groundwater treatment plants, ranging in size from 0.86 to 12 MGD. Identified ozone-BAF process as the most suitable process to control taste and odor problems, reduce DBPs, algal toxins and inactivate microorganisms such as Cryptosporidium.
  - Provided technical support for the Wilsonville, Oregon project (15-MGD) design/build/operate project for a new water treatment plant. Reviewed water quality data and recommended static mixer with side stream for ozonation over the conventional fine bubble diffusion process with a technical report. The technical report compared the two process on a qualitatively and quantitative basis. Provided sections in the preparation of the proposal. Veolia Water was awarded the contract to operate the plant. Assisted in troubleshooting problems at the plant.

  Current and completed research work includes:

  - Micro- and Ultrafiltration Performance Specifications Based on Microbial Removal Efficiency" - This project was awarded is focused on developing a systematic performance testing protocol and specification for microfiltration (MF) and ultrafiltration (UF) membranes with respect to removal of viral and submicron bacterial pathogens thru bench-scale and pilot-scale studies. Dr. Mysore oversaw the pilot studies in the U.S. at various water utilities.
  - "Natural Organic Matter Fouling of Low Pressure Membranes " - This project focuses on improving the understanding of fouling of low pressure membranes by NOM through bench- and pilot-scale studies. Dr. Mysore will be overseeing the piloting effort in the U.S.
  - "Integration of Membrane Filtration into Water Treatment Systems" – This project will provide performance and operating data including a look at how effective membranes address water quality and public health issues. The review will also address the rationale of why membranes were added to the treatment train. Various configurations of membrane integration will be outlined (from RO to MF). Non-technical data, such as public perception of quality, will be included. Dr. Mysore oversaw gathering of the information at the various Veolia Water utilities that have integrated membranes into their processes.
  - "Optimization of Membrane Treatment for Direct and Clarified Water Filtration" - This project focuses on conceptual assessment, bench-scale investigations and field–scale evaluations to provide a comprehensive database from which the drinking water community can best decide when and how to integrate MF/UF technologies into their treatment plants particularly for integration of membranes into direct or clarified water filtration plants. Dr. Mysore is overseeing the pilot-study effort at the Atlanta/Fulton County water treatment in Georgia, a facility that is contract operated by Veolia Water.

- ***1996-1998:*** Served as Principal Engineer with Gwinnett County, Georgia. Performed hydraulic modeling of the water distribution system for Gwinnett County. System serves 500,000 residents, includes three pressure zones, 2,300 miles of water mains, 12 pump stations and 13 storage tanks. Reviewed existing storage and determined any additional storage that may be required to help meet peak demands and fire flow requirements, predicted future water requirements, impact of new lines and pump stations on the distribution system and evaluated low pressure conditions in several areas around the country. Participated in the upgrading and expansion of the water treatment plant (100 MGD to 150 MGD) and provided technical support in the installation of an ozone disinfection system at the Lanier water treatment plant in Georgia. Ozone is transferred to water by a side-stream venturi injection-downflow tube system, which achieves high ozone transfer efficiency.

Keavin L. Nelson, P.E.

Operations Manager and Vice President/Engineering Services Manager

Education:

BS, Civil Structural Design/Construction Management, Pennsylvania State University, 1977
MBA studies in progress, Pennsylvania State University

Registrations/Certifications:

Registered Professional Engineer: Pennsylvania, Maryland and the District of Columbia
Grade AO STP Wastewater Treatment Certification, Pennsylvania

Background:

Mr. Nelson is the Operations Manager for Veolia Water North America – Northeast, LLC, and has dual responsibility as the Vice President and Engineering Services Manager with the Capital Programs Management (CPM) group of Veolia Water North America Operating Services, LLC (Veolia Water) in the Northeast. In this role, he is responsible for directing and supporting design/build, design/build/operate (DBO) and capital project work at contract operations, maintenance and management (O&M) projects sites in the State of New Hampshire, as well as in the other areas served by Veolia Water's Northeast Business Center.

Mr. Nelson has over 28 years of progressive experience in the water and wastewater service industry, including 15 years of senior level management with responsibilities for multi-site operations, profit and loss, strategic planning, process re-engineering, design/build project team development, management and execution, business development and client and labor relations. With Veolia Water, Mr. Nelson has served in a variety of roles, ranging from Development Manager on major procurements to Vice President of Operations for projects in the U.S. and Canada.

Experience:

- ***2005-Present***: Serves Operations Manager for Veolia Water's O&M and related projects in the Northeast Business Center, and also as the regional Engineering Services Manager with Veolia Water's CPM group. In this dual role, focuses on managing and growing Veolia Water's existing O&M business, and also on seeking new DBO and capital project opportunities with existing and new clients in the Northeast.
- ***2003–2005***: Served as a Technical Manager with Veola Water, with responsibility as a national project resource, and as the Team Leader on major project development efforts. Most recently worked on addressing the O&M and capital project issues at the Wilmington, Delaware, wastewater O&M project.
- ***2001-2003:*** *Serv*ed as Regional Vice President of Municipal Business Development in Veolia Water's Mid-Atlantic Service Center. Responsible for the development and execution of municipal infrastructure and utility system privatization opportunities in a six-state region.
- ***2000-2001:*** Served as General Manager, North Region, of ADS Environmental, Inc. Managed all metering and assessment contracts, including profit and loss, marketing, and resource management. Services included sewer flow surveys, sanitary sewer evaluation surveys, metering equipment sales and installation, with regional gross revenue of $12 million. Managed marketing and operations staff for a 15-state territory.

- ***1997-2000:*** Served as Vice President of Engineering for U.S. Water, LLC. Directed the engineering and technical approach in the development of privatization project proposals, including assembling design/build teams in joint venture partnerships and managing project development. Activity included the direction and management of project teams to formulate the operational and technical strategic approach and design/build capital projects execution and transition to private operations. Operations responsibility included management of privatization transition, labor contract negotiations, process and operations optimization and environmental compliance.
- ***1994-1997:*** Served as Vice President and Project Manager for Wheelabrator EOS, Inc., a Veolia Water predecessor company. Developed privatization project strategies in the U.S. and Canada including development and management of project teams to formulate the technical approach, develop the required design/build teams and projects from conceptualization to execution. Joined the company in 1994 as the Vice President of Operations, responsible for the execution of all contracts for operation and ownership of water and wastewater facilities in the U.S. and Canada; also managed contract negotiations and labor agreements.
- ***1977-1994:*** Served in increasingly responsible positions for Buchart-Horn, Inc., an engineering and architectural firm specializing in water and wastewater projects. As Vice President/Regional Manager (1989-1994), was responsible for regional profit and loss, sales and client relations. As Assistant Vice President/Director of the Construction Management Division (1984-1989), managed the 55-person division, which executed all construction management and design/build services throughout the Mid-Atlantic region. Held full profit and loss responsibility for the Division. Joined the company as a Staff Engineer and served in this position for seven years.

Paul F. Noran, P.E.

Technical Manager

Education:

MS, Civil Engineering, University of Southern California
BS, Civil Engineering, San Jose State University

Registrations:

Professional Engineer:
Maine, New Hampshire, New Jersey, North Carolina, Pennsylvania, New York, Ohio, Illinois and California

Professional Memberships/Activities:

Chairman of the Engineering and Construction Division of the American Water Works Association (AWWA) – 1995-1999
Chair of Strategic Planning Committee for the Technical and Educational Council of the AWWA
Member of American Society of Civil Engineers

Background:

Mr. Noran is the Collection and Distribution Systems Technical Services Manager with Veolia Water North America Operating Services, LLC's (Veolia Water's) Central Technical Support (CTS) group. The role of this group is to provide technical support services to facilities owned, operated and managed by Veolia Water companies throughout North America.

In this role, Mr. Noran provides leadership for maintenance and asset management for Veolia Water and Veolia Water Canada Inc. contract operations, maintenance and management (O&M), design/build/operate (DBO) and related projects. He is also involved in recommending changes to improve operations, performance and customer satisfaction and in performing due diligence on systems being considered for operating contracts.

Mr. Noran has more than 32 of years of progressively responsible experience in the management of water supply systems, and in solving problems related to engineering, construction, operation, water supply, and wastewater collection and treatment facilities. He has specialized expertise in implementing best management practices for operating and managing water utilities.

Nationally, Mr. Noran was a participant in the U.S. Environmental Protection Agency's (EPA's) Blue Ribbon Committee to review treatment technologies and costs for small systems compliance. He has also been active in the AWWA and served as Chairman of the Engineering and Construction Division from 1995 to 1999.

Experience:

- ***2002-Present:*** Serves as the Collection and Distribution Systems Specialist with the CTS group of Veolia Water. Involved with project support, technical assistance and research and development activities related to solving problems in engineering, construction, operation, water supply, and wastewater collection and treatment facilities.
- ***2000-2002:*** Served as a Technical Manager with Veolia Water, involved in developing products that will enable our firm to gain the advantage in competing for new operating contracts and in recommending process changes to improve operations, performance and customer satisfaction.

- Worked as part of the due diligence, technical, transition and startup teams for the 20-year, $1.5 billion contract with the City of Indianapolis, Indiana. This project includes all O&M and customer service facets of the City's waterworks system, which serves more than 1.1 million people. This system is being managed and operated by Veolia Water under a long-term privatization agreement, and includes four surface water treatment plants, ranging in size from 16 to 96 MGD, and eight groundwater treatment plants, ranging in size from 0.86 to 12 MGD.

- ***1979-1999:*** Served as Vice President of Consumers Water Company, a publicly traded company with $100 million of annual revenues, with responsibility for water supply systems serving 750,000 people in a five-state area. Provided overall leadership and quality assurance for the multi-state utility, including all aspects of utility engineering and operations, with emphasis on major capital projects including infrastructure renewal and replacement. Overall responsibilities included working with operating companies to identify and implement process improvements and managing capital investments of $30 million of new investment each year. Led company's initiatives in the areas of environmental compliance, risk management and protection of shareholders investments. Directed engineering and construction for all major projects. Developed recommendations for capital investment to deliver shareholder earnings, improve customer satisfaction, improve the existing infrastructure and grow the business. Identified and developed strategic alliances to enhance growth.

- ***1973-1979:*** Served as Assistant Director of Hialeah Water and Sewer Department, Hialeah, Florida, a major utility serving 100,000 people. Responsible for planning and managing water and wastewater operations, including a staff of 115. Provided mission and direction to employees, and developed successful customer quality service.

David L. Peterson

Laboratory Supervisor

Education:

Bachelors Degree in Chemistry and Biology
Masters Degree in Biochemistry
Doctorate in Biochemistry

Registrations:

Grade WT3, Water Treatment Plant Operator, Indiana Department of Environmental Management
Grade WT5, Water Treatment Plant Operator, Indiana Department of Environmental Management
Grade DSL, Water Distribution System Operator, Department of Environmental Management
Class A-SO, Wastewater Treatment Plant Operator, Indiana Department of Environmental Management
American Chemical Society Member
American Society for Quality Member
American Water Works Association Member

Background:

Dr. Peterson is a Laboratory Supervisor with Veolia Water North America – Central, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He is assigned to Veolia Water Indianapolis, is responsible for supervising a unique, state-of-the-art laboratory in instrumentation and methodology. Taste and Odor Compounds are quantified down to the parts per trillion level using Solid Phase Microextraction (SPME) methodology. Besides performing compliance and incentive monitoring, the laboratory has piloted process optimization using both traditional and new approaches. Using both his laboratory and plant operations experience, he provides sound direction to the team concerning treatment chemicals and techniques.

Experience:

- ***1994-Present:*** Serves as the Laboratory Supervisor for Veolia Water Indianapolis, LLC, which operates and manages Veolia Water's 20-year, $1.5 billion contract with the City of Indianapolis, Indiana, which includes all O&M, capital project work and customer service facets of the City's waterworks system, a system that currently serves 1.1 million people. Responsible for the operation and supervision of the purification laboratory. Performs TOX analysis on special basis and serves as alternate for all other analyses during absences. Supervises compliance, incentive and process testing and reporting. Prepares capital budget and plan for laboratory needs.
- ***1985-1994:*** Served as Corporate Quality Assurance Officer for Heritage Laboratories, Inc. Responsible for certifying all reports to clients and assuring compliance to EPA methods. Managed numerous large projects. Audited other laboratories and maintained and administered State, federal and private certifications.
- ***1982-1985:*** Served as Corporate Environmental Laboratory Supervisor for Cummins Engine Company. Operated and maintained Hewlett Package GC/MS. Performed study on raw rubber vulcanization off gases. Analyzed samples per OSHA/EPA/SM methodology. Calibrated and maintained sampling equipment. Served as Corporate authority on methods and chemistry. Supervised union laboratory technicians. Set up and maintained all laboratory instruments.
- ***1976-1982:*** Served as OSHA/RCRA Laboratory Supervisor for the Indiana State Board of Health. Supervised analytical chemists performing analyses, Served as Department of Labor laboratory expert. Calibrated and maintained all laboratory instrumentation. Performed special projects and special monitoring. Performed XRD analysis of bulk asbestos samples for schools.

Michael Schnack

Manager of Human Resources - Northeast

Education:

MBA, Management, University of Rhode Island
BA, Liberal Arts, Providence College

Professional Memberships/Activities:

Society for Human Resource Management
Planning Commissioner, Town of Jamestown, Rhode Island

Background:

Mr. Schnack is the Manager of Human Resources for Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He has over 10 years of human resources experience, and has managed all areas of Human Resources, including employment, employee relations, wage and benefit administration, labor relations, regulatory compliance and training.

Experience:

- ***2001-Present***: As Manager of Human Resources for Veolia Water in the Northeast, responsible for human resource activities and employee and labor relations in the service area that includes projects in the State of New Hampshire. Involved in coordinating benefits, human resources support and transition support for Veolia Water contract O&M projects in New England and New York.

- ***1998-2001:*** Directed all human resource activities, including benefits administration, compensation, compliance, recruiting and payroll administration for United Methodist Elder Care, East Providence, Rhode Island. Experienced with labor and employee relations, training, and developing personnel policies and procedures. Served as a labor contract administrator responsible for the administration of personnel policies, labor contract, grievance resolution and arbitration.

- ***1997-1998:*** Managed branch business and employment activities for Arbor Associates, a temporary staffing firm with offices in Boston, Worcester and Providence. Responsible for job development, customer and employee relations, compliance and training.

- ***1992-1997:*** Managed employment programs in the mental health field, providing employment training and counseling, job development, job analysis, career planning, job and skills training, and program marketing. Also experienced in employee relations, recruiting, screening and interviewing job candidates and supervision of personnel.

M. Scott Schrang

Assistant General Counsel

Education:

JD, University of Arkansas School of Law

BA, Business Administration and Economics, Austin College

Professional Memberships:

State Bar of Texas

American Bar Association

Background:

Mr. Schrang is the Assistant General Counsel for Veolia Water North America Operating Services, LLC (Veolia Water) and the Legal Counsel for Veolia Water North America – West, LLC, an autonomous business unit of Veolia Water. He has more than 15 years of experience in corporate law, specializing in litigation management, municipal law and environmental matters.

Experience:

- ***1997-Present:*** As Assistant General Counsel for Veolia Water, responsible for litigation management, employment and labor matters, contract drafting, municipal law, environmental and general corporate legal matters.

- ***1993-1997:*** Served as Counsel for a large industrial and residential overhead door company and its subsidiaries. Responsibilities included contract drafting, litigation management, patent and trademark administration, antitrust matters, acquisitions, product liability, labor relations, real estate and all distributor matters concerning the firm and its subsidiaries.

- ***1990-1993:*** Served as Staff Attorney for a large consumer electronics company. Responsible for all legal matters for the firm and subsidiaries, emphasizing contract drafting, litigation, patent and trademark administration, licensing agreements, antitrust, product liability and personnel matters.

- ***1988-1990:*** Served as Assistant City Attorney for the City of Fort Worth. Drafted and revised City ordinances and handled zoning and litigation matters.

- ***1987-1988:*** Served as an Associate for a private law firm. Handled commercial litigation and bankruptcy.

Joey J. Tolbert

Financial Analyst, Municipal Business Development

Education:

MS, Management Information Systems, Southern Illinois University at Edwardsville
AS, Accountancy, Southern Illinois University at Edwardsville
AAS, Accounting, Lewis & Clark Community College

Certification:

Certified Illinois Municipal Treasurer

Professional Memberships/Activities:

Southern Illinois University at Edwardsville Accounting Club
Phi Theta Kappa Honorary Fraternity
Phi Kappa Phi Honor Society
Beta Gamma Sigma
Rotary International (Past President, Wood River Rotary Club)
Loyal Order of the Moose, Lodge 1349
Southwestern Illinois Manager's Association
Government Finance Officers Association
Downstate Illinois Government Finance Officers Association
Illinois Municipal Treasurer's Association
River Bend Growth Association
Wood River Jaycees (Past President)
Southern Illinois University at Edwardsville Alumni Association Board of Directors
International City Management Association

Background:

Mr. Tolbert is the Financial Analyst, Municipal Business Development, for Veolia Water North America Operating Services, LLC (Veolia Water). He provides a financial and management support for operations, maintenance and management (O&M), design/build/operate (DBO) and related project and new business efforts in the U.S. and Canada.

Mr. Tolbert has more than 25 years of experience in finance, with and emphasis in the area of municipal finance. He has specialized experience in the areas of: personnel management, governmental administration and compliance; collection and disbursement of municipal funds; management of pension funds; preparation of budgets and financial statements; and oversight of all municipal financial obligations.

Experience:

- ***1999–Present***: Serves as the Financial Analyst, Municipal Business Development, for Veolia Water, with involvement in supporting ongoing projects and new business efforts.

- ***1998–1999***: Served as Financial Marketing Manager for Professional Services Group (PSG), a Veolia Water predecessor company. Provided financial analysis and marketing support to senior business development staff. Assisted client cities in developing alternative, innovative approaches to achieving

funding for capital improvements. Provided support to senior management and business development staff to aid their understanding of municipal finance.

- ***1994-1998***: Served as City Manager and City Chief Administrative Officer for City of Wood River, Illinois. Responsible for the overall operations and functions of the City, including personnel and administrative issues and governmental compliance.
- ***1987-1998:*** Served as City Treasurer for City of Wood River, Illinois. Responsible for the collection and distribution of all City funds; had fiduciary responsibility for pension funds.
- ***1995-1987:*** Served as Director of Finance for City of Wood River, Illinois. Had oversight of all City accounting functions, including general ledger, payroll, accounts payable and receivable, utility billing, investments, budget preparation, annual tax levy and timely preparation of City financial statements.
- ***1991-1994:*** Served as part-time instructor for Lewis and Clark Community College, Godfrey, Illinois. Taught Accounting I and II and Govemmental and Fund Accounting.
- ***1989:*** Served as Acting City Manager for City of Wood River, Illinois. In a temporary capacity, was the City's Chief Administrative Officer, with responsibility for the overall operations and functions of the City, including personnel and administrative issues and governmental compliance.
- ***1987-1998:*** Served as City Treasurer for City of Wood River, Illinois. Responsible for the collection and distribution of all City funds; had fiduciary responsibility for pension funds.
- ***1984:*** Served as Office Manager for Missouri Mills, Inc., St. Louis, Missouri. Responsible for oversight of all functions of operations and provided support services for the trade floor of Merchants Exchange.
- ***1979-1984:*** Served as Grain Accountant for Peavey Company, Alton, Illinois. Responsible for the daily position of the firm in relation to the Chicago Board of Trade. Assisted grain traders in local, national and international grain trades.

Joe Tomashosky, CPA

Vice President of Finance

Education:

BA, Business Economics with Accounting Concentration, University of Pittsburgh, 1979

Certification:

Certified Public Accountant, Pennsylvania, 1981

Background:

Mr. Tomashosky is a Vice President of Finance for Veolia Water North America Operating Services, LLC. (Veolia Water). He is responsible for the financial aspects for business development of long-term contracts, and project financing analysis and risk assessment.

Since joining Veolia Water in 1994, Mr. Tomashosky has held positions of increasing responsibility, including Vice President of Finance and Group Controller for the Industrial Equipment Group of Veolia Water; Vice President, Assistant Treasurer, Assistant Secretary and Officer of Veolia Water North America.

Mr. Tomashosky has more than 25 years of experience in finance with emphasis on business growth through acquisition and long-term contract development.

Experience:

- ***1994-Present***: Serves as a Vice President of Finance for Veolia Water, with responsibility for project finance analysis, risk assessment and support for new business initiatives.
- ***1991-1994:*** Served as Chief Financial Officer for Koppel Steel Corporation, Koppel, Pennsylvania, the largest wholly owned subsidiary of the publicly traded NS Group.
- ***1987-1991***: Served as Vice President of Finance and Chief Financial Officer for Genesis Packaging Systems, Pittsburgh, Pennsylvania, formerly a Greenfield startup of ALCOA and CMB.
- ***1985-1987:*** Self-employed CPA, Baltimore, Maryland.
- ***1983-1985:*** Served as CPA for Arthur Andersen, Baltimore, Maryland.
- ***1981-1983:*** Served as Chief Financial Officer for Key Oil Company, Weston, West Virginia, and Titusville, Pennsylvania.
- ***1981-1991:*** Adjunct Instructor of Accounting, University of Pittsburgh, Titusville, Pennsylvania; University of Charleston, West Virginia; and York College, York, Pennsylvania.
- ***1978-1981:*** Served as CPA for Donald Sarp & Company, Greensburg, Pennsylvania.

James Washburn

Director of Network and Infrastructure

VEOLIA Water

Education/Training:

Technical courses for MCSE
CCDA Course for Cisco Certification

Certifications:

Cisco Certified Design Associate
3.12, 4.11 and 5.1 CNE

Background:

Mr. Washburn is the Director of Network and Infrastructure for Veolia Water North America Operating Services, LLC. He was responsible for building the network and infrastructure for Veolia Water's 20-year water system management and operations contract with the City of Indianapolis, Indiana.

Mr. Washburn currently manages Veolia Water's corporate data center, which is located in Indianapolis, as well as the company-wide network for Veolia Water.

Mr. Washburn has over 24 years of experience, which includes project management, help desk management, hardware and software support and local and wide are network installations and support.

Experience:

- ***2000-Present:*** Serves as the Director of Network and Infrastructure for Veolia Water. Manages IT policies, procedures and service level agreements; the IT departmental budget and process improvements. Review, analyzes, recommend and implements network hardware, software, topologies, architecture and tools. Technical responsibilities include server management, network monitoring, telephony management, data security, virus/security protection, server/data availability and remote accesses. Project lead for the corporate data center relocation to Veolia Water's Indianapolis facility. Facilitated migration of corporate held desk support to Veolia Water in Indianapolis. Project lead for 300 user Office 97 to Office CP migration.
- ***1999-2000:*** Served as Senor Systems Engineer for Microage, Indianapolis, Indiana. Managed 300-user help desk. Provided technical support for Local and Wide Area network products. Installed and managed Novell 4.11 server and NT 4.0 server. Consultant for various clients on Lan/Wan server, and desktop issues.
- ***1998-1999:*** Served as Systems Engineer for Vanstar, Indianapolis, Indiana. Managed a 3,270 terminal replacement with IBM PC for Indianapolis Water. Developed and implemented corporate Indianapolis Water LAN/WAN.
- ***1985-1998:*** Served as Systems Network Engineer for Memorex Telex Computer Products. Provided PC hardware and software support, and local and wide area network installation and support.
- ***1981-1985***: Served as Avionic Sensor Systems Specialist for the U.S. Air Force. Maintained computerized infrared and laser target designation systems.

Debbie Willis

Director - Customer Relations

Education:

University of Indianapolis – Supervisor Certificate
Dwyer School of Business – Data Entry Certificate

Professional Memberships:

American Water Works Association (AWWA)
Society of Consumer Affairs Professionals (SOCAP)

Background:

Ms. Willis is a Customer Relations Director with Veolia Water North America – Central, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). In this role, she is primarily involved with the provision of customer services and client relations for Veolia Water's water system operations and management contract with the City of Indianapolis, Indiana.

Ms. Willis has over 25 years of experience in the utility service business, with 10 of those years in Business Supervision. She coordinated the transition and training for her area when the sewer billing process for the City of Indianapolis was combined with the billing and customer relations operations of the Indianapolis Water Company.

Over the past year, Ms. Willis has been instrumental in contractual incentives for call answer and abandoned rates for Veolia Water's contract with the City of Indianapolis. She also worked closely with the Information Technology staff to implement technology and program enhancements as well as working with other Veolia resources. Additionally, Ms. Willis has assisted in directing a customer relations team that provides billing, cash application, collections and contact center services to some 18 municipal clients.

Experience:

- ***2003-Present:*** Serves as Director for Customer Relations with Veolia Water in Indianapolis. Responsible for a customer service staff of approximately 60 which includes call center operations, customer complaint resolutions, collections and cash applications, remittance processing and billing services quality assurance.
- ***2000-2003:*** Served as the Manager of Customer Contact for Indianapolis Water, prior to transitioning to Veolia Water. Managed team leaders for call center operations, and successfully implemented Interactive Voice Response (IVR) and recording system technology.
- ***1998-2000:*** Worked as an Accounts Payable Clerk for Grand Strand Water & Sewer, Myrtle Beach, South Carolina.
- ***1993-1995:*** Served as the Supervisor Customer Accounts for Indianapolis Water. Responsible for coordinating and prioritizing the work load for 10 accounting clerks, initiating new customer accounts, auditing accounts for billing accuracy, and approving billing adjustments and refunds. Duties also included supervising reconciling payments to deposits and cash collected to daily receipts and reconciling bank statements. Also responsible for supervising wire transfers in excess of $100,000 daily and approving agent invoices for payment.

- ***1988-1993:*** Worked as the Supervisor of Customer Accounts for Indianapolis Water. Supervised and trained data entry clerks, billing adjustment clerks and relief clerks, coordinated and scheduled relief for three departments and interviewed and hired new employees. Also served as backup for the customer contact supervisor and administered progress reports and annual reviews.
- ***1985-1988:*** Worked as a Customer Service Trainer Representative with Indianapolis Water. Was responsible for training new employees, preparing training and reference manuals and assisting with supervision. Also served as relief in all positions.
- ***1977-1985:*** Worked as a Customer Service Representative with Indianapolis Water. Performed all customer contact functions in the water industry, including orders to restore service, discontinue service, high bill complaints, billing adjustments, payment arrangements, water quality and cold weather problems.
- **1972-1977:** Worked as a Data Entry Operator with Indianapolis Water.

William J. Wolf, CPA

Controller

Education:

BS, Business/Accounting, Indiana University School of Business

Professional Memberships:

Indiana State Board of Public Accountancy

Background:

Mr. Wolf is a Controller with Veolia Water North America – Central LLC, an autonomous business unit of Veolia Water North America Operating Services LLC (Veolia Water). In this role, he is responsible for oversight of all financial reporting and audits as well as developing and implementing business plans.

Experience:

- ***2004-Present:*** Serves as Controller for Veolia Water in the Central U.S. and with Veolia Water Indianapolis LLC, which operates and manages Veolia Water's 20-year, $1.5 billion contract with the City of Indianapolis, Indiana. Oversees financial closing, reporting and reconciliation. Coordinates annual independent audits and compiles annual reports. Supervises and reviews recording of utility plan and operation and maintenance expense accounting records maintained under regulatory accounting.

- ***2000-2004:*** Served as Comptroller for American Water Works Service Company, Indiana. Oversaw preparation of annual strategic business plan including market plan, business development plan, regulatory/rate plan, detailed five-year financial plan and balanced scorecard. Monitored and investigated actual-plan variances, initiated cost control initiatives, reviewed financial position and profitability, and coordinated with operations in execution of business plan. Implemented and oversaw ongoing application of International Accounting Standards for consolidation of data with parent company. Devised and executed action plans to integrate acquired companies, including information systems and procedures, with goal to maximize accretion to EPS. Provided financial counsel and advice to al functions for strategic and operational decision-making. Administered information technology services function for three-state region including oversight of five-member professional staff. Coordinated annual independent audit; compiled annual report; analyzed effect of new and proposed tax law, GAASP and IAS; and prepared Form 1120.
- ***1999-2000:*** Served as Director, Accounting and Assistant Treasurer for Indiana-American Water Company, Inc., Indiana. Automated the tax provision and return process by integrating directly from general ledger to Insource CS tax system. Analyzed tax effects of proposed transactions; analyzed and forecasted effective tax rates; identified tax savings opportunities.
- ***1993-1999:*** Served as Assistant Director, Accounting and Assistant Treasurer, Indiana-American Water Company, Inc., Indiana. Implemented JD Edwards ERP system, including job cost, inventory, fixed assets, PO, payroll and GL. Maximized integration of all modules and trained end users. Prepared income, property and other tax returns and calculated current and deferred income tax provisions. Oversaw financial closing, consolidation, reporting and reconciliation.

- ***1992-1993:*** Served as Comptroller and Assistant Treasurer for Consolidated Water Services, Inc., Indiana. Administered loan agreements and cash position. Coordinated banking services and issuance of long-term securities with institutional investors through private placement, including issuance of tax exempt financing under state program. Responsible for administration of accounting, reporting, budgeting and financing for nine subsidiaries in five states.
- ***1990-1992:*** Served as Assistant Director of Accounting and Assistant Treasurer, Consolidated Water Services, Inc., Indiana. Prepared accounting, financial, regulatory and tax reports. Performed financial closing and reporting for five entities with over 25 operating locations. Coordinated year-end audit and preparation of schedules and documentation for independent accountants. Implemented automated property and customer billing mainframe computer systems.
- ***1985-1990:*** Served as Supervising Senior Accountant for KPMG Peat Marwick, Indiana. Simultaneously managed several client audit engagements while meeting strict reporting deadlines. Supervised staff testing and performance, coordinated audits directly with client senior management from planning state to completion. Reviewed accounting systems and controls in various industries including manufacturing, financial institutions, transportation, agribusiness and utilities. Analyzed financial statements for compliance with GAAP, SEC and IRS reporting requirements. Coordinated specialized engagements including acquisition auditing, compilation and review and tax services. Assessed client risk and designed appropriate audit procedures and reviewed and performed analytical and detail substantive audit testing. Prepared tax returns.

Roy P. Wood, Jr.

Area Manager

Education/Training:

AS, Dundalk Community College, Baltimore, Maryland

Other Training:

- Zenger Miller Effective Supervision
- Water Fluoridation Operating Training Certificate of Competency
- Lead and Copper Rule
- Well Rehabilitation and Maintenance
- Road Safety for Water Utilities

Certifications:

Grade VI Wastewater Plant Operator, Massachusetts
Grade IV Water Distribution Operator, Massachusetts
Grade IV Water Treatment Operator, Massachusetts

Professional Memberships:

American Water Works Association
Massachusetts Water Pollution Control Association
New England Water Pollution Control Federation
Water Environment Federation

Background:

Mr. Wood is an Area Manager with Veolia Water North America – Northeast, LLC, an autonomous business unit of Veolia Water North America Operating Services, LLC (Veolia Water). He has more than 20 years of experience in the management of water and wastewater treatment facilities.

Mr. Wood's specialized expertise includes water treatment and distribution operation and maintenance, advanced wastewater treatment and collection system operation and maintenance, technical evaluations, proposal preparation, community and customer relations, and facility economics.

Experience:

- ***1997-Present:*** Serves as Area Manager for Veolia Water, providing oversight, management and support for operations, maintenance and management (O&M) and related services in the State of New Hampshire, and other parts of the region. Provides direct supervision and oversight for water and wastewater treatment facilities in this services area. Manages a staff of project managers in the operation and maintenance of these facilities and ensures contract obligations are met. Also assists with financial management, personnel selection, client interfacing and technical troubleshooting. Provides support to the sales group and is routinely engaged in due diligence efforts.

- ***1996-1997:*** Served as Plant Manager for Veolia Water's contract operations for the Town of Westborough, Massachusetts' water treatment plant and 11 remote water stations. Responsibilities

included process control, maintenance management, budgeting, staffing, training, scheduling, accounting, client and public relations, and all other activities associated with plant operations.

- ***1989-1996:*** Served as Plant Manager for Veolia Water's contract operations for the Town of Sturbridge, Massachusetts' wastewater treatment plant and collection system and water treatment plant and distribution system. Responsibilities included process control, maintenance management, budgeting, staffing, training, scheduling, accounting, client and public relations, and all other activities associated with operating the plant consistent with the terms of the contract.

- ***1987-1989:*** Served as Assistant Plant Manager for Veolia Water's contract operations at Leominster, Massachusetts. Coordinated operations and maintenance activities at the wastewater treatment plant, including scheduling personnel, purchasing, and providing input relative to process control.

- ***1986-1987:*** Served as Operations Coordinator for Veolia Water at the Blue Plains Wastewater Treatment Facility, Washington, D.C.

- ***1985-1986:*** Served as Lead Operator for Veolia Water at the wastewater treatment facility at the Calvert Cliffs Nuclear Power Plant in Maryland.

- ***1984-1985:*** Served as Plant Operator for the Howard County Department of Public Works at the Little Patuxent Wastewater Treatment Facility, Howard County, Maryland.

Mark L. Wetzel, P.E.
Project Manager

EDUCATION

B.S. Civil Engineering
University of Vermont 1978

PROFESSIONAL REGISTRATION

Licensed Professional Engineer in Massachusetts, Vermont and New Hampshire

PROFESSIONAL AFFILIATIONS

American Water Works Association

New England Water Works Association

Massachusetts Water Works Association

Tau Beta Phi Eng. Fraternity

Chi Epsilon Honor Society

AWARDS

Mass Water Works Association – *William McGuiness Award,* 2000

ACEC Massachusetts - *Engineering Excellence Platinum Award - Spruce Road Well Water Treatment Facility,* 2003

Mr. Wetzel has 27 years of waterworks engineering experience including planning, design and construction of new supplies, water mains, pumping stations, storage facilities and water treatment facilities.

Projects with applicability to the proposed project include:

Well No. 6 VOC Treatment Study; Merrimack, New Hampshire: Responsible for a report to evaluate treatment options and costs for a well that was contaminated with volatile organic chemicals. Treatment alternatives that were evaluated included packed tower aeration and granular activated carbon.

Master Plan; Water Supply District of Acton, Massachusetts: Project manager for Master Plan updates completed in 1987 and 1995 to evaluate the impacts of growth on the water system and determine supply development options and plans. A computerized hydraulic model of the system was used to evaluate the distribution system capacity and required capital improvements.

Master Plan; Auburn Water District, Massachusetts: Project manager for a Water System Master Plan that addressed water supply needs, water quality problems, distribution system restrictions and distribution storage needs. The report recommended specific distribution system improvements, replacement of undersized water mains, installation of corrosion control facilities, iron and manganese treatment and an optimization plan for maximizing the District's existing supplies.

Master Plan; Grafton Water District, Massachusetts: Project engineer/manager responsible for Water System Master Plan. A computer model of the system was developed and all proposed system expansions and improvements are simulated to determine available flows, pressures and potential problems. The Master Plan was prepared to evaluate flow restrictions, pressure problem areas and the implementation of new improvements including tanks, new well supplies and water mains. An AutoCAD base map of the Water District system was also developed.

Master Plan; Westford, Massachusetts: Project manager for a comprehensive Water System Master Plan for the Water Department. A comprehensive computer model was developed and calibrated and existing future flow scenarios were simulated. The model included high and low service zones, seven supply sources, four storage facilities and pressure reducing valves. A short- and long-term capital improvement plan was prepared.

Facility Evaluation Report; Wayland, Massachusetts: Project manager responsible for an evaluation of all water department facilities for compliance with regulatory standards, reliability and efficiency and a detailed hydraulic analysis of the system utilizing a computer model was performed. Improvements were recommended.

Master Plan, Tyngsborough Water District; Massachusetts: Project manager responsible for completing a Master Plan that considered the needs of the complete Town and the eventual interconnections and consolidation of the six systems presently serving the Town. Improvement alternatives were evaluated using an AutoCAD-based computer model. AutoCAD water system maps of the existing and proposed water systems were developed.

Dufresne-Henry

Water System Study; Plainville, Massachusetts: Project manager for preparation of a comprehensive water study including analyses of supply capacity, storage and distribution system. AutoCAD-based computer model was used for analysis of distribution system. A short- and long-term capital improvement plan was developed.

Master Plan; Norfolk, Massachusetts: Project manager responsible for water system Master Plan and update in 1985 and 1993. The study included development of capital improvement plan addressing implementation of new supplies, storage and distribution system improvements.

Comprehensive Water System Study; Watertown, Connecticut: Project manager responsible for preparing a Comprehensive Water System Study, in compliance with Connecticut State Requirements. Project evaluated existing system, water supply, future service areas, financial planning and emergency contingency planning. A distribution system model and detailed water system maps were developed.

Water Distribution and Transmission Systems; Grafton Water District, Massachusetts: Project manager, responsible for the design and construction of more than 14,000 linear feet of distribution and transmission mains throughout the District that have included a long-skewed embankment-type railroad crossing, bridge crossings and downtown area replacement mains.

Water Distribution and Transmission Systems; Norfolk, Massachusetts: Project manager responsible for the design and construction of over 10 miles of new large-diameter distribution and transmission system water mains that included state highway, railroad bridge crossings, wetlands crossings, and downtown area replacement. Some projects involved DEP grant funding.

Water Distribution and Transmission System; Westford, Massachusetts: Project manager responsible for the design and construction of over 8 miles of distribution and transmission main improvements. These projects were based on the implementation of recommendations in the system Master Plan Study.

Iron and Manganese Removal Water Treatment Plant Design; Bourne, Massachusetts: Project manager for the North Sagamore Water District's Church Lane water treatment plant. The water treatment plant has a capacity of 2 mgd and greensand pressure filters for removal of iron and manganese. Backwash is to on-site infiltration basins. The project is funded by DWSRF low interest loans.

Iron and Manganese Removal Plant Assessment for Compliance with SDWA; Plainville, Massachusetts: Project manager responsible for the evaluation of the Town's iron and manganese removal plant for compliance with the SWTR as an alternative filtration technology. One of the three wells feeding the treatment plant was determined to be under the direct influence of surface water. The focus of the report was to evaluate simulated *Giardia* and *Cryptosporidium* removal through the pressurized greensand filtration plant through the assessment of particle counts.

Globe Hollow Water Treatment Plant; Manchester, Connecticut: Project engineer responsible for the design and construction services of a 6-mgd surface water treatment facility utilizing conventional treatment process.

Aquifer Protection Planning; Warren Water District, Massachusetts: Provided consulting services to the Water District to develop a water resource zoning overlay district to protect the Town's water resources and supplies.

Aquifer Protection Planning; Westford, Massachusetts: Provided consulting services to a town committee to update the water resources protection bylaws and maps including development of water resource protection boundaries based on geological data.

Interbasin Transfer Permitting; Plainville, Massachusetts: Project manager for the permitting of a new water supply well which required a State Interbasin Transfer Permit. The services included stream flow evaluation, mass water balance, withdrawal analysis, water conservation planning and development of a groundwater management plan.

Aquifer Impact Study; Westford, Massachusetts: Project manager for evaluation of large municipal development on the Town's existing and proposed wells. Study included computer modeling of aquifer and development of a mitigation plan.

Highland Tank; Plainville, Massachusetts: Project Manager responsible for planning, design and construction services for a new 1.5 MG concrete storage tank with an 84-foot diameter and 36-foot side water depth for the Town of Plainville Water & Sewer Department. The project also included 2,600 LF of new 12-inch water main to connect a new water storage tank to the distribution system.

Pondville Water Storage Tank; Norfolk, Massachusetts: Project manager responsible for the design and construction services for a 1.1-MG precast, prestressed concrete water storage standpipe. The standpipe is 75 feet high, one of the tallest concrete tanks in the country. The project also included a dechlorination facility.

Webster Farm Standpipe; Groveland, Massachusetts: Project manager responsible for the design of the tallest precast, prestressed concrete standpipe in New England, with a water depth of 85 feet. The project required special design considerations due to the height and also included a hydrodynamic (mixing) system.

SCADA System; N Sagamore Water District: Project manager responsible for the design/construction services for water system supervisory control and data acquisition (SCADA) system implemented as part of a new well project. Design was computer based for three pumping stations and three storage facilities and utilized radio telemetry for communication to the control office.

SCADA System; Westford, Massachusetts: Project manager responsible for the design/construction services for town-wide water system supervisory control and data acquisition (SCADA) system. Design was computer based for seven pumping stations and three storage facilities and utilized radio telemetry for communication to the control office.

SCADA System; Norwell, Massachusetts: Project manager responsible for design and bidding services for a Supervisory Control and Data Acquisition (SCADA) System for 9 pumping stations and 2 storage tanks. The system used radio telemetry for communications and state-of-the-art software for water system control and monitoring.

Mark L. Wetzel, P.E.
Project Manager

Water System Vulnerability Assessment and Revised Emergency Response Plan; Concord, New Hampshire: Project officer responsible for overseeing the preparation of a vulnerability assessment and emergency response plan for the City of Concord, NH water system. Provided project input on methodology and performed quality control reviews.

Water System Vulnerability Assessment; Watertown, Massachusetts: Project manager responsible for preparing vulnerability assessment for the Town of Watertown, MA, which is part of the MWRA supply system.

Vulnerability Assessment and Emergency Response Plan; Norfolk, Massachusetts: Project manager for preparation of a vulnerability assessment and Emergency Response Plan for a medium-size system with two groundwater supplies and two water storage tanks.

Vulnerability Assessment and Emergency Response Plan; Chelmsford Water District, Massachusetts: Project manager for preparation of a vulnerability assessment and Emergency Response Plan for a medium-size system with 12 wells and five water storage tanks.

Vulnerability Assessment and Emergency Response Plan; North Sagamore Water District, Massachusetts: Provided technical assistance to small water system in order to complete the Vulnerability Self-Assessment in accordance with EPA requirements.

Plainville Water & Sewer Department: Project manager responsible for reviewing water/sewer system extensions, subdivision design plans and providing technical assistance on miscellaneous water and sewer department needs. Some specific assignments include hydraulic analysis, leak detection, water treatment operation, evaluation and DEP regulatory compliance.

Grafton Water District: Project manager responsible for hydraulic analysis, design review, field inspection and testing and miscellaneous engineering services as requested by the Water District. Specific assignments include water quality problems, water distribution upgrades, and regulatory assistance.

Westford Water Department: Project manager responsible for technical services and engineering as requested by the Water Department, including plan review, water quality monitoring/evaluation, CAD mapping and hydraulic analysis. Other assignments include wellhead protection, capacity analysis, and landfill monitoring.

Christopher A. Cockshaw, P.E.
Capital Planning & Modeling

EDUCATION

BS, Civil Engineering
Northeastern University
Boston, MA - 1995

MS, Environmental Engineering,
Northeastern University
Boston, MA - 2001Cum Laude

MBA, Suffolk University
Boston, MA
May, 2005

PROFESSIONAL REGISTRATION

Registered Professional Engineer in Massachusetts and New Hampshire

PROFESSIONAL AFFILIATIONS

- New England Water Works Association (Recipient of the NEWWA Francis X. Crowley Scholarship)

- American Water Works Association - Society of American Military Engineers

PUBLICATIONS AND PRESENTATIONS

"Drought Management Planning" NEWWA 2002 Joint Regional Conference and Exhibition

"Six Leadership Styles" NEWWA, December 2004 Meeting

"Canadian Geese- Effective Team Building in your Organization" NEWWA 2005 Joint Regional Conference and Exhibition

Mr. Cockshaw has over 10 years of experience in water and wastewater system engineering from work performed with previous employers and Dufresne-Henry in Massachusetts and New Hampshire communities. He has direct and current experience on design and construction administration of collection and distribution systems, water storage tanks, water pumping stations, and water treatment facilities. He has authored reports and planning studies including drought management plans, water conservation plans, and watershed management plans.

Projects with applicability to the proposed project include:

Massachusetts Water Resources Authority: Lead design engineer responsible for the design of 18,000 linear feet of new 48-inch diameter water main through Belmont, Watertown and Boston, Massachusetts. The project consisted of a pipe crossing across the Charles River, a pipe and pedestrian underpass under an active railroad, extensive utility relocation, street reconstruction, and traffic management. Critical issues included an extensive alternatives analysis of methods to cross the Charles River and coordination with local, state, and federal agencies.

Water Transmission Main Design - Cape Haze Drive to Fiveland Storage Tank; Charlotte County Utilities, Charlotte County, Florida: Project manager and primary designer for the development of plans and specifications for a one-half mile of 10-inch water transmission main. Work also included the design of an automatic control system for flow into the existing Fiveland Water Storage Tank along with a tank bypass system. The control and monitoring equipment was tied into the existing Data Flow Telemetry.

Water Main Flushing Programs; Melrose, Massachusetts and Washington, D.C.: Project Manager responsible for conducting a unidirectional flushing program for these cities. Duties include creating a water distribution map including all hydrants and valves, establishing flushing methodology and criteria, establishing flushing criteria, creating record keeping procedures, and training local water department personnel on effective flushing program implementation.

Drought Management Plan and Water Conservation Program, North Andover, Massachusetts: Project Manager responsible for development of a Drought Management Plan and Water Conservation Program. The project consisted of defining the limits of the existing water supply by conducting a firm yield analysis, conducting a supply-demand assessment, establishing drought trigger levels, establishing drought mitigation measures, and estimating the expected water consumption savings. Conservation measures included the creation of water system bylaws for lawn watering, the encouragement of low flow plumbing fixtures, and xeriscaping.

Water Distribution System Studies; Amesbury, Massachusetts, Melrose, Massachusetts: Project Manager responsible for the creation of a water distribution model using Haestad Methods software. This study led to a capital improvements plan to implement water distribution system improvements within the town.

Water Distribution System Study; Boston Water and Sewer Commission, Boston, Massachusetts: Project Manager responsible for the creation of a 22,000 pipe water distribution model using H_2ONET software. This study also included a water quality analysis model, for use in tracking contamination or chlorine residual throughout a distribution system. This water model is currently the largest water quality model in the world.

Dufresne-Henry

Christopher A. Cockshaw, P.E.
Capital Planning & Modeling

Water Distribution System Study; City of Fitchburg, Massachusetts: Project Manager responsible for the update of a water distribution model for the City of Fitchburg using H_2ONET software. Since Fitchburg is the second hilliest city in the United States (behind San Francisco, CA), this study focused on the design of three extra-high service areas for the City to address their water storage needs at all their higher elevations. The project involved pump station and storage tank siting, service area boundaries, and cost-benefit analyses.

Water Distribution System Study; Hazardville Water District, Connecticut: Project Manager responsible for the creation of a water distribution model. This model utilized KY-pipe, one of the first hydraulic water models that did not use punch-cards. Although this model is now obsolete, it established the foundation for all water models today.

County-Wide Water Supply Master Plan, Charlotte County Utilities, Charlotte County, Florida: Project manager responsible for the development of a water supply master plan to meet the current and future water resource needs for Charlotte County. The plan evaluated current water sources, potential future water sources, water conservation, and existing water resources including stormwater and groundwater. The infrastructure required to serve the current future water needs was also evaluated. The plan also described the County's position as a part of the Peace River/Manasota Regional Water Supply Authority and the Regional Water Planning Alliance and will describe current regional planning initiatives and directions.

Water Supply System Management Plan/Master Plan; Bristol County Water Authority: Project Manager responsible for development of a Water Supply System Management Plan/Master Plan for the upgrade of a water supply system in Barrington, Bristol, and Warren, Rhode Island. Duties included data acquisition, coordination with local and state agencies, water supply management, water demand analysis, an emergency response action plan, GIS mapping of all facilities and infrastructure, and water quality protection.

Watershed Protection Plan; Newburyport Water Works: Project Manager responsible for the development of a Watershed Protection Plan for the Towns of Newburyport, Newbury, and West Newbury, Massachusetts. Duties included defining the watershed around the existing water supply reservoirs, GIS mapping all land use and areas of environmental concern, creating a sampling program, and establishing controls to protect the watershed and water quality.

Comprehensive Wastewater Management Plan; Plainville Massachusetts: Project Manager responsible for the development of a Comprehensive Wastewater Management Plan for the Town of Plainville, Massachusetts. Duties included an analysis of current wastewater conditions, a projection of build out conditions, a review of on-site systems, GIS mapping all land use and areas of environmental concern, and establishing measures to control wastewater collection system growth. Recommendations included wastewater treatment, wastewater collection, on-site system, and infiltration and inflow improvements.

Vulnerability Assessment and Emergency Response Plan; Concord, New Hampshire: Project Manager responsible for the development of a vulnerability assessment and emergency response plan for the City of Concord's water treatment, distribution, and storage system. The vulnerability assessment included a risk assessment of every resource (infrastructure, personnel, assets) of the water system. A three-phase plan was prepared to provide increased security throughout the system.

Christopher A. Cockshaw, P.E.
Capital Planning & Modeling

Water Audits; Town of Wrentham and City of Brockton, Massachusetts: Project Manager responsible for performing water audits for these communities. Duties included establishing water use history in an effort to establish unaccounted-for water. End result was to define unaccounted-for water locations and analyze water rate structure.

Second Groundwater Source; Milton Water District, Milton, New Hampshire: Project Manager responsible for the design of a second groundwater source for the district by redeveloping an existing wellfield, which was originally installed in 1990 and never put online. Duties included: Completing an alternatives analysis to determine if a surface water solution would be more effective, rehabilitating the existing test wells, water quality testing, groundwater source approval, permit applications, and a large groundwater notification process. Future work includes the design and construction of production wells, a water pumping station, and ductile iron water main to connect to the existing system. Part of this project involves horizontal directional drilling under Milton Pond.

Thomas J. Mahanna, P.E.
Capital Project Execution

Mr. Mahanna is a civil engineer with over 16 years of experience in the field of municipal water works. He has extensive experience in all aspects of water treatment engineering, with particular focus on water storage and distribution design. Mr. Mahanna has managed dozens of water works projects for municipal clients. He is a member of the Massachusetts Water Works Association and New England Water Works Association.

EDUCATION

B.S., Civil Engineering
Merrimack College, 1988

PROFESSIONAL REGISTRATION

Registered Professional Engineer, MA

PROFESSIONAL AFFILIATIONS

Massachusetts Water Works Association
Scholarship Committee
1995 – Present
Chair 2002 - Present

New England Water Works Association
Sponsorship Committee
Scholarship Committee
2004 - Present

PRESENTATIONS

Groundwater Treatment Plants that meet the Surface Water Treatment Rule, Massachusetts Water Works Assoc., Oct. 2003

Treating Barnstable's Water Supply: A discussion of the use of aeration plus off-gas treatment for VOC's, Massachusetts Water Works Assoc., March 1992

Projects with applicability to the proposed project include:

Master Plan, Tyngsborough Water District, Massachusetts: Project Engineer, responsible for developing a Master Plan that considered the needs of the complete Town and the eventual interconnections and consolidation of the six systems presently serving the Town. Improvement alternatives were evaluated using an AutoCAD based computer model. AutoCAD water system maps of the existing and proposed water systems were developed. Master Plan was updated in 2002 to included impacts of three large proposed developments that would double the customer base of the District.

Distribution System Analysis, North Chelmsford Water District, Massachusetts: Project Manager, responsible for hydraulic study of the North Chelmsford Water District using an AutoCAD based computer model. The study was initially undertaken to choose the optimum of six different sites for a new storage tank. The model will continue to be used for future planning and improvements to the system.

Water Treatment Plants; Westford, Massachusetts: Project Manager, responsible for design and construction of two iron and manganese removal treatment plants that treat all eight (8) of Westford's groundwater sources. *The two plants have a total design capacity of 6.0 mgd.* The treatment process utilizes greensand filtration, packed tower aeration for radon removal, and ultra violet (UV) light for disinfection. Each plant has a 350,000 gallon clearwell that is used to meet CT requirements for Groundwater Under the Influence of Surface Water. The Forge Village facility is over 15,000 s.f. and will serve as the new *Operations Center*. This facility includes over 5,000 s.f. of office space. *A $14.3 million zero interest State Revolving Fund (SRF) Loan was secured to assist with the construction costs of this project.* The project also includes design and construction of 5.5 miles of new transmission mains that will connect the wells to the new treatment plants.

Gushee Pond Water Treatment Plant; Raynham Center Water District, Massachusetts: Project Manager, responsible for design and construction of an iron and manganese removal treatment plant that treats the two existing Gushee Pond water supply wells. *The treatment plant has a total design capacity of 2.0 mgd.* The treatment process utilizes an existing aeration facility for VOC removal, followed by greensand filtration in the new plant. Backwash water is discharged to on-site lined infiltration basins.

Riverneck Road Water Treatment Plant; Chelmsford Water District, Massachusetts: Project Manager, responsible for design and construction of an iron and manganese removal treatment plant that will treat six (6) of the Water District's water supply wells. *The treatment plant has a total design capacity of 4.5 mgd.* The treatment process utilizes packed tower aeration VOC removal, followed by greensand filtration. Backwash water is discharged to a separate Backwash Storage Facility that will either discharge the backwash water to the public sewer, or recycle the supernatant back to the treatment plant. *A $6.3 million State Revolving*

Fund (SRF) Loan was secured to assist with the construction costs of this project. The project also includes design and construction of 11,000 linear feet of new transmission mains that will connect the wells to the new treatment plant.

Corrosion Control Study, Barnstable Water Company; Hyannis, Massachusetts: Project Engineer, responsible for evaluating the corrosive nature of water pumped from ten wells in three separate geographic locations. Adjustment of pH with potassium hydroxide, addition of a phosphate-based corrosion inhibitor and provisions for alkalinity adjustment are included in the design of the finished facilities.

Southwick Wellfield Treatment Facility; West Springfield, Massachusetts: Responsible for process piping and treatment equipment design of the Southwick Wellfield Treatment Facility. This facility utilized granular activated carbon GAC pressure filters to remove EDB, a pesticide, from the Town of West Springfield's four gravel packed wells with a capacity of 6.0 mgd.

King Philip Water Treatment Facility; No. Raynham Water District, Massachusetts: Project Engineer, responsible for the design and construction of a water treatment facility to treat two existing groundwater sources. The new facility included packed tower aeration as the primary treatment and granular activated carbon filtration as the secondary treatment, as well as corrosion control and chlorine disinfection. The treatment facility has a capacity of 0.72 mgd. This project also included a new Supervisory Control and Data Acquisition (SCADA) System for all of the facilities within the District.

White Pond Water Treatment Facility; Maynard, Massachusetts: Project Engineer, responsible for treatment process design of a treatment facility that includes packaged filter treatment units to treat 1 mgd from this surface water source. Chemicals used in the treatment process include chlorine dioxide, powdered activated carbon, aluminum sulfate, polymers, sodium hydroxide and sodium hexametaphosphate. A 400,000 gallon concrete storage tank is used to store finished water and meet CT requirements. A sludge thickener and freeze/dry bed are used to manage wastes solids generated by the process. A Value Engineering Study was included with the design.

Meeting House Road Storage Tank; Mashpee Water District, Massachusetts: Project Manager, responsible for design and construction services on a 1.0 MG composite elevated water storage facility. Design services included the tank, over 800 linear feet of access road, connecting water main and utilities, and drainage systems. The tank includes an 80 foot high cast-in-place concrete pedestal with a 1.0 MG steel bowl above. The tank height to overflow is 115 feet.

Twin Peaks Water Storage Facility; Westford, Massachusetts: Project Manager, responsible for design and construction services on a 1.0 MG precast, prestressed concrete water storage facility. Design services included the tank, over 2,000 linear feet of access road, connecting water main, drainage systems and solar powered telemetry equipment.

Transmission Water Mains; Westford, Massachusetts: Project Manager, responsible for design and construction of over 26,000 linear feet of new transmission water mains which connect all of the eight pumping stations in Westford to the two (2) new treatment plants. Project included replacing existing undersized mains on some streets and converting over 80 services to the new treated water mains.

Thomas J. Mahanna, P.E.
Capital Project Execution

Transmission Water Mains; Chelmsford Water District, Massachusetts: Project Manager, responsible for design and construction of over 11,000 linear feet of new transmission water mains which will connect six well pumping stations in Chelmsford to the new Riverneck Road Water Treatment Plant. Project includes three brook crossings.

Dufresne-Henry

Rene LaBranche
Director of Construction Services

EDUCATION

A.S. New Hampshire Technical College, 1985

PROFESSIONAL CERTIFICATION

OSHA Standard 49 CFR 1910.120 for Hazardous Waste Site Operation (40-hour and annual 8-hour training courses)

Mr. LaBranche is the Manchester, NH office leader. He has 20 years of experience in municipal and planning board services, construction management, design and construction of roadways, design and construction of wastewater treatment facilities and collection systems, water distribution systems design, site planning and design, solid waste landfill construction, and QA/QC constructability reviews. As office leader, Mr. LaBranche oversees the day-to-day operations of Dufresne-Henry's Manchester office. This includes supervising project managers, plus technical, clerical and construction services staff.

Rene reviews the constructability aspects of our clients' projects. His constructability reviews are one aspect of the quality control measures which we use to identify inconsistencies or potential issues before projects are completed. These reviews help in creating a workable preliminary design and accurate cost estimates.

Projects with applicability to your project include:

Wastewater Treatment Facility Upgrade, Derry, New Hampshire: Responsibilities included construction management of the second phase of an aeration blower and aeration system upgrade to the Town's 3.0 mgd secondary lagoon WWTF. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Sewer Collection System and Wastewater Treatment Plant SCADA Project; Merrimack, New Hampshire: Responsible for project management of this project which included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Construction Management; Cranston, Rhode Island: Construction project manager for the installation of 60,000 linear feet of 18", 16", and 12" wastewater force mains used for supply and return of wastewater effluent flow for the cooling water of a new 500 megawatt electric generating power plant constructed in Johnston, R.I. The project also included the construction of a 5-mgd supplementary treatment facility, which provides tertiary treatment of the Rhode Island City of Cranston's WWTF effluent. The project also included slip lining of existing sewers, sewer manhole rehabilitation, tie-in of existing sewer services, trench patching, traffic diversions and significant wetlands impacts and re-creation of wetlands. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, and problem resolution.

Construction Management – Influent Sewer Force Main; Derry, New Hampshire: Construction project manager for the installation of a new 20" diameter PVC force main carrying wastewater from the Town's 6-mgd influent pump station 2,000 feet to the WWTF primary lagoon. The project included valve and meter upgrades in the pump station, bypass pumping, trench patching and coordination with the Town WWTF operations staff. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Sewer Main Extension; Milford, New Hampshire: Responsibilities included construction administration of 4,000-linear-foot sewer extension including reconstruction of a railroad grade crossing and roadway intersection. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Sunapee, Georges Mills, Concord, New Hampshire: Construction coordinator responsible for QA, QC constructability review, assigning of construction monitoring personnel on site, review of change orders, dispute and problem resolution, and oversight of construction services on the project. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Radon Removal, Transmission Main, Water Storage Facility; Sunapee, New Hampshire: Responsibilities included oversight of construction services on the project. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Construction Monitoring; Newmarket, New Hampshire: Responsibilities included construction monitoring of the 1.0-mgd water treatment facility upgrade. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, problem resolution.

Corrosion Control Facility Design; Milford, New Hampshire: Responsibilities included project administration of a corrosion control facility. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, and contract closeout.

Water Treatment Facility; Sunapee, New Hampshire: Responsibilities included oversight of construction services on the Town's slow sand filter project. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Water System Telemetry Upgrade; Milford, New Hampshire: Responsibilities included project administration and construction monitoring of the installation of a radio telemetry and control system for the Town's water distribution system. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, and contract closeout.

Water System Improvements; Jaffrey, New Hampshire: Responsibilities included project administration for upgrade of two well pump stations and construction of 0.50 MG and .75-MG water storage tanks, a booster pump station and SCADA system. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Water Distribution System; Milford, New Hampshire: Responsibilities included design, construction, management and administration of an 8,000 lf 12-inch water main project on West Street and Osgood Road. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, and contract closeout.

Well Pumping Station; Tilton, New Hampshire: Responsibilities included construction management and administration for construction of a 1,200-gpm well pumping station. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Water Storage Tank; Tilton, New Hampshire: Responsibilities included site design, construction management and administration for a 1,000,000-gal cast-in-place concrete water storage facility. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Water Main Improvement; Tilton, New Hampshire: Responsibilities included construction management and administration for construction of 20,000 lf of 12" and 16" water main along NH Routes 140 and 3. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Municipal Engineering – Site Plan and Subdivision Plan Review and Construction Services

Mr. LaBranche presently is the leader of the municipal engineering group for Dufresne-Henry's Northeast Environmental Sector, overseeing all planning board, public works and municipal highway department development plan review, construction monitoring, plan compliance monitoring and civil engineering services. We provide similar services in the following communities:

• Alton, NH	Planning Dept.
• Auburn, NH	Planning Board/Board of Selectmen
• Candia, NH	Planning Board/Board of Selectmen/Road Agent
• Hooksett, NH	Planning Dept./Building Dept. Sewer Commission/Village Precinct Highway Dept.
• Merrimack, NH	Planning Dept.
• Milford, NH	Planning Dept./Public Works Dept./Building Dept.
• New Boston, NH	Planning Dept.
• Pelham, NH	Planning Dept.
• Stratham, NH	Fire Dept.

Rene LaBranche
Director of Construction Services

Municipal Planning Boards, New Hampshire: Responsibilities included project administration and construction monitoring for various development projects including roadways, utilities and drainage works in several New Hampshire communities. Responsibilities also included supervision of on-site construction monitoring personnel, coordination and evaluation of materials testing, change order processing, problem resolution, coordination with funding agencies, and contract closeout.

Dufresne-Henry

Appendix B

VEOLIA Water

Appendix B

Appendix B

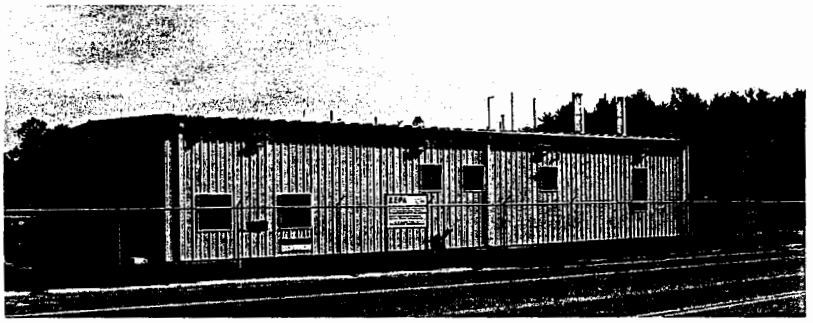
Part One

Veolia Water – Supplemental Experience Information

VEOLIA Water

Savage Wells/OK Tools Superfund Site, Milford, NH

Groundwater Remediation Project



Veolia Water North America – Northeast, LLC (Veolia Water), under a contract that began in 2002, is providing remediation management services for the State of New Hampshire Department of Environmental Services (NHDES). Our firm provides remediation services at the OK Tools portion of the Savage Wells Superfund site. The 0.345- MGD system provides groundwater treatment and source reduction through DNAPL (dense non-aqueous phase liquid) collection and management of migration.

Veolia Water currently operates the on-site remediation systems at the OK Tool portion of the Savage Wells Superfund site.

The cleanup of the OK Tools portion of the Savage Wells Superfund Site began in 1993 when, under supervision of the U.S. Environmental Protection Agency (EPA), the State of New Hampshire began the design of the groundwater remediation system that was put into operation in March 1999. Subsequent modifications of the Record of Decision (ROD) for this site's recommended remedy (including the use of a passive barrier to contain contaminant migration as well as the use of air stripping, air sparging and soil vapor extraction and in-situ chemical oxidation) led the EPA and NHDES to jointly issue an Explanation of Significant Differences (December 1996). This revised remediation approach provides for treating groundwater contaminated with volatile organics, specifically tetrachloroethene (PCE) and trichloroethene, 1-1-1 trichloroethane (TCE), resulting from past industrial operations at the site. The Milford-Souhegan aquifer is classified as a Class IIB aquifer, a potential drinking water source.

The importance of this Aquifer has been highlighted by the pressures of population and industrial growth on water resources in the southern New Hampshire area. The Savage Wells had formerly supplied up to 45% of the Milford Township's potable water supply. When the contaminants were discovered in this supply source, emergency Federal funding was acquired to provide residents of a nearby trailer park with bottled water until a remedial treatment system could be constructed and the park connected to the municipal water supply.

The Veolia Water O&M agreement includes:

- Monitoring of influent water quality and pumping of groundwater from the extraction wells to the treatment plant.

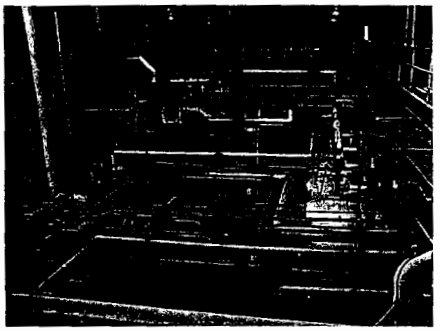
Facilities	• 0.345-MGD groundwater remediation facility
Scope of Services	• Operate/Maintain/Manage • Engineering Services
Start Date	2002
Client Reference	Mr. Tom Andrews, P.E. State of New Hampshire Department of Environmental Services 6 Hazen Drive Concord, NH 03303-6526 Telephone: 603.271.2910

- Monitoring soil vapor extraction/air sparging systems.
- Preparing O&M Manuals for the facility, including protocols and SOPs.
- Providing Value Management services to evaluate the operational and cost effectiveness of treatment alternatives.
- Evaluating shallow extraction well dewatering of the soil vapor extraction zone of the aquifer to determine if all pertinent data is being generated.
- Updating the groundwater model to provide a more accurate representation of the water flow and chemical transport within the barrier.
- Annually evaluating the effectiveness of the systems and updating data and information such as the database and maps.
- Supporting the State and EPA in the preparation of the Five-Year Review, which will evaluate the implementation and performance of the remedy to establish its effectiveness in protecting human health and the environment.

VEOLIA Water

GILSON ROAD SUPERFUND SITE, NASHUA, NEW HAMPSHIRE

Site Remediation and Closure



Veolia Water North America – Northeast, LLC (Veolia Water), under a contract that began in 1986, provided remediation and site closure support services for the Gilson Road Superfund Site for the State of New Hampshire Department of Environmental Services (NHDES). This contract was the first U.S. Environmental Protection Agency (EPA) Superfund groundwater cleanup that was implemented using a contract operations, maintenance and management (O&M) agreement. The site was contaminated with volatile organic compounds, which were removed with high-temperature air stripping. The 0.43-MGD groundwater remediation system also included in-situ volatilization and combustion of the removed organic materials. In 1996 the remediation operations at this site were successfully completed, and Veolia Water completed dismantling of the remediation system at this site was completed in 2001.

Veolia Water provided full-service contract O&M for the Gilson Road Superfund groundwater facility in Nashua, New Hampshire. This contract was the first EPA Superfund groundwater cleanup using a contract operations agreement. Total operating responsibilities at this site included process control, preventive and corrective maintenance, on-site laboratory analysis, and ensuring permit and regulatory compliance.

This project began in January 1986 when a Veolia Water predecessor company first entered into a contract with the State for the startup and contract O&M for the newly constructed 0.43-MGD groundwater plant at the Gilson Road Superfund site. This was the first EPA Superfund groundwater cleanup project implemented under a contract O&M agreement; the agreement was later transitioned to the NHDES.

Under the original contract, Veolia Water provided startup services and O&M, maintained all service agreements, inventories and purchase authority and operated the facility's on-site laboratory.

The treatment facility treated groundwater that was contaminated by the illegal disposal of hazardous wastes to the treatment level required by the Record of Decision (ROD). The treatment system at this site consisted of precipitation, coagulation and isolation of heavy metals; temperature controlled air stripping to remove volatile organics, PACT-biological treatment for non-volatile organics, soil gas extraction, and the incineration of organics extracted from the contaminated groundwater and soil.

Overall removal efficiency for volatile organic compounds by the air stripper was 99.7 percent, with removed compounds incinerated in a high-temperature vapor incinerator. Steam generated from the incinerator was used to produce electricity, heat the building and preheat the groundwater prior to air stripping.

The treated groundwater flowed at 300 gpm and contained 1 percent of input volatile organic solvents; 250 gpm were recirculated into the groundwater to pass through additional treatment cycles, while 50 gpm received biological treatment and was discharged to a local stream. Treatment residuals were stabilized and placed in a secure on-site landfill, which was closed and capped upon project completion.

The Veolia Water O&M team implemented several improvements and innovations at this site to provide for the most reliable, cost-effective operation. These enhancements enabled the facility to have maximum "uptime," and included:

- Placing all extraction well pumps on a biennial preventive maintenance program resulting in substantial cost savings. The pumps were pulled and inspected in house by plant personnel. Inspections included cleaning and the replacement of worn parts. (This work has previously been performed on a corrective need by an outside contractor.)
- Installing a bypass switch on the boiler interlock system to enable recirculation of flow through the recharge system during extended shutdowns to maintain homogeneous conditions. (The original interlock system prevented flow if the boiler was shut down.)
- Redirecting the soil gas extraction flow. When a soil gas extraction system was added to the facility in 1991, the original design was for the

soil gas to be added directly to the boiler/vapor incinerator separate from the stripper airflow. This added system exceeded the boiler capacity, making it difficult to operate and reducing its efficiency. Utilizing a computerized stripping tower program, we determined that the soil gas could be directed to the stripping tower without reducing its efficiency, and eliminate the need for the stripper air blower. This reduced the total airflow volume to acceptable limits.

- Constructing a baffle system to the bio tanks to aid in floc settling.
- Installing a polymer feed line and header system to the bio system.
- Installing a kill switch in the control room to safely shut down the facility at a local point in case of an emergency.
- Installing a curtain system to direct metal sludge from the plate and frame press to the dump truck.
- Installing a lime slurry feed system in the bio-tanks for pH control.
- Designing a catwalk and door extension that eliminated a safety concern associated with access to the bio-tanks.
- Overseeing the closure of the on-site sludge landfill.

As a result of a Remedial Action Evaluation Study completed in 1995, it was concluded that remedial action accomplished at the Gilson Road site had achieved the cleanup goal set forth in the ROD and the Supplemental ROD.

During summer 1996, Veolia Water supervised the closing of the on-site landfill, including fill, grading, drainage net and capping. A security system was installed, and a security company was contracted by Veolia Water to maintain site security when personnel are not on site. We also obtained a contractor to install a new boiler and tie it into the existing steam line system for building heat during winter months. At this point, the facility was then put in a standby mode in accordance with the requirements of the EPA, NHDES and the Remedial Action Evaluation Study.

Following this, all equipment at the site was maintained by the Veolia Water O&M Team in a ready state (able to be reactivated within four weeks if required). During this period all of the equipment was routinely exercised by Veolia Water, and was maintained in line with manufacturers' recommendations, and clean water loops were run periodically to test the equipment.

The State has implemented a long-term (30-year) monitoring program, as recommended by the NHDES, to collect data to document continued compliance with cleanup goals. As added protection for public health, a groundwater management zone was constructed to limit access to groundwater downgradient of the site

Facilities	0.43-MGD Groundwater Remediation Facility
Scope of Services	• Operate/Maintain/Manage • Site Maintenance • Emergency Response • Closure Assistance
Start Date	1986
Client Reference	Mr. Ken Kettenring, P.E. State of New Hampshire Department of Environmental Services 6 Hazen Drive Concord, NH 03303-6526 Telephone: 603.271.4060

In the almost 10 years that this plant operated, from April 1986 to December 1995, over 1 billion gallons of contaminated groundwater was treated.

In 1999, after the second five-year review of the Gilson Road site, the EPA and the NHDES determined that the contaminate levels at the site were reduced to the level that the groundwater treatment plant would not be restarted. A risk assessment found that there was no current or future risk to human health posed by site contamination.

At that point, Veolia Water began work on the final phase of this O&M contract, which involved the decommissioning and dismantling of treatment units, a process that was completed in 2001.

Today, Veolia Water provides site maintenance and emergency response for the State, which is using the facility for storage.

INDIANAPOLIS, INDIANA

Water Supply System Public-Private Partnership

Veolia Water North America - Central, LLC (Veolia Water), is managing the nation's largest water public-private partnership. This 20-year, $1.5 billion contract with the City of Indianapolis includes all operations, maintenance and management (O&M) and customer service facets of the City's waterworks system, a system that currently serves 1.2 million people. This important project is expected to introduce a new level of performance in the water industry.

In April 2002, Veolia Water was awarded the nation's largest water public-partnership, with the City of Indianapolis. This 20-year, $1.5 billion contract includes O&M and customer service facets of the City's waterworks system that currently serves 1.2 million people.

As part of Veolia Water's approach to managing and implementing this project, we have engaged the services numerous local and national firms as subcontractors and suppliers and implemented an aggressive program to include minority-owned (MBE) and women-owned (WBE) business enterprises and contractors for ongoing projects. In 2002, Veolia Water well surpassed our goal for providing subcontracts to local MBE and WBE firms. In addition, our commitment to the Indianapolis community since 2002 has resulted in over $2 million to local non-profit organizations.

"The City of Indianapolis and Veolia Water have and continue to work closely together in a win-win partnership to realize economic and environmental benefits to our entire community, including a five-year rate freeze for our customers. We built this partnership with the interests of the citizens in mind and are pleased with the progress we've made in our first two years."
Mayor Bart Peterson

The Indianapolis water facilities include four water treatment plants, ranging in size from 16 MGD to 96 MGD; eight groundwater treatment plants, ranging in size from less than 1 MGD to 12 MGD; 4,000-mile distribution system; and numerous storage tanks. The Indianapolis system includes19 water pump stations along the distribution system and 12 high-service pump stations at the water treatment plants.

Like most water distribution systems, the Indianapolis water supply system is dynamic with several pressure zones. Fifteen districts and five sub-districts comprise the water system. A district and sub-district are part of the waterworks that is defined by the pressures within the area and is typically isolated from the remainder of the system by one or more pressure reducing valves (PRVs), bleeder valves or pump stations. The Harbour system is comprised of three districts while the Liberty, Darlington and IWC Morgan systems each contain only one district.

The new partnership was an integral part of Mayor Bart Peterson's plan to acquire the assets of the Indianapolis Water Company (IWC) from the regulated utility NiSource, which was required by federal law to divest all of its water utility assets due to a planned merger with Columbia Energy Group. The City first became interested in buying the water company's assets in late 2000, after it became clear that NiSource would have to sell the water company. On April 30, 2002, the City acquired the waterworks system from NiSource, and until the City's purchase of IWC, Indianapolis had been the largest city in the nation that did not own its own water utility.

Veolia Water assumed complete water system operation and management responsibility for the water system on May 1, 2002, and the transition process provided complete O&M responsibility to our firm.

This move by the nation's 12th-largest city marked the largest public-private partnership for water services in the U.S., and Veolia Water transitioned over 460 technical, professional and management level employees to our O&M and management teams.

Veolia Water was selected for this partnership because of our innovative transition plans, employee relations plans, technical approach,

experience, management fees, customer service and local commitment.

"Our partnership is summed up by two issues – local control and quality of life. Through our agreement with [Veolia Water], we are controlling our community's most precious resource, controlling the assets that treat and deliver the resource and stabilizing our water rated."
- Mayor Bart Peterson

In some cities, the sale of utilities has resulted in rate increases. However, due to the acquisition and Veolia Water partnership, water rates for the City of Indianapolis consumers will be frozen for the first five years. The City further contributes to lower operating costs because of favorable tax and interest rate structures.

Other critical factors in winning this project were our aggressive approach to resolving water taste and odor problems that have plagued the waterworks system for years, our commitment to invest in plant upgrades and our incentive-based compensation plan.

Under the incentive plan, a portion of our company's fees are paid only if we meet specified customer service, water quality, operations and other performance measures. By directly linking performance to compensation, this partnership is establishing a new model in the water outsourcing industry. In 2002, Veolia Water earned approximately 90% of the incentive-based compensation.

Water taste and odor problems have plagued some Indianapolis consumers for years. The City and Veolia Water have invested in plant upgrades and engaged Indiana University-Purdue University at Indianapolis in an aggressive research and development project to create a mode of excellence in drinking water quality and also address water taste and odor.

Though the Indianapolis waterworks system is in good condition, Veolia Water has committed to a higher level of performance to be achieved through incentives in customer service, water quality, capital improvements, operations and maintenance, and community involvement.

Veolia Water established a sophisticated customer service program that includes a 24/7 call center to manage customer concerns regarding their water service. The customer service organization is responsible for meter reading for some 325,000 connections. Veolia Water also provides billing and revenue collection for 600,000 accounts. In addition to billing for the waterworks, we provide sewer billing for Indianapolis, and we also supply utility billing for the nearby city of Elkart.

A major portion of this project is devoted to capital improvement projects that are being managed by Veolia Water and implemented by our firm's engineering and construction affiliate, in tandem with local contractors.

Facilities	• Four Surface Water Treatment Plants, ranging in size from 16 to 96 MGD • Eight Groundwater Treatment Plants, ranging in size from 0.86 to 12 MGD • 4,000-mile Distribution System • 31 Pump Stations • 8 Well Fields • 6 Ground Storage Tanks • 7 Underground Storage Tanks • 6 Elevated Storage Tanks
Scope of Services	• Design/Build • Operate/Maintain/Manage • Asset Management • Capital Improvements • Customer Service • Meter Reading (325,000 connections) • Billing/Collection (600,000 accounts) • Community Relations • Site Security Assessment
Start Date	2002 – Ongoing through 2022
Population Served	1.2 Million
Client Reference	Mr. Carlton Curry Director of Operations and Contracts City of Indianapolis Department of Waterworks 1220 Waterway Boulevard Indianapolis, IN 46205 Telephone: 317.264.7738

In the first two years of our contract, we implemented or completed some $94 million in capital work improve the City's aging water infrastructure. The City anticipates commissioning an additional $20-$40 million in capital projects in each of the 20 years of our contract. Veolia Water's engineering affiliate is managing this work, which is being performed by Veolia Water's staff, along with specialty contractors. Throughout these vast and ongoing improvements, Veolia Water provides continuous, uninterrupted water services for 12 water treatment plants having a daily production capability of 200 million gallons.

Veolia Water is initiating a new standard for water utility excellence at Indianapolis. Our specialists are completing the rigorous program to achieve ISO 9001:2000 and 14001:2004 registrations for the City. This effort is anticipated to be completed by the end of 2005.

The Indianapolis-Veolia Water partnership was recognized in 2004 with the National Council for Public-Private Partnerships *Service Award.*

BROCKTON, MASSACHUSETTS

Contract O&M of Municipal Water and Wastewater Facilities

Veolia Water North America – Northeast, LLC (Veolia Water) began providing full-service contract operations, maintenance and management (O&M) services for the City of Brockton's 68,137-m³/d tertiary wastewater treatment plant and two water treatment plants (90,849 m³/d and 4,921 m³/d) in 1988. Water system operations also include two raw water pump stations (151,416-m³/d production capacity) and two water towers. Wastewater system operations include two wastewater pump stations, sludge incineration operations including ash disposal and sludge disposal, and management of an Industrial Pretreatment Program. At the start of this contract, the citizens of Brockton faced serious taste and odor problems in their potable water supply, the result of metabolites secreted by algae and actinomycetes in Silver Lake. Veolia Water worked with specialists from the Veolia Water, S.A. research center in Paris, France, to modify and supplement the existing treatment facilities. Brockton citizens now enjoy some of the finest tasting water in the country and realize operating cost savings of over $500,000 annually. In 2000 our partnership was renewed for 20 years.

Veolia Water operates and manages the potable water and wastewater facilities serving Brockton. The first contract with the City was in 1988 and was innovative in that we provided the first year of O&M service for no cost because of our ability to achieve operational savings of more than $500,000 per year. Over the years the partnership between the City and Veolia Water has been recognized with awards and commendations, and, most recently, was renewed a 20-year term—making Brockton one of the longest-running contracts in the O&M industry.

Over our more than 15-year history in Brockton, Veolia Water has made significant enhancements to the water (WTP) and wastewater (WWTP) treatment processes and facilities, including:

- Cleaning of the sludge lagoons at a fraction of the City's budgeted cost (WWTP).
- Designing and building a filter cloth cleaning system that reduced cleaning time from two days to four hours (WWTP).
- Implementing chemical precipitation of phosphorous with ferrous sulfate to reduce odors, save operational time and equipment use and cut costs (WWTP).
- Installing recording turbidometers on each water filter and plant effluent (WTP).
- Building and installing fine bubble diffused aerators (WTP).
- Implementing a corrosion control program to reduce contaminant levels and drinking water and provide a protective coating for the distribution system (WTP).
- Turning this once garbage-filled 40-acre site into a showplace and bird sanctuary, replacing abandoned appliances, vehicles, oil barrels, etc., with a water garden, exotic fish (in an abandoned clarifier), trees and flowers.

Our fish giveaway is a popular event that ensures interaction between O&M staff and citizens while controlling overpopulation of the clarifiers.

"Brockton is an example of how the public and private sectors can substantially benefit both environmentally and financially from long-term arrangements. The partnership has helped decrease pollution in our community that might not have happened had we not chosen to work with the private sector." **Mayor John T. Yunits, Jr.**

Water O&M

Veolia Water began a 10-year contract to operate Brockton's 90,849-m³/d water treatment plant in 1988. In addition, under this contract, we operate the City's other water treatment facility, the 4,921-m³/d Avon water treatment plant, a direct filtration plant using a Microfloc® system, and two raw water pump stations (151,416-m³/d production capacity) and two water towers. These water plants receive surface water from local lakes. Historically high in turbidity and organics, conventional treatment methods—coagulation, flocculation, sedimentation and filtration—ensure high quality drinking water. Currently, the two plants combined are producing approximately 39,746 m³/d of finished water.

City of Brockton, Massachusetts

At the start of this contract, Veolia Water immediately implemented a detailed audit and performance evaluation at the City's water plants to determine what changes were necessary to optimize plant performance. Based on the findings of the plant evaluation, a report was compiled and submitted to the City listing the immediate needs of the facility. We then immediately initiated two critical programs—corrosion control and filter media replacement.

The corrosion control program entailed the addition of zinc polyphosphate to the system to coat the interior of the distribution mains. This procedure successfully inhibited corrosion of the City's system, which eliminated red water complaints (about 1,500 per year).

The filter media project involved replacing the media and spent anthracite coal with granular activated carbon. This corrected the taste and odor problems the City was experiencing with their water. The water treatment plant now operates well within the state's water quality standards. In addition, nearly every component of the treatment process and the entire interior of the plant were completely refurbished, and the 40-acre plant site has been completely cleaned. Veolia Water also conducted a pilot test of ozone treatment for the water plants. This included planning, design and construction management, and O&M for the ozonation pilot plant, studying ozone's effects on raw and pre-filtered water.

Wastewater Facilities	• 68,137 m^3/d Tertiary Wastewater Treatment Plant • 2 Pump Stations
Water Facilities	• 90,849-m^3/d Surface Water Treatment Plant • 4,921-m^3/d Surface Water Treatment Plant • 2 Raw Water Pump Stations (151,416 m^3/d) • 2 Ground Storage Tanks (43,153 m^3/d) • 1-MGD Water Well (inactive)
Scope of Services	• Operate/Maintain/Manage • Industrial Pretreatment Program • Septage Receiving • Sludge Incineration with Ash Disposal On-site - 2,761 dry tons per year
Start Date	1988
Population Served	110,038
Client Reference	Mr Brian Creedon Water Systems Manager City of Brockton 39 Montauk Road Brockton, MA 02301 Telephone: 508.941.0265

Wastewater O&M

Veolia Water operates the City of Brockton's 68,137 m^3/d tertiary wastewater treatment plant, which is capable of managing peak flows of 62 m^3/d and currently treats about 234,695 m^3/d of municipal and industrial sewage. We also have responsibility for two pump stations, sludge incineration operations (including ash disposal) and sludge disposal (for 2,761 dry tons per year), as well as the City's Industrial Pretreatment Program.

This tertiary treatment plant uses biological and physical processes to reduce nitrogen and phosphorous in the final effluent. Sludge is incinerated and then the ash is landfilled. The facility is often subject to excessive flows and has one of the most stringent effluent discharge permit limits in the State. Despite this, we maintain compliance and have received numerous "Excellent" ratings from local environmental agencies.

A $60-million capital upgrade to the wastewater treatment plant had been engineered and was in progress when a Veolia Water predecessor company assumed O&M responsibility, and they oversaw the process, thereby minimizing downtime during construction of improvements.

Major improvements to the wastewater plant operations under Veolia Water have included switching from lime and ferric chloride to polymer for conditioning, which greatly increased the sludge processing capacity of the presses and incinerator while significantly reducing the cost of chemicals and energy. Implementing our computerized process control system resulted in a more efficient and cost-effective operation. Minor design changes allowed the plant to meet summer discharge limit requirements for the first time, further reducing operating costs. Single-stage nitrification saves many thousands of dollars in electrical, chemicals and manpower costs. An odor control system eliminated odors during the warm months.

Through the efforts of Veolia Water and subcontractors, and at savings estimated as high as $250,000, Veolia Water achieved compliance with new U.S. Environmental Protection Agency (EPA) sewage sludge regulations (503s). Brockton was only the second U.S. facility to receive a 503 incinerator permit.

Veolia Water responded to the City of Brockton's financial crisis by providing the first year of services at no cost, allowing the City to apply its water and wastewater treatment budget to other critical areas. In subsequent years, Veolia Water rebated any unused maintenance and repair funds to the City and shared savings gleaned through efficiencies.

City of Brockton, Massachusetts

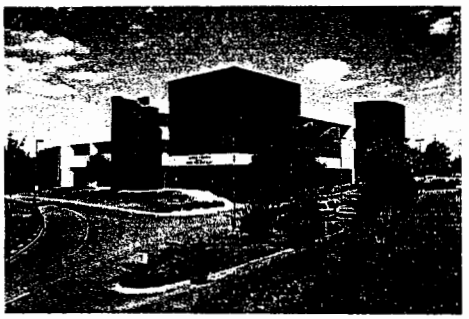
The Brockton wastewater facility has one of the most stringent effluent discharge permit limits in the State. During the past three years, our operation has had no major violations. In addition, the facility received numerous *Excellent* ratings from local environmental advocacy group *Save the Bay.*

The Brockton project has twice been awarded the *Group Safety Award* from the Massachusetts Safety Council and has been a finalist for the Public Water System Award issued by the EPA.

The Brockton water facility was the 1998 second-place recipient of Best Large Plant in the State for Water Quality from the Department of Environmental Protection and the Massachusetts Water Works Association.

City of Lynn, Massachusetts

Municipal Water and Wastewater Treatment Facilities



Veolia Water North America – Northeast, LLC (Veolia Water) has worked with the City of Lynn for nearly 20 years. Today our firm provides comprehensive operation, maintenance and management (O&M) services and design/build services to the City under two separate projects. This includes contract O&M for a 15.3-MGD water treatment plant under a contract that began in 1987, and for a 25.8-MGD wastewater treatment plant, under a contract that began in 1985.

Contract O&M of Raymond F. Reardon Memorial Water Treatment Plant

The companies that are now a part of Veolia Water have operated the Raymond F. Reardon Memorial Water Treatment Plant (pictured above) since the facility was completed in 1989. Our O&M Team was selected by the Lynn Water and Sewer Commission (LWSC) in 1987 to provide startup services for the new plant, and then to provide contract O&M services under succeeding agreements.

The Lynn water treatment plant is designed to treat flows of 15.3 MGD on average, although peak flows of 23 MGD can be provided to the distribution system, if required. On average, the plant produces about 10 MGD of drinking water. The direct filtration treatment facility employs rapid coagulation and multi-media filtration (granular activated carbon, sand and gravel) to remove taste, odor and color-causing constituents from the raw water source. The water system has grown to include multiple surface water sources, including the Saugus and Ipswich rivers and several impounded reservoirs. These ponds act as natural settling basins since it is estimated to take two years for water to travel through them to the low service pump station.

As a part of this contract, Veolia Water provides O&M for the City's 36.8-MGD raw water pump station that feeds this water plant.

Over the past 18 years, Veolia Water has been an active partner with the LWSC in lowering the costs of plant operations and improving the quality of water delivered to the customer. The Lynn water project has achieved 13 years of zero lost-time accidents—an exemplary safety record. The Department of Environmental Protection and the Massachusetts Water Works Association named the facility Best Large Plant in the State for Water Quality in 1998. The project was in second place in 1997 and received an Honorable Mention in 1999.

O&M – Water Treatment Facility

Facilities	• 15.3-MGD Surface WTP • 3 Water Towers • Raw Water Pump Station (36.8-MGD) • 20-MG Low Service Reservoir (clear well)
Scope of Services	• Operate/Maintain/Manage • Capital Improvements
Start Date	1987
Population Served	80,000
Client Reference	Mr. Richard Dawe Superintendent of Water Treatment, Lynn Water and Sewer Commission 400 Parkland Avenue, Lynn, MA 01905 Telephone: 781.595.5200

Contract O&M of the Lynn Regional Wastewater Treatment Facility

In 1985, Veolia Water began a contract with the LWSC for the startup of the new $65-million wastewater treatment facility. The City's selection was based on two major factors: our outstanding record of success in new plant startups and on our excellent working relationships with local regulatory agencies. The wastewater treatment plant receives flows from four communities: the City of Lynn and the Towns of Saugus, Nahant and Swampscott. The facility is a primary and secondary treatment plant, with a primary design to remove settleable and floatable material and a secondary design to remove biodegradable organic and suspended solids. The plant can handle average daily dry weather flows up to 26 million gallons. During wet weather, the plant can treat as much as 111 MGD of sewage and storm flow. The plant uses activated carbon scrubbers to reduce odors from the influent weir well, grit chamber area and sludge thickening complex. The plant features a 12.5-dry-ton-per-day fluidized bed incinerator (two units currently not in operation, pending upgrade/replacement). Ash is disposed at an on-site landfill.

In 1990, Veolia Water oversaw a $53.8-million upgrade to secondary treatment at the wastewater plant. Between 1996 and 1998, we oversaw $10 million in capital improvements at this facility, which included variable frequency drives for influent and effluent pumping, process water pumping modifications, and a new indirect sludge dryer. The LWSC used State Revolving Fund funds for the most recent upgrades.

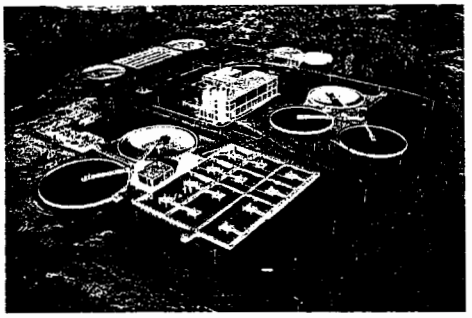
Veolia Water is currently implementing $14 million in capital improvements to the wastewater facility under a three-year program, using a design/build approach. These improvements include a larger fluidized-bed incinerator to replace the two existing incinerators; two high solids centrifuges; modernized SCADA controls; screening upgrades; and an odor control program that includes covering all preliminary and primary tankage and treating the odors from these tanks.

O&M – Wastewater Treatment Facility

Facilities	• 25.8-MGD Pure Oxygen Activated Sludge WWTP • 2 Fluidized Bed Incinerators • 12 Pump Stations
Scope of Services	• Operate/Maintain/Manage • Sludge Disposal (using an on-site landfill) - 4,938 dry tons per year • Industrial Pretreatment Program • Septage Receiving • Industrial Leachate • Capital Improvements
Start Date	1985
Population Served	123,880

LEOMINSTER, MASSACHUSETTS

Contract O&M of Municipal Water and Wastewater Facilities



In a contract operations, maintenance and management (O&M) project that began in 1983, Veolia Water North America – Northeast, LLC (Veolia Water) currently operates and manages the City of Leominster, Massachusetts' 9.3-MGD advanced wastewater treatment plant, a 4-MGD water treatment plant located at the Notown Reservoir, and a 1.2-MGD water treatment plant located at the Fallbrook Reservoir. The project has a 20-year record of no lost-time accidents and has won awards at the regional, state and national levels.

A Veolia Water predecessor company began O&M for Leominster's new wastewater facility in October 1983. Our outstanding record of success in new plant startups and O&M transitions contributed to the award of this contract. This operations project saved the City more than $300,000 a year, savings that were used to fund other important City projects. Our company phased out the existing treatment facility, which was the second activated sludge plant built in the U.S., and our composting and related experience helped the City evaluate alternative sludge-disposal options. A subsequent scope expansion added industrial pretreatment administration to the O&M contract responsibilities.

Thirteen years of successful operation were rewarded in 1996 when the City signed a new and expanded 20-year agreement with Veolia Water. The City's two water treatment plants were added to our scope of responsibility along with $4.5 million in design and construction for improvements to the water facilities. The City had estimated $8 million for the cost of these improvements.

One of the oldest public-private partnerships in the country, Leominster is saving some $300,000 per year in O&M fees and saved $3.5 million in design-construction costs through its contract with Veolia Water

Veolia Water's current O&M contract with Leominster involves operations and management of facilities including the:

- 9.3-MGD advanced wastewater treatment plant and on-site laboratory, with major process equipment includes a comminutor, rapid-mix and flocculation chambers, settling tanks and aerators, contact tanks, reaerator, sludge storage tanks, vacuum filters and lime slakers.

Water Facilities	• 4-MGD Surface WTP • 1.2-MGD Surface WTP • Chlorination Station • 2 Clear Wells (1 MG total capacity)
Wastewater Facilities	• 9.3-MGD Advanced Secondary Activated Sludge WWTP • 9 Pump Stations
Scope of Services	• Operate/Maintain/Manage • Design/Build • Industrial Pretreatment Program Management • Security Vulnerability Assessment • Septage Receiving • Sludge Hauling—1,590 dtpy
Start Date	1983
Population Served	36,000
Client Reference	Mr. Patrick LaPointe Director of Public Works City of Leominster 109 Graham Street Leominster, MA 01453 Telephone: 978.534.7590

- 4-MGD water treatment plant located at the Notown Reservoir. This is a conventional treatment plant whose processes include pre-chlorination, chemical addition, coagulation, flocculation, two-step sedimentation, activated carbon filtration, pH adjustment and post-disinfection.
- 1.2-MGD water treatment plant located at the Fallbrook Reservoir. This plant treats water

through rapid mix chemical addition, flocculation, upflow pulsating clarification, activated carbon filtration and disinfection.

Together, the two water facilities produce about 3 MGD of finished drinking water. The wastewater plant, capable of handling peak flows of 24 MGD, treats about 6.1 MGD on average.

The Notown water treatment plant underwent a major rehabilitation project under the current contract, including the complete replacement of all mechanical and electrical systems and extensive architectural improvements, while the Fallbrook plant received instrumentation upgrades; all accomplished using a design/build approach. In addition, a fully automated, off-site contact tank facility was built to ensure consistent water quality throughout the distribution system.

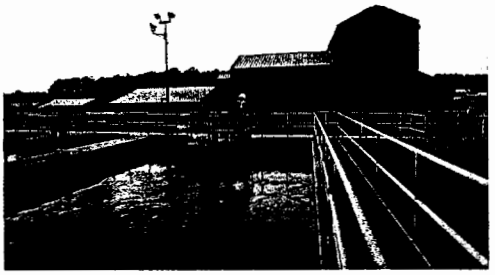
In March 2004, Veolia Water marked 20 years of no lost-time accidents at Leominster, and our operations at these water and wastewater facilities have been recognized with a number of awards at the regional, state and national levels, including:

- O&M Excellence Award from U.S. Environmental Protection Agency (EPA), Region I, in 1999 and 1988
- George W. Burke Safety Award from the Water Environment Federation, Region I, in 1998
- O&M Excellence Award (honorable mention) from Massachusetts Water Pollution Control Association in 1989
- O&M Excellence Award from Massachusetts Department of Environmental Quality Engineering in 1987

In 2002, we conducted a Security Vulnerability Assessment and Emergency Response Plan for the City's water treatment facilities to identify areas of water security risk and to recommend mitigation measures. This assessment focused on identifying critical assets used in the production and delivery of clean, safe water to those served by this system. The Security Vulnerability Assessment report provided recommendations to make those assets more secure.

Veolia Water has also conducted hazardous materials and emergency response training for the City's water and wastewater facilities, and provides routine operations and maintenance training.

O&M of Surface Water Treatment Plant



Veolia Water North America - South, LLC (Veolia Water), in a joint venture with a minority-owned business, provides operation, maintenance and management (O&M) services for the 90-MGD Atlanta/Fulton County North Area Water Treatment Plant. This contract began with the startup of this new regional plant in 1990 and includes operations responsibility for a raw water pumping station (240 MGD capability), and dual 54-inch raw water mains. Over the term of this contract, Veolia Water has worked with the facility owner, the Atlanta/Fulton County Water Resources Commission (AFCWRC) to triple the capacity of this plant using a variety of process improvement and capital improvement approaches. This state-of-the-art facility has also been recognized with a number of awards over the past decade, most recently with the 2004 Gold Award for outstanding compliance from the Georgia Water and Pollution Control Association (GWPCA).

Veolia Water, in a 50-50 joint venture with a minority-owned business enterprise, began O&M for the North Area Water Treatment Plant that opened in November 1990. Major process equipment at the plant includes: raw water traveling screens, grit removers, pumps, chemical addition/feed systems, meters, rapid-mix and flocculation chambers, declining rate filters, clear well storage, and finished-water pumps.

Veolia Water has reduced AFCWRC's water costs nearly $0.1 per thousand gallons over the past 13 years. Indeed, at the end of 2004, accumulated consumer savings in water rates alone totaled more than $14.9 million!

The project includes O&M responsibility for a 240-MGD raw water pumping station, dual 54-inch raw water mains, a 350-million gallon surface reservoir, and the treatment plant which are owned by the AFCWRC, an agency that provides drinking water to consumers in the North Fulton County area of metropolitan Atlanta. The raw water pumping station, located on the Chattahoochee River, and raw water main connect it to the surface water treatment plant. The potable water distribution mains consist of dual 54-inch mains that serve North Fulton County and a 48-inch main that serves the City of Atlanta.

The state-of-the-art facility attracts many visitors each month, from local school children to water treatment experts from around the world. Veolia Water is responsible for providing site tours and offers internship opportunities for local college students.

As one of the U.S.' largest drinking water treatment plants, the AFC facility captures considerable recognition. This multi-award winning partnership is a model for successful public-private partnerships.

The scope of work for this project has involved all aspects of facility O&M, as well as working with the plant owner, the AFCWRC, for facility expansion and upgrade. Over the past decade of O&M at this water plant, Veolia Water implemented a pilot program to increase the plant's 30-MGD production capability to meets its rated flow capacity of 45 MGD (as rated by the Georgia Environmental Protection Division, GEPD), with no capital expenditures.

Subsequent efforts further increased the plant's rated capacity to 56 MGD. The plant is designed for an ultimate treatment capacity of 135-MGD. The demand for potable water is so great that the Commission began Phase II earlier than planned to upgrade the plant to 90 MGD. The plant has been running at this new flow capacity since March 1998.

Veolia Water's O&M program has reduced the power, chemical, and overall operations costs for this facility. Cost savings are passed on 100 percent to the AFCWRC.

In addition, Veolia Water has had no change orders to the contract even though the plant capacity expanded to 90 MGD under our current contract.

The performance of Veolia Water, and our joint venture partner, has been recognized with a number of awards over the more than a decade

that we have operated and managed this facility, including:

- 2004 – GWPCA Safety Award for the Surface Water Category
- 2003- The facility received its sixth award for the Outstanding Operation of a Water Treatment Plant in the Category of 15 MGD and Above from the GWPCA.
- 2005 & 2001 - The facility received Gold Excellence Awards for Safe Drinking Water Act compliance from both the USEPA, Region IV, and the Georgia Environmental Protection Division (GAEPD).
- 2000 – The facility received Outstanding Operation of a Water Treatment Plant greater than 15 MGD from the GWPCA and an Award of Excellence for Superior Safety Record from the American Water Works Association. Additionally, the project was the Southern region winner of Veolia Water Excellence in Operations (OPEX) Award.
- 1999 – The facility received three honors from the GWPCA: Outstanding Operation of a Water Treatment plant greater than 15 MGD; Public Education Award; Safety Awareness Award.
- 1998 – A staff member received the Operator of the Year for District Three award from the GWPCA.
- 1997 – The facility received two USEPA, Region IV awards: Safe Drinking Water Excellence Award and Water Taste Challenge Award; three GWPCA honors: Safety Awareness Award, Outstanding Operation of a Water Treatment Plant in the Category of 15-MGD and Above, and Operator of the Year for District III; and the GAEPD Excellence Award – Safe Drinking Water Act. It also received the Education Award from Spelman College.
- 1996 – The GWPCA bestowed three awards on the facility: Outstanding Operation of a Water Treatment Plant in the Category of 15-MGD and Above, Safety Awareness Award and Plant of the Year. The USEPA gave a Certificate of Appreciation for the Drinking Water Taste Challenge Test.
- 1995 – The facility earned the EPA's Best Tasting Water in Georgia award.
- 1994 – The facility received the Drinking Water Taste Challenge Test Award from the USEPA, Region IV.
- 1992 and 1991– The facility received Outstanding Operation of a Water Treatment Plant in the Category of 15-MGD and Above from the GWPCA.

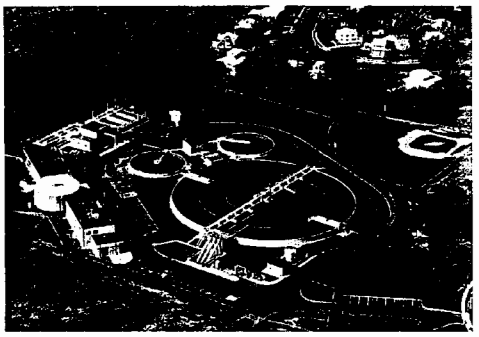
This O&M contract has been renewed three times.

In 2002, Veolia Water conducted a Security Vulnerability Assessment for the North Area Water Treatment Plant to identify areas of water security risk and recommend mitigation measures. This assessment focused on identifying critical assets used in the production and delivery of clean, safe water to those served by this system. This assessment was conducted in accordance with the requirements of the EPA and the Sandia National Laboratories Model protocols (which is the accepted standard for the industry).

Facilities	• 90-MGD Surface Water Filtration Plant • Raw Water Pump Station (Five pumps/240 MGD capability) • Clear Wells (Four 5.5 million gallon capacity units)
Scope of Services	• Operate/Maintain • Reservoir Maintenance (400 million gallon capacity) • Customer Service • Security Vulnerability Assessment
Start Date	1990
Population Served	350,000
Client Reference	Ms. Kathy Crews Interim General Manager A/F County Water Resources Commission 9750 Spruill Road Alpharetta, GA 30202 Telephone: 770.664.7455

Township of Maple Shade, New Jersey

Contract O&M of Water and Wastewater Facilities



Veolia Water North America – Central, LLC (Veolia Water) assumed operation of the Maple Shade's water and wastewater facilities in August 1988 while the Township was under consent orders from the New Jersey Department of Environmental Protection as well as the U.S. Environmental Protection Agency (EPA). Within 10 weeks, we brought the wastewater facility into compliance.

Veolia Water provides comprehensive O&M services for Maple Shade's 2.4- and 2-MGD ion exchange water treatment facilities. We also serve the Town's wastewater facilities, which include a 3.4-MGD advanced wastewater treatment facility and six pump stations ranging in capacity from 1,000 gpd to 3,000 gpd. Veolia Water also maintains approximately 55 miles of wastewater collection and water distribution systems.

Veolia Water assumed operation of these facilities in August 1988 while the Township was under consent orders from the New Jersey Department of Environmental Protection as well as the EPA. Within 10 weeks, we brought the wastewater facility into compliance.

Veolia Water has maintained the operation of the Township's aging water treatment plants and distribution system without violations and without loss of service. Water is treated for iron using ion exchange. Chlorination and pH adjustment are also part of the treatment process for disinfection and stabilization.

The Township's water facilities, which date in part from 1925, have undergone continuing rehabilitation to guarantee consistent water quality. This has included the development and implementation of a capital improvement program and the replacement of distribution lines and other equipment that was no longer functioning properly because of age.

In 1990, Maple Shade's advanced extended aeration wastewater plant was brought on-line. Veolia Water operated the facilities through startup and managed the transition to the new facility. On startup, the plant was brought into compliance and has maintained this level of performance. Veolia Water has also developed and implemented an industrial pretreatment program that led to the Township imposing fines on several industries.

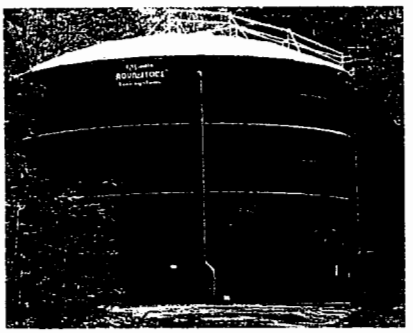
Maintenance of all systems is managed through our proprietary computer data management system, which provides a proactive response to maintenance needs and record keeping for all maintenance activities. Veolia Water reimburses 100% of the unused repairs and maintenance budget each year. In addition, Veolia Water assists the Township with regulatory matters and has succeeded in defending the Township's position with DEP to raise the phosphate limits on its permit. The American Water Works Association awarded this project its President's Gold Performance Award two consecutive years.

Facilities	• 3.4-MGD Envirex Tertiary WWTP • Collection System (53 miles) • 6 Pump Stations • Biosolids Disposal — 438 dtpy • 2.4-MGD Ground WTP • 2-MGD Ground WTP • 5 Wells (1.8 MG) • 1 Elevated Water Tower/1 Standpipe (1 MG) • Distribution System (55 miles) • Meter Replacement Program
Scope of Services	• Operate/Maintain/Manage • Customer Service • Industrial Pretreatment Program • Security Vulnerability Assessment (Water Facilities)
Start Date	1988
Population Served	19,500
Client Reference	Mr. George Haeuber Township Manager Maple Shade Township Maple and Main Streets Maple Shade, NJ 08052 Telephone: 609.779.9610

VEOLIA Water

SOUTHERN WATER AND SEWER DISTRICT, KENTUCKY

Operations and Management of Public Works



Under a contract that began in 2000, Veolia Water North America –South, LLC (Veolia Water) and the Southern Water and Sewer District of Floyd County, Kentucky, joined forces to expand the District's water system and find solutions to water losses. Veolia Water designed, financed and built 24 miles of new distribution system, adding three pumps and three tanks, to bring 500 additional connections into the water and sewer district. We are also responsible for the contract operations, maintenance and management (O&M) for the water system under a long-term agreement. The water system includes a 2-MGD surface water treatment plant, 285 miles of water lines, 25 pump stations and 24 water storage tanks. Veolia Water also provides meter reading, meter replacement, billing and collection, as well as customer service.

Veolia Water and the Southern Water and Sewer District of Floyd County formed a public-private partnership in May 2000 to expand the District's water system and find solutions to water losses. Under this long-term, 20-year, contract, our firm has designed, financed and built 24 miles of new distribution system, adding three pumps and three tanks, to bring 500 additional connections into the water and sewer district. A second expansion project followed to bring additional customers onto the system. A third segment is underway that will bring the total of additional lines to approximately 100 miles and new connections to some 1,500.

Under this contract, Veolia Water operates, maintains and manages the District's 2-MGD drinking water plant and existing distribution system. This multi-media surface water plant processes water from the Levisa Fork of the Big Sandy River to drinking water standards. The plant treats river water through flash-mixing, chemical addition, coagulation, flocculation, clarification, filtration and disinfection. The distribution system currently consists of 285 miles of lines, 13 pump stations and 24 ground storage tanks.

Unaccounted for water losses, estimated to exceed 50 percent, presented a serious financial and environmental burden for the community. Veolia Water immediately initiated a program of distribution line repair and meter replacement to curtail losses. At the end of the first year of operations, losses had been reduced by 20 percent.

Additionally, Veolia Water has implemented a management program to help integrate the Beaver-Elkorn and Mud Creek water districts into the newly formed Southern Water and Sewer District. All existing District employees were offered employment with Veolia Water at equal wages and better benefits. They are receiving training in new technologies and in our stringent maintenance and safety programs.

Facilities
- 2-MGD Surface Water Treatment Plant
- Distribution System (285 miles)
- 25 Pump Stations
- 24 Water Storage Tanks (2.8 MG)
- 0.1-MGD Extended Aeration Wastewater Treatment Plant (startup 3/05)

Scope of Services
- Operate/Maintain/Manage
- Design/Build Services
- Project Financing
- Purchase 0.3 MGD
- Meter Reading
- Meter Replacement Program
- Billing/Collection
- Customer Service
- Security Vulnerability Assessment
- Capital Expansion Program

Start Date 2000 – Ongoing through 2020

Population Served 18,090

Client Reference
Mr. Brett Davis
Deputy County Judge
County Courthouse
Martin County
Prestonsburg, KY
Telephone: 606.886.9193

VEOLIA Water

Southern Water and Sewer District, Kentucky

Veolia Water developed an innovative plan to reduce the financial impact of the improvements and expansion on the District and the residents.

Many customers along the distribution system were not connected and multiple homes were connected to a single meter. We offered customers the opportunity to connect to the system at a reduced connection fee with a deferred payment plan. Additionally, we provided the District with a first-year concession fee.

District revenues will increase drastically as water losses are further curtailed and the customer base increases. In addition to arranging long-term financing for the District, we immediately began applying for State grants and low-interest loans to help the District expand even further.

Veolia Water rapidly mobilized to address the immediate needs of this client. In the first few weeks of the project, new equipment was provided to ensure extensive repairs and line and facility maintenance were done efficiently and correctly. Work included repairing water line and fire hydrants, locating valves, and modifying the water treatment plant.

In 2005, the District's customer base of 6,030 is nearly the twice the original 3,800 served prior to Veolia Water's O&M.

Operation and Management of Public Works

This public-private partnership, which began in 1987 with a contract for the operations, maintenance and management (O&M) of the City's wastewater system, now involves the operation and management of the public works and utility systems (water, wastewater, natural gas, and sanitation), systems that serve a population of more than 7,000. Over the years, Veolia Water North America –South, LLC (Veolia Water) has worked with the City to achieve cost savings, implement system improvements, and to lower the overall cost of service to the citizens of Pikeville. Over the course of the contract, Veolia Water has also saved the City over $1 million in capital costs and more than $200,000 in O&M costs, all while improving utility services to the citizens dramatically. This record of accomplishment has been recognized with a number of awards for this project, including the Governor's Environmental Award for Best Operated Water Treatment Facilities, and recognition as one of the top five small plants in the State of Kentucky, by the American Waterworks Association and the Kentucky/Tennessee Water Environment Association.

Under a contract that has been renewed or extended seven times, Veolia Water provides O&M for the City of Pikeville's utility systems, including water, wastewater, natural gas, and sanitation.

Our first contract with the City was in 1987, and involved providing complete O&M services for the City's existing trickling filter wastewater treatment plant, as well as their 4.8-MGD water treatment facility.

When Veolia Water assumed O&M responsibility, it was recognized that the existing wastewater treatment plant was overloaded, and was suffering from hydraulic and organic loadings (as high as three to four times the original design load) problems.

To address this problem, we assisted the City in building the new 2-MGD extended aeration wastewater plant. Using a DBO approach, Veolia Water worked the City's engineers to design and build this facility under a fixed, not-to-exceed price with a long-term warranty covering the plant and equipment. Veolia Water also assisted the City with the 201 Planning Process and obtained a new loan under the State Revolving Loan Fund. Construction of this new facility began in 1989, and it began treating flows in 1991 with first phase completion; the second and final phase of construction was completed in 1992.

This contract also involved providing startup and management services for a new regional water treatment plant. The City's new 6-MGD surface water plant utilizes processes that include chemical coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation, and the system includes storage and high-service pumps. The raw water pumping for this plant station is equipped with a combination of in-stream filters and mechanical screens.

Veolia Water's contract was expanded in 1989 to include the operation of the Public Works Department, which encompasses water distribution, customer service, sewer collection, gas distribution, garbage collection and street maintenance.

One of the challenges of the Public Works function is the maintenance of the City's drainage system, which was constructed as part of a large-scale civil engineering project—where the Levisa Fork of the Big Sandy River was relocated out of downtown Pikeville along with a railroad line and road through a cut-through in a mountain. The resulting drainage system involves redirecting streams into a manmade lake, which acts as an equalization basin in heavy rain. A flood gate and pump are used on the creek to pump water out during high water events. The system consists of pipes and culverts of metal, PVC and concrete ranging in diameter from 6 to 48 inches. The pipes and catchbasins are cleaned on a periodic basis. The streams within the City are also cleaned periodically to remove debris and buildup of sediment and rock. In addition, Veolia Water operates a street sweeper daily to help keep coal dust generated from extensive truck traffic from clogging the stormwater system.

Over the course of this contract Veolia Water has handled several disaster flood events. In 1997, as a result of stream flooding, roads were washed out, a mudslide claimed two houses, culverts were blocked, and flood pumps were put into operation. This event occurred while utility O&M resources were severely strained, mobilizing to handle the multiple problems simultaneously. The successful management of these events

involved coordinating the assistance from outside contractors and the Kentucky Department of Environmental Services.

In late 1999, our contract was extended for an additional term. We provided $.5 million to match State and Federal funds for upgrades to the water treatment system. Improvements to the raw water intake station included a new grit cyclone and overall rehabilitation. At the treatment plant we added a fifth multi-media final filter, additional telemetry and converted from chlorine gas to sodium hypochlorite for disinfection. In the distribution system, we added a new 0.5 million gallon ground storage tank for finished water, a new pump station and more fire hydrants. These improvements resulted in a reduction in the City's ISO rating from six to four, which means lower insurance premiums and even more savings.

In 2003, we replaced all the collection, distribution and natural gas lines in historic downtown Pikeville.

The City of Pikeville again demonstrated its confidence in Veolia Water in 2004. Yet another scope expansion turned over responsibility for the City's landscaping and parks department. Veolia Water will provide regular mowing for the parks and cemeteries, landscape park entrances and maintain the ballfields and pool. Further, we are charged with event scheduling for public and sports teams' use of the parks and ballfields.

Veolia Water has also maintained a strong commitment to the Pikeville community over the years, working to improve the overall quality of life by providing donations and assistance to meet community needs. Among the community-related activities that we have sponsored and been a part of are:

- Hillbilly Days - Cooking and providing barbecue for the Annual City of Pikeville's Employee Picnic.
- Youth Sports - Sponsoring and assisting in coaching children's baseball and softball teams.
- Education - Donating to and sponsoring classes at Pikeville College, and teaching special courses on water treatment at Pike County Schools.
- Community Beautification - Working with the Chamber of Commerce and Downtown Association on beautification efforts.
- Community Betterment - Cooking and providing barbecue for the "Hammering in the Hills" Habitat for Humanity event, an event in which former President Jimmy Carter participated, where we provided meals to over 1,500 people.
- Tours and Open Houses - Sponsoring water plant tours, including one for students of Mud Creek Elementary School in Floyd County.

Wastewater Facilities	• 2-MGD Extended Aeration Wastewater Treatment Plant • Sludge Disposal — 388 dtpy • 14 Pump Stations • Collection System (54 miles)
Water Facilities	• 6-MGD Surface WTP • Raw Water Pump Station (4 MGD) • 18 Water Towers • 14 Water Pump Stations • Distribution System (74 miles)
Scope of Services	• Operate/Maintain/Manage • Full Public Works • Customer Service • Meter Reading and Meter Replacement Program (Water) • Collection and Distribution System Rehabilitation • Septage Receiving • Natural gas distribution • Sanitation (collection and transfer station) • Industrial Leachate • Customer Service • Parks/Cemetery Maintenance & Landscaping • Swimming Pool • Ballfield Scheduling
Start Date	1987 - Ongoing
Population Served	7,000
Client Reference	Mr. Donovan Blackburn City Manager City of Pikeville 118 College Street Pikeville, Kentucky 41501 Telephone: 606/437-5100

The public-private partnership between the City and Veolia Water has also been recognized with a number of awards. In 1999 and 2000, the Pikeville water plant was among the top five small plants in the state, according to the American Waterworks Association and the Kentucky/ Tennessee Water Environment Association. In 1989, the City's water facility received the Governor's Environmental Award for Best Operated Water Treatment Facilities, and the Outstanding Community Water Management award from the Kentucky Natural Resources and Environmental Protection Cabinet.

The City of Pikeville is a dynamic community, which has faced many challenges during the course of the Veolia Water's contract, and we have worked with the City to address these challenges by providing a comprehensive

range of support services and resources. Veolia Water has saved the City over $1 million in capital costs and $200,000 in O&M costs. In another example, Veolia Water implemented a water and gas meter change-out program, which has produced over $200,000 a year in additional revenue for the City, without raising water rates. In addition, Veolia Water provided $500,000 in capital to the City to match State and Federal funds for the upgrade of their water plant, and we prepared and received a two percent low-interest loan for the City to purchase new solid waste truck.

TAUNTON, MASSACHUSETTS

Total Asset Management for Municipal Wastewater Facilities

In 1998, in a historic first-ever agreement, the City of Taunton entered into a 20-year public-private partnership with Veolia Water North America - Northeast, LLC (Veolia Water) for the Total Asset Management of its wastewater treatment facility and Pollution Prevention (P2) program. In addition to traditional operation, maintenance and management (O&M) responsibility, Veolia Water assumed complete responsibility for all facility maintenance and repair expenses as well as capital repair or replacement items.

Veolia Water provides Total Asset Management for the City of Taunton's wastewater collection and treatment facilities. This includes operating and managing facilities that include an 8.34-MGD wastewater treatment system, 27 lift stations and biosolids (sludge) disposal for 1,570 dry tons per year. The plant has peak flow capabilities of 22.4 MGD and treats average flows of about 7.2 MGD.

The City's wastewater facility provides advanced treatment of municipal and industrial waste. This treatment facility uses preliminary bar screens and comminutors, an activated sludge treatment process, secondary clarification, with chlorine disinfection and dechlorination. Solids from the treatment process are dewatered, using a centrifuge, and then disposed of by landfilling.

This advanced secondary treatment plant operates with seasonal limits on ammonia, and treats influent flows for metals from local industrial process. Compliance issues, odors and combined sewer overflows netted the City an Administrative Order from the U.S. Environmental Protection Agency (EPA). Veolia Water brought the facility into compliance with the Order while saving the City of Taunton millions of dollars in construction costs. Throughout construction, compliance was exceptionally good and odors were reduced. Veolia Water also assists the City with all permit issues and represents them to environmental regulators.

This contract, a historic and first-ever type of agreement, began in 1998. It is a 20-year Public-Private Partnership with Veolia Water responsible for providing Total Asset Management of the City's wastewater treatment facility and P2 program. A unique aspect of this agreement with the City of Taunton is a P2 community awareness program, where our staff are responsible for developing and presenting an educational program to local businesses, industries and citizens, educating them as to how their day-to-day activities contribute to the abatement and prevention of pollution in Taunton. The City's Industrial Pretreatment Program (IPP) program calls for extremely low limits for silver, which is difficult for the 11 metals finishers industries to meet, and these educational efforts have aided these industries in striving to meet these requirements.

The City's IPP program involves monitoring and enforcement for 24 Significant Industrial Users (SIUs). This includes conducting site inspections and sampling events, preparing permits and enforcement actions, and submitting an annual report to U.S. Environmental Protection Area (EPA). Veolia Water also hosts a City-wide annual household hazardous waste collection day, and prepares a quarterly pollution prevention news-letter for distribution to local industries and City officials. We also collaborate with the Taunton River Watershed Alliance on a monthly volunteer river monitoring program for 17 sites along the Taunton River.

"We have effectively cut the cost for... necessary capital improvements by more than half...The City will save more than $62 million...while providing rate stabilization over the next 20 years."
- Mayor Robert G. Nunes

Under the Total Asset Management approach, Veolia Water has O&M responsibility, as well as complete responsibility for facility maintenance and repair expenses, and capital repair or replacement items.

The City has funded $11 million in capital improvements using State Revolving Fund money from the Commonwealth of Massachusetts. As this capital improvement work proceeded, the primary challenges of this project included the

normal operation of the facility and maintaining compliance. As various segments of the treatment process were taken off-line for upgrade or rehabilitation (or were interrupted for other work), Veolia Water project staff employed innovative methods for ensuring the continued effective operation of the wastewater facility.

Odors historically had been an issue for the wastewater plant's neighbors, and Veolia Water implemented a stringent odor control plan immediately at startup. A primary component of this plan was the Good Neighbor Advisory Committee. Comprising facility neighbors and project management, the members of this Committee work together to identify sources of odors and other possible nuisances, such as noise or night-time lighting, and reduce or eliminate them as quickly as possible. Through pagers or a special hotline phone number, area residents can notify project management at the first sign of a possible problem. Other steps to address odors have included process modifications and facility housekeeping.

Veolia Water is an active member of the Taunton community. Among the ways we have demonstrated our corporate citizenship are:

- $1000 annual scholarship to Taunton High School for students who pursue a career in environmental science.
- $1000 annual donation to the Adopt-A-Park program to clean up and improve City parks.
- $250 per year to Weir River Festival. The wastewater facility is located in the Weir section of Taunton along the banks of the Taunton River.
- $500 per year to the Mayor's Worthy Cause, a summer-time parks program for youth.
- Donations to the Taunton Patrolman's Association for Child Identification Program.
- Participate in "Project Intern," a program that places high school students in the workplace for real-life experiences.
- Assist students with science fair projects.
- Judge at the high school science fair.
- Member of the Taunton Public School Science and Technology Community Advisory Council.

Facilities
- 8.4-MGD Advanced Secondary Wastewater Treatment Plant
- 30 Lift Stations

Scope of Services
- Total Asset Management
- Design/Build
- Operate/Maintain/Manage
- Industrial Pretreatment Program
- Septage Receiving
- Industrial Leachate
- Combined Sewer Overflow Management
- Biosolids Disposal - 2,184 dry tons per year

Start Date 1998

Population Served 26,500

TAMPA BAY WATER, FLORIDA

Regional Water Facility – Design/Build/Operate Project

On October 11, 2002, Veolia Water North America - South, LLC (Veolia Water), dedicated a new water regional water treatment plant for Tampa Bay Water in Florida, completing a more than two-year design/build project. The project began in April 2000 when, following a year-long selection process among four competitive teams, Tampa Bay Water awarded a $135-million, 15-year (with a 5-year option) contract to Veolia Water for the design, construction and operation, using the DBO delivery approach, of the agency's regional surface water treatment plant. In 2003, the facility received the prestigious *Infrastructure Award* from the National Council for Public-Private Partnerships (NCPPP).

To implement this project for Tampa Bay Water, Veolia Water brought together a management and O&M team from the resources of our firm, a design/build team from our Engineering & Construction group, including local engineering and construction partners, and process and technical experts from our parent company, Veolia Water, S.A., to support the implementation of the ACTIFLO® treatment process. This new water treatment plant is designed to meet the treatment requirements of Hillsborough County; the Southwest Florida Water Management District; Florida Department of Environmental Protection; as well as those of the U.S. Environmental Protection Agency (EPA).

"Eighty million dollars represents compelling savings," said Jerry Maxwell, the General Manager of Tampa Bay Water. "These savings translate into lower water rates for our residents. Forward-thinking utilities have to consider the benefits of working with a private-sector partner that provides access to the latest technology and operational economies of scale."

Water from the three supply sources is treated to levels that exceed current EPA Safe Drinking Water Act requirements. In addition, the plant was constructed in an environmentally sensitive area and required an innovative process and design approach. Tampa Bay Water, a consortium of six municipalities, is the largest wholesale supplier of water in Florida, providing water to its members who in turn supply it to nearly two million residents of the area. Consumers reside in the cities of New Port Richey, St. Petersburg and Tampa and the counties of Hillsborough, Pasco and Pinellas.

Facilities	• 66-MGD ACTIFLO Surface Water Treatment Plant • 30-MGD Hydrogen Sulfide Removal Water Facility
Scope of Services	• Design/Build • Operate/Maintain/Manage
Start Date	• 2000 – Construction • 2002 – Operation and Maintenance
Population Served	1,500,000

The project began in April 2000 when, following a year-long selection process among four competitive teams, Tampa Bay Water awarded a $135-million, 15-year (with a 5-year option) contract to Veolia Water for the design, construction and operation, using the DBO delivery approach, of the agency's regional surface water treatment plant.

In August 2000, the plant capacity was increased to 66-MGD, raising the overall contract value to $144 million.

The project includes $79 million in capital (construction) costs, and $56 million in O&M fees, which are expected to generate a 21% savings, or about $85 million, over the 20-year life of the project.

The public-private partnership is Veolia Water's largest in Florida, and the plant is among the most technologically sophisticated in the world. The project is expected to save the region millions over the 15-year term of our contract, and costs are a significant issue in the Tampa Bay region because the agency was required to cut groundwater

pumping at long-producing groundwater wells at the end of 2002, and the plant is the cornerstone in the first phase of its regional Master Water Plan. Because the new sources of water are more expensive to develop and supply than the area's traditional groundwater, the agency – and the region's water customers – are concerned with rising costs.

In 2003, the facility design was recognized with several prestigious awards, including:

- *Infrastructure Award* from the National Council for Public-Private Partnerships.
- *Build America Award* from the Associated General Contractors of America.
- *Grand Prize – Design* from the American Academy of Environmental Engineers.

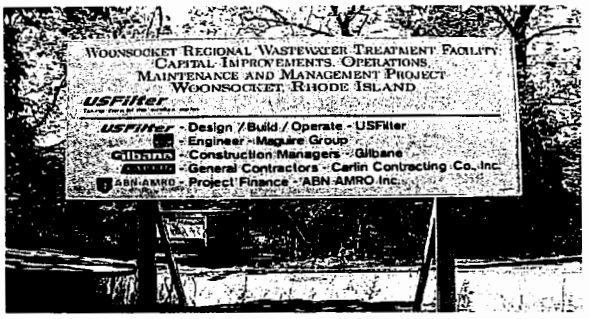
The NCPPP awards process is arduous and designed to identify the best in public-private partnerships. Tampa Bay Water and [Veolia Water] should be proud to be one of the few selected for this prestigious award."
- Richard Norment, Executive Director for the NCPPP

Other project awards include the *2003 Facility Excellence Award* from Region IV, Florida Water & Pollution Control Operators Association and a *Safety Award* from Veolia Water North America for one year no lost-time accidents.

Under a separate contract with this same client, Veolia Water, in 2002, began providing contract O&M of the S.K. Keller Hydrogen Sulfide Treatment Facility. This is a 30-MGD system that addresses the needs of groundwater supplies.

WOONSOCKET, RHODE ISLAND

Design/Build/Operate Project for Wastewater Facilities



Seeking facility enhancements and upgrades with no up-front costs, the City of Woonsocket entered into a 20-year agreement with Veolia Water North America - Northeast, LLC (Veolia Water) in 1999. Improvements being implemented under this agreement are plant-wide, touching virtually aspect of the treatment process at the City's 16-MGD secondary activated sludge wastewater treatment plant. Veolia Water assembled a team of multi-disciplined professionals to implement this project, and worked with the City to secure tax-exempt financing.

Veolia Water is currently involved in a long-term, 20-year, design/build/operate (DBO) contract with the City of Woonsocket. This contract began in 1999, when the City, seeking to upgrade its wastewater plant with no up-front costs, selected Veolia Water for this contract.

The first step of the process involved the implementation of a design/build effort focused on wide-ranging improvements for this regional wastewater treatment facility. The improvements being managed and implemented by Veolia Water are plant-wide, touching virtually aspect of the treatment process at the City's 16-MGD secondary activated sludge wastewater plant. Preliminary enhancements included replacing the bar screens with in-channel grinder pumps, revamping the grit removal system, and making improvements to the aeration system to increase oxygen transfer efficiencies and optimize conditions for achieving nitrification/denitrification. New Gravisand® filters are being installed as part of this effort to provide for the polishing of secondary clarifier effluent, and to enhance the quality of treated water being discharged to the Blackstone River. Other planned enhancements and additions for the wastewater plant include the construction of a new chemical feed building for chemically-enhanced primary treatment, and a cover for the gravity thickener to control odors, as well as conversion of the existing aeration tanks, and the addition of a filtrate pump station to transport water to the thickener.

This City's plant is a municipal wastewater facility processing domestic and industrial wastes. Major processes include preliminary screening and grit removal, primary sedimentation, secondary treatment through activated sludge, secondary clarification, chlorine disinfection, dechlorination with sulfur dioxide and year-round nitrogen/phosphorus removal. Sludge is gravity thickened, then incinerated. Historically, NPDES permit compliance at the plant was poor, and the City was facing significant financial impacts resulting from regulatory consent orders. The City, and the other communities served by this plant, was also concerned about meeting new environmental needs resulting from more stringent discharge requirements being considered by the State of Rhode Island. Veolia Water assumed the risk of meeting these new discharge limits—now and for the next 20 years.

During the first six months of the contract O&M agreement, Veolia Water made great strides toward improving wastewater treatment and achieving total compliance with discharge limits. These accomplishments included:

- Complete rehabilitation of two aeration basins.
- Overhaul of a secondary clarifier, including the drive unit.
- Installation of a new SCADA system.
- Startup of the chlorination/dechlorination equipment.
- Chemical trials and conversion to a different polymer designed to enhance primary treatment through improved settling.

For the DBO project, Veolia Water assembled a team of multi-disciplined professionals, and worked with the City to secure tax-exempt financing for 20 years. In addition, a $3.9 million concession fee was paid by Veolia Water to the City and three other communities (North Smithfield, Rhode Island; and Bellingham and Blackstone, Massachusetts), to reimburse them for improvements made prior to our O&M agreement.

Woonsocket, Rhode Island

Included in the agreement between the City and Veolia Water was the provision to design and construct the necessary capital improvements for the treatment facility. This effort included preparing and receiving Rhode Island Department of Environmental Management's approval for the Facility Plan Amendment.

This wastewater treatment plant is designed to treat an average daily flow of 16 million gallons and peak flows of 32 million gallons. Daily flows currently average 12 million gallons.

This contract is anticipated to save the City of Woonsocket $7 million. The plant upgrades were completed ahead of schedule and for a fixed fee.

In the first two years of operation, this award-winning project has received five honors for operational excellence by the Narragansett Water and Pollution Control Association:

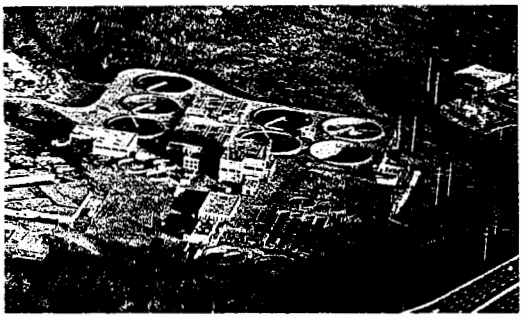
- 2003: Most Improved Treatment Plant Greater than 5 MGD and Most Efficient Treatment Plant Greater than 5 MGD
- 2002: Most Efficient Treatment Plant Greater than 5 MGD; New England Pump and Valve Award for Most Improved in Water Pollution Control--Large Plant Category; and Maguire Group Award for Outstanding Achievement in Water Pollution Control--Large Plant Category

Facilities	• 16-MGD Tertiary Wastewater Treatment Plant • 7 Pump Stations • 2 Siphons
Scope of Services	• Design/Build (Capital Improvements Program) • Operate/Maintain/Manage • Project Financing • Septage Receiving
Start Date	1999 (DB) 2001 (O&M)
Population Served	54,000

Even before all the upgrades were completed, the City's plant, once ranked worst in the State of Rhode Island, received top honors from the Narragansett Water Pollution Control Association, the Maguire Award for Most Improved in Water Pollution Control, and New England Pump and Valve Award for Outstanding Achievements in Water Pollution Control.

CRANSTON, RHODE ISLAND

Design/Build/Operate Project for Municipal Wastewater Facility



Veolia Water North America - Northeast, LLC (Veolia Water) is leading a team that is responsible for implementing a 30-year lease transaction for the City's entire wastewater treatment system. This project involves financing, design/build of capital improvements, and contract operations, maintenance and management (O&M) of the wastewater system. The City's wastewater system includes a 23-MGD secondary wastewater treatment plant, 22 pump stations and a 190-mile collection system.

In the late 1980s, the City of Cranston was under three separate consent orders and faced serious maintenance and staff problems while preparing to upgrade its 23-MGD secondary wastewater treatment plant to a tertiary wastewater treatment facility.

As a result, in 1989 they selected Veolia Water to provide full-service O&M for this wastewater plant and 22 pump stations. The City's plant is a secondary and tertiary facility processing domestic and industrial wastes, providing for year-round nitrification. Veolia Water also has O&M responsibility for the City's 190-mile collection system, as well as management of the City's Industrial Pretreatment Program and the merchant biosolids incineration and disposal program.

In 1997 the scope of this contract was expanded when Veolia Water, as the leader of a design/build/operate (DBO) team, was selected to implement a 25-year lease transaction for the City's entire wastewater treatment system. This DBO project involves:

- Financing, whereby the City receives an up-front, prepaid lease payment
- Design/build services for making certain capital improvements, including an upgrade to advanced wastewater treatment
- Continued private contract O&M for the wastewater facilities.

Recent scope expansions added new capital work and extended the term of this contract to 30 years.

This plant has two incinerators, 10- and 20-dry-ton-per-day multiple hearth furnaces to process over 3,000 dry tons per year of biosolids from the wastewater treatment plant and an additional 3,000 from other sources. Ash from the incinerators is disposed in a landfill.

Facilities	• 23-MGD Activated Sludge WWTP • Collection System (190 miles) • 22 Pump Stations
Scope of Services	• Operate/Maintain/Manage • Design/Build • Project Financing • Industrial Pretreatment Program • Collection System Rehabilitation • Septage Receiving • Effluent Reuse • Meter Reading • Biosolids Disposal — 3,737 dry tons per year from WWTP and 4,766 from outside sources
Start Date	1989-1997 – Contract O&M 1997-2027 – DBO Contract
Population Served	140,000

"... [Veolia Water] was under the spotlight to achieve environmental compliance, but the company has proven itself and continues to be a fantastic water partner, operating and managing these municipal assets safely and responsibly while meeting and often exceeding strict permit requirements."
- Joseph LaPlante, NWPCA President

VEOLIA Water

Cranston, Rhode Island

In recent years, the State of Rhode Island has substantially reduced the amount of wastewater residuals (sludges) that can be disposed in its landfill. To address this need, Veolia Water conducted a pilot study, the result of which showed that the City could generate a revenue stream by accepting and processing biosolids from neighboring communities. To make this merchant type of approach possible, we performed a comprehensive maintenance evaluation. This resulted in a program to improve the mechanical condition of the facility, with particular emphasis given to the incinerators to ensure that they were reliable in terms of processing biosolids from other sources.

Odors have remained a constant challenge at this facility, and Veolia Water has established a Community Odor Committee to aid in identifying times and sources of odors. This proactive alliance has made great strides toward controlling odors from the plant. Planned capital improvements include advanced processes and equipment that will have a significant impact on our ability to mitigate this problem.

As a part of our O&M services approach, Veolia Water has provided integrated personnel training and safety programs. O&M staff at this facility are cross-trained and given opportunities for planned career advancement. Veolia Water has also instituted a unique and innovative incentive bonus plan for the plant's union workers.

This project has been recognized with a number of awards, including:

- Most Improved Large Plant in the State from the State Operators Association.
- Commendation for O&M Excellence from the State Department of Environmental Management.
- Best Large Plant in the State by the State Operators Association.

The Veolia Water O&M approach for the City of Cranston's wastewater facilities has reduced annual operating expenses for the wastewater facilities by more than $500,000, substantially defraying the costs associated with upgrading the plant.

CITY OF RICHMOND, CALIFORNIA

Design/Build/Operate Project for Regional Wastewater Plant

Veolia Water North America – West, LLC (Veolia Water) provides operation and maintenance (O&M) services for the City of Richmond's 16-MGD wastewater treatment facility. This is a design/build/operate (DBO) contract, with Veolia Water Systems (VWS) responsible for the design and construction of more than $7 million in capital improvements to bring the system up to optimum operating performance standards. The 20-year partnership is projected to save this city nestled on San Francisco Bay approximately $75 million dollars over contract term.

Veolia Water recently concluded a multi-million dollar rehabilitation of the City of Richmond, California's wastewater treatment plant, upgrading systems plant-wide. Completed in just two years, this project focused on restoring environmental compliance and addressing historic odor problems.

The project began in 2002 when the City of Richmond awarded Veolia Water a $60 million DBO contract to address the needs of its 16-MGD wastewater treatment plant. This 20-year contract involves long-term O&M of the wastewater facilities and included implementation of more than $7 million in capital upgrades and improvements for the wastewater treatment plant. The capital improvements program focused on upgrading, modernizing and automating existing systems at the plant.

Capital improvements included a new automated bar screen; rehabilitated primary clarifiers, rebuilt digesters and new domes, and rebuilt and improved aerators using Envirex® systems; new computerized controls throughout the plant; new disinfection system and equipment and controls; and a new chemical containment facility to enhance worker safety and environmental protection and improve facility appearance.

Using the DBO approach, Veolia Water has projected a $75 million saving for the City over the term of the agreement. These savings will be achieved through economies of scale, core competency focus and innovative technology and work practices.

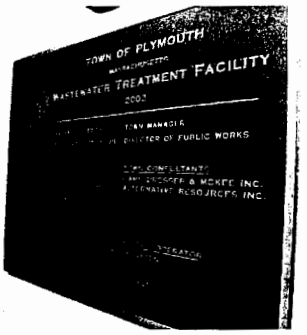
In addition to the projected savings, the public-private partnership between Richmond and Veolia Water provides other benefits such as stabilized operations costs, better operating conditions and guaranteed environmental compliance and employment of facility personnel—all while leaving the facility ownership and rate-setting authority in the hands of the City of Richmond.

In a demonstration of its satisfaction with Veolia Water's work, in 2004, the City expanded our scope to include a similar effort to the 240-mile collection system—adding $17 million in capital to our O&M project scope. The scope of work includes a major rehabilitation of the City's collection systems and lift stations, as well as asset management of the systems when capital improvements are complete.

Facilities	• 16-MGD Wastewater Treatment Plant • Wastewater Collection System (185 miles) • Stormwater Drainage System (94 miles) • 13 Wastewater Lift Stations • 7 Stormwater Lift Station
Scope of Services	• Operate/Maintain/Manage • Design/Build • Capital Improvement Program • Sludge Disposal
Start Date	2002
Population Served	60,000

TOWN OF PLYMOUTH, MASSACHUSETTS

Design/Build/Operate Project for Municipal Wastewater Facilities



Veolia Water North America -Northeast, LLC (Veolia Water) provided design/build/operate (DBO) services for the replacement of the Town's existing wastewater facilities. This long-term agreement involved the design and construction of a new, 3.1-MGD sequencing-batch reactor (SBR) wastewater treatment plant, which is now being operated by our firm. The O&M project also involves maintaining the collection system and providing sludge disposal. Under this DBO project with Veolia Water, the Town expects to realize over $15 million in savings over the 20-year term of this agreement.

On June 28, 2002, Veolia Water started-up a new SBR treatment system for the Town of Plymouth, Massachusetts. This 20-year project is implemented using the DBO project approach and has involved the construction of a new 3.1-MGD treatment plant with three SBR tanks (providing a peak treatment capacity of 9 MGD).

Veolia Water is the DBO project manager and long-term operator for this facility, and our team for this project included: Veolia Water's engineering and construction affiliate (Veolia Water Systems), as the design/build engineer, and Veolia Water, S.A., as the project Guarantor.

Veolia Water worked with the Town to finance this project under U.S. Internal Revenue Service 97-13 rules, using funding from the Massachusetts State Revolving Fund for the $23.3 million in capital costs. Under the terms of this 20-year contract, which began in 1999, the Town owns the plant, and Veolia Water has full risk and responsibility for facilities operations, capital improvements and regulatory compliance for the new plant.

The new wastewater plant is located five miles inland from the original facility, and, under the terms of this contract, Veolia Water bears full risk and responsibility for equipment replacement, capital improvements and regulatory compliance. O&M responsibility includes managing the Town's sludge disposal operations (700 dry tons per year, dtpy), as well as operating and maintaining the wastewater collection and conveyance system.

A key challenge of this DBO project involved keeping the Town's existing wastewater plant in operation during the construction of the new facilities. This plant, now decommissioned, was an aged 1.75-MGD wastewater treatment plant that routinely exceeded the State's discharge limits for Plymouth Harbor.

State legislation enacted in Massachusetts in 1987 limited the discharge of treated wastewater into Plymouth Harbor to no more than 1.75 MGD. The new treatment facility is designed to discharge 1.75 MGD to Plymouth Harbor and the remaining 1.25 MGD to infiltration basins located on the new treatment facility site where water will percholate down to recharge the groundwater table. An equalization tank, located at the chlorine contact chamber, is used to control and limit effluent flows to the allowable permit limits.

Facilities	New Facilities: • 3.1-MGD Sequencing Batch Reactor WWTP • 8 Wastewater Pump Stations • Septage Receiving Station • Collection System (50 miles) Existing Facilities Operated on an Interim Basis until Decommissioned: • 1.75-MGD WWTP • 8 Wastewater Pump Stations • Collection System (50 miles) • Sludge Disposal
Scope of Services	• Design/Build • Asset Management (WWTP) • Interim O&M (Original Facilities) • Long-Term O&M (New Facilities and Collection System) • Biosolids (Sludge) Disposal - 700 dry tons per year
Population Served	16,000

VEOLIA Water

The SBR treatment process involves screening and degritting of wastewater influent, which then flows to the SBR units that operate using a batch process approach, with intermittent filling, aeration, settling and decanting. Effluent from the basins is disinfected in a chlorine contact tank prior to discharge.

Three SBR units are included as a part of the plant design. Under normal operating conditions, with all three units in operation, only one unit is filled or decanted at any given time. Decanting is intermittent, approximately 6,700 gpm, and the downstream units are sized accordingly.

The design of this new wastewater plant also includes odor control systems and a new pump station at the site of the existing wastewater plant.

In an unusual staffing approach, all of the Town's existing wastewater treatment plant employees are leased from the Town, thereby allowing staff to continue in their municipal pension plan.

Appendix B

Part Two

Dufresene-Henry – Supplemental Experience Information

VEOLIA Water

Company History

Dufresne-Henry was founded in 1955 on the principle of personalized service to clients. The firm initially specialized primarily in civil and environmental engineering. It has since developed into a highly diversified company offering specialized expertise in a variety of engineering disciplines as well as in planning, landscape architecture and environmental science. Among our engineering fields of expertise are building systems and industrial facilities design, water supply and wastewater engineering, solid waste management, construction management, transportation engineering, mechanical/electrical/structural engineering, and airport engineering and planning.

Dufresne-Henry maintains 16 offices in New England, New York and Florida. In 2003, we completed more than 1,000 projects company-wide and were ranked 263rd among the *Top 500 Design Firms* as compiled by Engineering News-Record.

Office Locations

- Northampton and Westford, Massachusetts
- West Hartford, Connecticut
- North Springfield, South Burlington and Montpelier, Vermont
- Saratoga Springs, Rochester, Newburgh and Pawling, New York
- Manchester, New Hampshire
- Portland and Presque Isle, Maine
- Port Charlotte, Sarasota, and St. Cloud, Florida

Through the efforts of our approximately 300 staff members, we have gained a reputation for providing a product of high quality and reliability over nearly 50 years of service.

Water Works Engineering

In 2002, Dufresne-Henry organized all of the company's water and wastewater engineering services into a single group whose staff members continue to work from various offices. The reorganization allows us to better assess our clients' needs by assigning a local project manager to serve the client. In addition, we can employ the widely ranging expertise of our entire water/wastewater group to meet the project goals.

Our water/wastewater group comprises approximately 65 engineers, technicians and support staff members who have depth of experience in all aspects of municipal water and wastewater systems. This includes regulatory compliance, financial management, planning, design, construction, and operations.

Water Treatment

Dufresne-Henry has a long track record of water treatment plant experience, encompassing a wide range of facility types, processes, and sizes. In the past two decades the firm has completed projects that evaluated, planned, designed, and constructed or retrofitted more than 40 water treatment facilities.

Water Distribution Systems

Dufresne-Henry has designed hundreds of miles of new and replacement water mains, distribution system expansions, and the rehabilitation of deteriorated or corroded water mains. We have also provided construction observation services for hundreds of miles of gravity and pressure mains. These projects have involved a variety of pipe materials, and construction conditions ranging from highly developed urban areas to residential and rural areas.

Water Storage Facilities

Dufresne-Henry has provided design, construction and resident inspections for more than 60 water storage facilities. These range in capacity of up to 10 million gallons and include aboveground precast/prestressed concrete tanks, steel reservoirs, stand pipes, hydropillars, elevated tanks and below-grade covered storage tanks. Many of these tanks were designed with aesthetic considerations and include SCADA systems.

Pumping Systems

We have provided planning, evaluation, design and construction observation services for more than 75 water pumping facilities. Our projects have included above-ground and underground stations; package, precast and cast-in-place concrete structures; yard piping and valves; clearwells and storage; variable and constant speed pumps and motor controls; standby electrical power generation, instrumentation and controls for operational flexibility and applicable chemical feed systems.

New Source Development

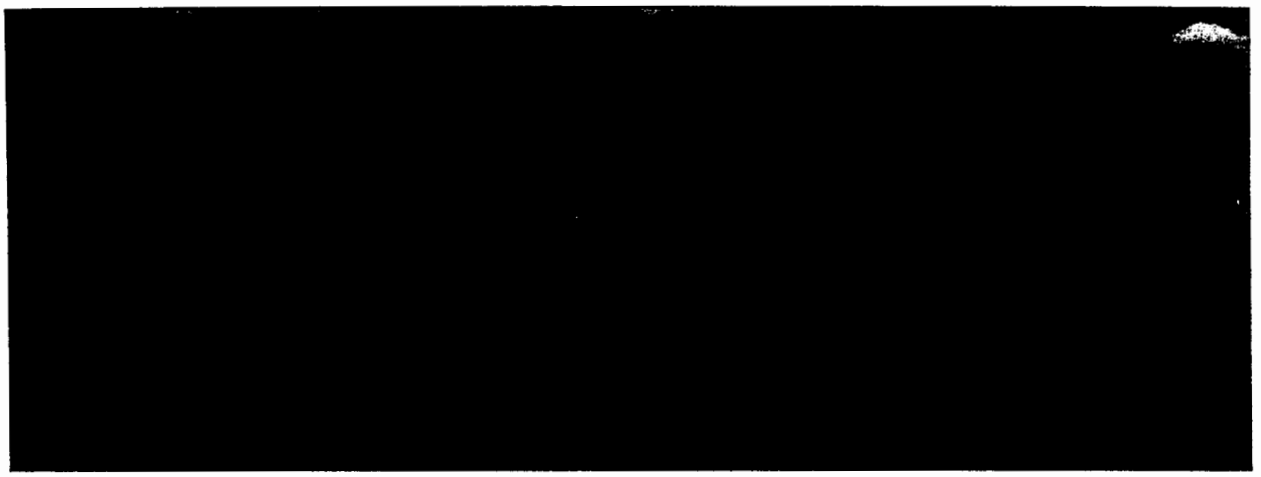
We've helped many New England communities develop new water supplies to meet the demands of growing populations. Dufresne-Henry's extensive experience with regulatory agencies, knowledge of the local geology and strong working relationships with drillers helps minimize project time and cost.

Water System Planning

In our nearly half century in business, we've provided extensive planning services to clients who are developing or updating water system master plans. Among our services are detailed review of existing water sources, distribution and storage infrastructure, and detailed hydraulic modeling of that infrastructure. Our experts use modeling software that includes KY Pipe, Cybernet, WaterCAD, and H_2ONET. By maintaining such an extensive software collection, we're able to meet our client's specific software compatibility needs - particularly those of Geographic Information Systems (GIS).

Operational Support

Dufresne-Henry provides operational support for public water facilities including start-up, the development of operation and maintenance manuals, operator training, trouble shooting of operational problems and adjustment/recalibration of equipment. Our staff includes licensed water systems operators who have hands-on experience.



Construction Services

DH provides bidding assistance, contractor evaluation, full-time resident project inspection, construction contract administration, compliance monitoring (for specifications, plans, and local codes), schedule control, and cost control during construction.

Cost/Quality Control

Our quality assurance program mandates that we review all aspects of a project at various milestones throughout its execution. The review is conducted by a team of senior professionals or key project team design members. The review team appraises each work item to ensure that contractors have sufficient and clear information for bidding. They also ensure close client coordination during the project.

Dufresne-Henry has a strong corporate commitment to quality control. Our quality control plan includes the following key principles:

- The project manager and client representative carefully define the project scope and specific design requirements.
- A review committee independently reviews the work of our qualified personnel.
- The project manager conducts routine progress meetings with the client to review our work as it proceeds.
- A design overview committee comprising top Dufresne-Henry management personnel reviews each project to ensure compliance with quality control standards.
- If the project overview committee deems it necessary, each task is revised to promote quality and adhere to project goals.
- The project team follows through on each project to ensure that the client is satisfied.

Client Satisfaction

We have built our reputation by retaining skilled professionals who possess many years of experience in their respective fields. Our team approach consists of creating an elite group of engineering professionals selected from a Dufresne-Henry office most convenient to the project site and managed by a local project manager. Our projects are expertly managed and reviewed - *more than 75 percent of our work comes from repeat clients.*

Water Treatment Facilities

New Hampshire				
Berlin	Surface water	2.0	Conventional	1975
Eastman Village District	Groundwater	0.8	Iron and manganese removal	1998
Goffstown	Surface water	0.6	Ceramic media filtration	1996
Newmarket	Surface water (u/g)	1.0	Conventional (Trident)	1990
Raymond	Groundwater	0.6	Iron and manganese removal	2004
University of New Hampshire	Surface water	1.5	WTP upgrade design	1994
University of New Hampshire	Surface water	1.5	Assistance w/sludge removal	2001
Woodsville	Surface water (u/g)	1.0	Conventional (Trident)	1990
Massachusetts				
Acton Water District	Groundwater	1.0	Aeration plus GAC	1984
Acton Water District	Groundwater	1.0	Aeration	1988
Acton Water District	Groundwater	1.0	Aeration	1988
Acton Water District	Groundwater	0.7	Aeration	1990
Acton Water District	Groundwater	0.6	Aeration plus GAC	2000
Auburn Water District	Groundwater	2.0	Iron and manganese removal	1995
Barnstable Water Co. - Hyannis	Groundwater	3.0	Aeration	1991
Bernardston Fire and Water District	Groundwater	0.3, 0.6	Corrosion control for 2 wells	1996
Bridgewater Water Dept.	Groundwater	1.8	Iron and manganese removal	2000
Chelmsford Water District	Groundwater	3.0	Iron and manganese removal	2004
Cummington	Groundwater	0.3	ph adjustment	2000
Duxbury	Groundwater	1.4	Iron and manganese removal	1999
Easthampton Water Dept.	Groundwater	3.0	Aeration for TCE	1997
Gardner	Surface water	4.0	Conventional (Trident)	1998
Grafton Water District	Groundwater	2.0	Iron and manganese removal	2004
Maynard Dept. of Public Works	Surface water	1.0	Conventional (Trident)	1996
Maynard Dept. of Public Works	Groundwater	1.0	Iron and manganese removal	1998
Maynard Dept. of Public Works	Groundwater	0.6	Iron and manganese removal	2002
Maynard Dept. of Public Works	Groundwater	1.4	Iron and manganese removal	2002
Norfolk	Groundwater	0.8	Aeration, UV	2002
North Raynham	Groundwater	0.8	Aeration	1998
North Sagamore Water District	Groundwater	2.0	Iron and manganese removal	2004
Norwell	Groundwater	2.0	Iron and manganese removal	1996
Pembroke	Groundwater	1.0	Iron and manganese removal	1990
Plainville	Groundwater	1.0	Chlorine, UV	2003
Raynham Center Water District	Groundwater	2.0	Iron and manganese removal	2003
Spencer Water District	Groundwater supply	2.0	Iron and manganese removal	1995
Turners Falls Fire District	Groundwater	1.5	Iron and manganese removal	1989/1996
West Bridgewater Water Dept.	Groundwater	0.7	Iron and manganese removal, UV	2004
West Springfield	Groundwater	5.0	GAC	1992
Westfield	Surface water	4.0	Conventional (Trident)	1994
Westford - Nutting Road	Groundwater	3.0	Iron and manganese removal, UV	2003
Westford - Forge Village Road	Groundwater	3.0	Iron and manganese removal, UV	2003
Vermont				
Barre	Surface water	6.0	Conventional (Trident)	1994
Bellows Falls	Surface water	1.0	Conventional (Trident)	1990
Brattleboro	Groundwater	1.5	Greensand (upgrade)	2001
Brighton	Surface water	0.4	Conventional	1987
Fair Haven	Surface water	0.75	Solid Contact & ABW Filter	1982
Derby Center (village)	Surface water	0.4	Slow sand	1996
Derby Center (village)	Groundwater	0.1	Iron and manganese removal	1980

Dufresne-Henry

Client	Type	Capacity (mgd)	Process	Completion
Vermont (continued)				
Milton	Surface water	0.5	Conventional (Trident)	1985
Hartford	Groundwater	1.44	Iron and manganese removal	Current
Montpelier	Surface water	4.0	Conventional (Trident)	1998
South Royalton	Surface water	0.44	Conventional (Trident)	1991
Waterbury	Surface water	1.0	Conventional (Trident)	1992
Maine				
Consumer's Maine Water District - Skowhegan	Surface water	1.0	Conventional	2000
Dresden Mills	Groundwater supply	0.004	Conventional	1995
Passamaquoddy Water District	Surface water	0.5	Sand media pressure filtration	Current
New York				
Cold Spring (village)	Surface water (u/g)	0.7	Conventional (Trident)	1994
Walden (village)	Groundwater	0.5	Chlorine, corrosion control	1987
Pawling (village)	Surface water	1.0	Conventional	1994
Pawling Water District (town)	Groundwater	0.1	Iron and manganese removal	1997
Rhode Island				
Stone Bridge Fire District - Tiverton	Surface water (u/g)	1.3	Conventional	1983

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Wells and Pumping Stations

New Hampshire			
Aquarion Water Company	Well pumping station	-	1998
Charlestown	Well and pumping station: dsgn. & const. observ.	Gravel packed	1989
Durham	Madbury Road booster pumping station	-	1993
Franklin	Well pumping station	Gravel packed	1986
Georges Mills	Well pumping station	2 - 8" bedrock	1996
Hinsdale	Well and pumping station	Gravel packed	1989
Jaffrey	Booster pumping station	-	1994
Lisbon	Well and pumping station	Gravel packed	1980
Milton Water District	New well and pumping station	Gravel packed	Current
New London-Springfield W.P.	Wellfield and pumping station	6 - 16"x10" gravel packed	2000
New London-Springfield W.P.	Booster pumping station	T.B.D.	Current
Newmarket	Sewall well and pumping station	Gravel packed	1985
Raymond	New Well and pumping station rehabilitation	Gravel packed	2002
Sunapee	Raw water pumping station upgrade	-	1998
Tilton-Northfield Aquaduct Co.	Wells and pumping station	2 gravel packed wells	1998
Massachusetts			
Acton Water District	Marshall wellfield and pumping station	15 - 2 1/2" wells	1987
Acton Water District	Kennedy well and treatment facility	4 - 18" x 12" gravel packed	1991
Acton Water District	Conant No. 2 well and pumping station	5 - 18" x 12" gravel packed	1999
Acton Water District	Assabet No. 2 replacement well	18" x 12" gravel packed	2000
Acton Water District	Scribner well renovation	4 - 16" x 10" gravel packed	2001
Acton Water District	Clapp well replacement	2 - 16" x 10" gravel packed	2003
Barnstable Water Company	Straightway well pumping station	Existing well	1999
Barnstable Water Company	Well pumping station corrosion control	Existing well	1997
Bellingham	Well No. 12	36" x 24" gravel packed	1997
Boxborough	Blanchard School well	8" rock well	2002
Bridgewater	Carvers Pond No. 7 pumping station	48" x 24" gravel packed	1990
Bridgewater	Wells No. 8 and 9 pumping station	2 - 18" x 12" gravel packed	1997
Chelmsford Water District	Smith Street well No. 2A	18" x 12" gravel packed	2002
Grafton Water District	East Street No. 3 replacement	Existing gravel packed	1989
Grafton Water District	Follette Street well and pumping station	48" x 24" gravel packed	1993
Groton	Whitney Pond well and pumping station	48" x 24" gravel packed	1987
Groveland	Well No. 4	18" x 12" gravel packed	1999
Lunenburg	Hickory Hills well and pumping station	24" x 18" gravel packed	1996
Mashpee Water District	Turner road well and pumping station	16" x 12" gravel packed	1999
Mashpee Water District	Mashpee Village well and pumping station	24" x 18" gravel packed	2002
Maynard	Rockland Avenue wells	3 - 8" rock	2000
Maynard	Well No. 1 replacement	18" x 12" gravel packed	1995
North Raynham Water District	King Phillip well pumping station	2 - 18" x 12" gravel packed	1998
North Raynham Water District	Wellfield renovations	Existing wellfield	Current
North Sagamore Water District	Church Lane well and pumping station	24" x 16" gravel packed	2000
Massachusetts (continued)			

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Client	Project	No. of Wells, Size and Type	Completion
Norfolk	Spruce Road well and pumping station	48" x 24" gravel packed	1990
Norfolk	Well No. 6 and pumping station	36" x 18" gravel packed	1996
Norwell	Well No. 5 pumping station corrosion control	Existing well	1997
Plainville	Lake Mirimichi wellfield and pumping station	3 - 18" x 12" gravel packed	Current
Plymouth	Savery Pond well and pumping station	24" x 16" gravel packed	2002
Raynham Center Water District	Gushee Pond well and treatment facility	48" x 24" gravel packed	1991
Raynham Center Water District	Johnson wellfield and pumping station renovation	2 1/2" wellfield	1991
Raynham Center Water District	Lake Nip replacement wells (existing well)	3 - 18" x 12" gravel packed	1989
Raynham Center Water District	Gushee Pond Well No. 2	36" x 18" gravel packed	2000
Sterling	West Sterling wells and pumping station	36" x 18" gravel packed	1993
Templeton	Sawyer Street well and pumping station	48" x 24" gravel packed	1987
Turners Falls Fire District	Tolan Farm well	36" x 18" gravel packed	1992
Wayland	Baldwin Pond well No. 3 pumping station	Existing well	1998
Wayland	Chamberlain well and pumping station	48" x 24" gravel packed	1991
West Bridgewater	Cyr Street wellfield	3 - 24" wells	1990
West Bridgewater	Manley Street replacement well	18" x 12" gravel packed	2003
Westford	Howard Road wellfield and pumping station	5 - 8" wells	1987
Westford	Cote well and pumping station	48" x 24" gravel packed	1990
Westford	Fletcher well and pumping station	48" x 24" gravel packed	1998
Wilmington	Chestnut Street well	36" x 24" gravel packed	1991
Vermont			
Brattleboro	Upgrade 2 pump stations including SCADA	500 gpm	2002
Cambridge (village)	Bartlett Hill well	36" x 24" gravel packed	1982
Coventry (town)	Black River well	Gravel packed	1983
Danville Fire District #1	Bedrock well and pump station	300 gpm	1997
Deep Rock Fire District #1	Hydropneumatic booster pump station	50 gpm	2004
Hartford	New well & p.station, rehab exist.well & p.station	1,000 gpm, 1,000 gpm	Current
Hyde Park Fire District #1	Gravel well, hydropneumatic pump station	120 gpm gravel	1990
Jericho-Underhill W.D.	Browns River well	12" x 18" gravel packed	1988
Montpelier (city)	Terrace Street booster pump station	800 gpm	1990
Montpelier (city)	Towne Hill booster pump station	400 gpm	1996
Newport (city)	South Bay well	36" x 24" gravel packed	1982
Northfield	Gravel well, pump station, two pump stations	1,000 gpm, 750 gpm	2001
Royalton Fire District # 1	Riverbed intake and pump station	400 gpm submersible	2003
Waterbury	Five bedrock wells and two pump stations upgrades	Range of 150 to 700 gpm	1992
Rhode Island			
Harrisville Fire District	Eccleston wells (3) and pumping stations	16" x 10" gravel packed	2001
Harrisville Fire District	Well No. 1 and pumping station	24" x 18" gravel packed	2003
Waverly	Groundwater source development	T.B.D.	Current
Maine			
Dresden Mills	New water system	2 - 8" bedrock	1995
Oquossoc Standard W.D.	New water system	2 - 8" bedrock	2001

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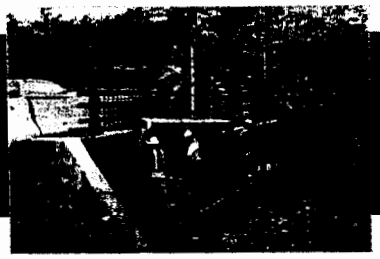


Water Distribution Projects

New Hampshire		
Aquarion Water Co.	River crossing: design and construction services	1997
Aquarion Water Co.	U.S. Route 1 water main	2001
Aquarion Water Co.	Highland Avenue water main	2001
Aquarion Water Co.	Drakeside Road water main	2001
Aquarion Water Co.	Brown Avenue Extension	2003
Aquarion Water Co.	Little River Road area	2003
Ashland	Mill Street water main	1996
Bristol	Water main/NH Rte. 104 bridge crossing: design and construction observation	1986
Bristol	Water main and Rte 3A bridge crossing design	
Charlestown	1.0 MG storage tank/8,700 ft. water main	1993
Claremont	Wilder Street water main	1989
Colebrook	EDA Industrial Park water main	2001
Concord	Hopkinton Road water main	1991
Durham	Lee Well transmission main	1992
Durham	Beech Hill water main	1992
Durham	Lamprey River transmission main	2002
Epping	Water main, pump and controls	1990
Hancock	Mill Street water main	1998
Hanover	Water supply storage and distribution improvements	1998
Hillsborough	Loon Pond transmission main	1996
Hinsdale	Monument Road water main analysis	1994
Hooksett Village W.P.	Water main	1985
Hooksett Village W.P.	Rosedale Street water main	1990
Hooksett Village W.P.	North Main Street water main	1991
Hooksett Village W.P.	Dundee/Merrimack Streets water main	1992
Hooksett Village W.P.	Oak Street water main	1993
Jaffrey	Water main, booster pump station, improvements to groundwater supplies	1994
Jaffrey	Turnpike Road/Poole Reservoir water main	1996
Jaffrey	Main Street/Highland Avenue water main	1996
Milford	Water main	1990
Milford	Elm Street water main	1991
Milford	Whitten Road/Mason Road water main	1995

New Hampshire (continued)

Dufresne-Henry

Client	Project	Completion
Milton	New groundwater supply	Ongoing
New London-Springfield W.P.	Groundwater supply, water main, storage tank	1992
New London-Springfield W.P.	Pine Hill loop water main: *design*	1997
Newmarket	Water main and NH Rte. 152 bridge crossing: *design*	1994
Newport	Cheney Street water main: *conceptual design*	2002
Sunapee	Georges Mills groundwater, tank and main: *design and constr. obs.*	1997
Sunapee	Raw water pump station and transmission upgrade	1998
Tilton-Northfield Aqueduct Co.	Groundwater syupply and water main: *design and constr. observation*	1998
University System of NH	McDaniels Drive water main: *design*	2003
Massachusetts		
Acton Water District	Great Road - 3500 ft. of 12" water main	1998
Acton Water District	School Street - 4200 ft. of 12" transmission main	2000
Ashburnham	Lake, East Rindge, lake Shore Streets? - 16,800 ft. of 12" and 8" water mains	2000
Adams	Enterprise Street - 1500 ft. of 8" water main	2002
Bellingham	Well No. 12 - 3500 ft. of 8" water main	1996
Bernardston	Bridge crossing - 425 ft. of 8" water main	2000
Chelmsford Water District	Locke Road - 1200 ft. of 8" water main	2000
Chelmsford Water District	Boston Road - 4000 ft. of 12" and 8" water main	2000
Chelmsford Water District	10,000 ft of 12" water main	2004
Clinton	Orange and Benefit Streets - 2200 ft. of 8" water main	1996
Clinton	2500 ft. of 8" water main for 110 service changeovers	1999
Cummington	1500 ft. of 8" water main, services and meters	2000
Easthampton	7150 ft. of 12" water main	1999
Easthampton	5640 ft. of 16" water main	1990
Fitchburg	Harrison Avenue - 2100 ft. of 8" water main	1998
Fitchburg	Mechanic and Caldwell Streets - clean and line 16" water main	2000
Fitchburg	Hazel Street - 3000 ft. of 8" water main	2000
Franklin Co. RHRD	Bernardston TP - 2400 ft. of 8" water main	1998
Grafton Water District	Institute Road - 5300 ft. of 12" water main	2003
Grafton Water District	Westboro Road - 4900 ft. clean and line 12" water main	2003
Hadley	7400 ft. of 16" and 12" water main	1998
Littleton	Matawankee area - 12,000 ft. of 8" and 6" water main	1998
Ludlow	Sportsmans Road - 3300 ft. of 16" and 12" water main	2002
Ludlow	East Street - 750 ft. of 16" and 8" water main	Current
Maynard	Rockland Avenue - 2500 ft. of 12" water main	2000
Maynard	Tremont Street - 3300 ft. of 8" water main	2003
Maynard	Great Road (MA Rte. 117) - 2500 ft. of 12" water main	1998
Millers Falls	South Prospect ? - 2700 ft. of 12", 10" and 8" water main	2002
Norfolk	Union and King Streets - 7400 ft. of 12" water main	1998
Massachusetts (continued)		
Northfield Water District	4400 ft. of 12" water main	1998

Dufresne-Henry

Client	Project	Completion
Northfield	3500 ft. of 12" water main	1997
North Sagamore Water Dist.	Sagamore and Robinson areas - 3000 ft. of 8" and 6" water mains	2002
Norton	Barrows Street - 9800 ft. of water main	2000
Norton	King Philip and Plain Streets - 4500 ft. of 12" and 8" water main	1999
Norton	Freeman Street - 4000 ft. of 12" and 8" water main	2002
Orange	Randall Pond Indus. Pk. - 3100 ft. of 12" water main	1999
Orange	Bacon, Beacon and East Howe Streets - 2285 ft. of 12", 8" and 6" water main	1999
Orange	Grove Street - 800 ft. of 12", 8" and 6" water main	2002
Orange	Mechanic, Howe, Summer and Winter Streets - 1725 ft. of 8" water main	2003
Plymouth	Savery Pond - 3500 ft. of 12" water main	2002
Raynham	Locust and Dean Streets - 5600 ft. of 8" water main	1997
Raynham	South and Leonard Streets - 4500 ft. of 12" and 8" water main:	1998
Raynham	Church and Hill Streets - 9000 ft. of 12" and 8" water main	1998
Raynham	Leonard Street - 2700 ft. of 8" water main	2000
Raynham	Church and Judson Streets - 12,600 ft. of 12" and 8" water main:	2001
Shelburne	Maple Street Ph 1&2 - 2400 ft. of 8" water main	2003
Shirley Water District	Hazen and Walker Streets - 5300 ft. of 12" and 8" water main:	1999
Shirley Water District	MA Rte. 2A - 3100 ft. of 12" water main	2000
Turners Falls Fire District	3500 ft. of 12" water main	1994
Turners Falls Fire District	12" water main bridge crossing	1998
Turners Falls Fire District	Goddard, Grove and Hillside Streets - 1575 ft. of 8" water main:	1999
Turners Falls Fire District	Crocker Avenue - 8520 ft. of 12" and 8" water main	Current
Tyngsborough Water District	Notre Dame Academy - 4500 ft. of 16" and 12" water main:	1997
Tyngsborough Water District	Flint Pond - 10,000 ft. of 16", 12" and 8" water main	1998
Wayland	Glezen Lane - 6000 ft. of 12" water main	1997
Westford	28,500 ft. of 16", 12" and 8" water main	2002
Wilbraham	16,000 ft. of water main	1991
Vermont		
Barre City	North Main Street as part of water system improvements	2002
Barre City	1.0 MG tank and water main	2002
Central VT Medical Center	Pump station and water main: *design and construction observation*	2002
Danville Fire District # 1	12,000 ft of 12" water main	1996
Danville Fire District # 1	Water system improvements	1997
Duxbury/Moretown Fire Dist. 1	11,000 ft of 8" water main	1997
Deep Rock Fire District # 8	Water system improvements	2002
Derby Center (village)	4,000 ft. of 12" and 8" water main	1995
Derby Center (village)	Clyde River water main	2000
Hardwick	Water main	2000
Vermont (continued)		
Manchester	West Road water main	1998
Milton	1,500 ft. of 8" distribution (high service)	1995

Dufresne-Henry

Client	Project	Completion
Newport (city)	5,130 ft. water main	1992
Northfield	Water system improvements	2001
Montgomery	12,900 ft. of 8", 6" and 4" water main	1998
Montgomery	Water main design as part of water system improvements	2001
Montpelier	5,000 ft of 8" water main	1989
Montpelier	11,000 ft of 16" water main	1990
Montpelier	3,600 ft of 16" water main	1991
Montpelier	3,000 ft of 24" water main	1992
Montpelier	3,000 ft of 16" water main	1994
Montpelier	1,500 ft of 8" water main	1996
Montpelier	1,500 ft of 8"; 5,000 ft 12" water main	1998
Montpelier	2,000 ft of 8" water main	1999
Montpelier	2,500 ft of 24" water main	1999
Montpelier	3,500 ft of 12" water main	2000
Northfield (village)	3,700 ft of 12" water main	2002
Richmond	1,100 ft. of 12" water main	2002
Royalton	400 ft of 12" as part of water system improvements	2002
Springfield	Mill Road water main	2000
Stowe	Water main extension	2002
Waterbury	5,000 ft of 8" water main	1991
Waterbury	10,500 ft of 12" water main	1991
Waterbury	20,000 ft of 12" water main	1992
Waterbury	15,000 ft of 12" water main	1993
Waterbury	Transmission and distribution systems	1997
Waterbury	5,000 ft of 12" & 8" water main	2002
Waterbury	2,500 ft of 8" water main	2003
Rhode Island		
Harrisville Fire District	Clear River Drive - 7500 ft. of 12" water main	2003
Harrisville Fire District	Steere Farm Pond - 4000 ft. of 12" water main	1998
Maine		
Dresden Mills	3200 ft. of 6" water main	1995
Oquossoc Standard Water Dist.	4500 ft. of 8" - 3" water main	2002

Appendix C

VEOLIA Water

Appendix C

APPENDIX C
Watershed Plan & Approach in Indianapolis

As highlighted throughout our Proposal, Veolia Water North America Operating Services, LLC entered into a long term agreement with the City of Indianapolis, Indiana, in 2002 to operate and mange the City's water treatment, distribution and supply system. This project is managed through our Water Indianapolis LLC (VWI) subsidiary.

Under this contract, VWI provides watershed management for the City of Indianapolis Department of Waterworks. The Indianapolis watershed management plan objectives are:

- **Water Consumption Control** – Critical to the operation of the Indianapolis Waterworks is the control of discharges from the City's three reservoirs. During peak flows and times of low flow from the White River (the Waterworks' main source of supply), Veolia Water controls discharges from the reservoirs to ensure adequate supply of source water for the Waterworks' four main surface water plants.
- **Source Water Quality Improvements**– Veolia Water has under taken a partnership with Indianapolis University, Purdue University, Indianapolis' (IUPUI) Center for Earth and Environmental Science to achieve source water quality research and watershed management best practices.
- **Public Education and Awareness Training** – Veolia Water is committed to developing a watershed education plan for children and families that includes realistic objectives and strategies directed toward increasing knowledge about watershed resources and watershed management practices.
- **Technical Advisory Group** – Veolia Water instituted a committee made up of professionals from the water industry, environmental groups, state regulatory agencies, local universities, Veolia Water, and other groups and agencies. The purpose of this Technical Advisory Group (TAG) is to provide research and analysis of current initiatives undertaken by the City and Veolia Water and to make recommendations for future initiatives to be considered. This group does not set or make policy; functions to either validate existing policies and procedures or to make recommendations for improvements and potential changes.

VWI, on behalf of the Department of Waterworks, controls the discharges from two water supply reservoirs (Geist Reservoir and Morse Reservoir) and withdraws water from a third (Eagle Creek). Eagle Creek Reservoir is operated by the City's Department of Public Works, and its primary purpose is for flood control and recreation. Geist and Morse reservoirs were originally constructed by the former Indianapolis Water Company for the primary purpose of serving as a source of supply for drinking water.

Reservoir Characteristics

Geist Reservoir

Geist Reservoir is located on Fall Creek in northeast Marion and southeastern Hamilton Counties. The dam on Fall Creek was constructed in 1941-43, and the reservoir was filled in 1943. Geist Reservoir has a drainage area of approximately 215 square miles and a storage volume of 19,280 acre-feet (6.29 billion gallons) (USGS, 1996).

Morse Reservoir

Morse Reservoir is located on Cicero Creek, north of the City of Noblesville in Hamilton County. The dam on Cicero Creek was constructed in 1955, and the reservoir was filled in early 1957. Morse Reservoir has a drainage area of approximately 214 square miles and a storage volume of 22,820 acre-feet (7.44 billion gallons) (USGS, 1996).

Eagle Creek Reservoir

Eagle Creek Reservoir is located on Eagle Creek in northwestern Marion County. The reservoir is formed by an earthen dam and was placed into operation in late 1969. The reservoir is owned by the City of Indianapolis and was constructed for flood control, low-flow maintenance and recreation. Eagle Creek Reservoir has a drainage area of 162 square miles and a storage volume of approximately 23,300 acre-feet (7.59 billion gallons).

Reservoir Operations – Water Consumption Control

Geist and Morse reservoirs are operated to supplement streamflow in Fall Creek and White River, respectively. Water is not pumped directly from either reservoir for water supply, as water discharges from both reservoirs through a spillway in the dam when reservoir pool levels exceed the spillway elevation. During low reservoir levels (e.g., pool levels are below the spillway elevation), water is discharged through an outlet pipe to supplement flow in the streams.

Direct releases from Geist Reservoir are based, in general, on the streamflow in Fall Creek to ensure adequate water is available at the Fall Creek Treatment Plant. Streamflow in Fall Creek is monitored daily at a stream gauging station located near Millersville. The rate of release from Geist Reservoir is based on the volume of water required to meet water system demands at the Fall Creek station. In addition, water levels at the Keystone low-head dam (intake to the Fall Creek plant) are also monitored daily to maintain sufficient flow over the dam to sustain streamflow in Fall Creek after water supply withdrawals.

At Morse Reservoir, the release rate is determined by the streamflow in White River. Reservoir releases are into Cicero Creek, which flows into White River just south of Noblesville. White River is the primary supply for two water treatment plants (White River and White River North). Streamflow is monitored daily in White River at several gauging stations, namely at Noblesville and Nora, as well as the water level at Broad Ripple Dam (the diversion into the central canal). When low streamflow is identified, releases from Morse are made to increase the available supply in White River for both treatment plants, as well as maintaining flow over the Broad Ripple dam to sustain streamflow in White River after water supply withdrawals.

Unlike Morse and Geist, water is withdrawn directly from Eagle Creek Reservoir to supply the T.W. Moses treatment plant. Water withdrawal rates are based on system demand, but are limited by a contractual agreement with the City of Indianapolis. Withdrawals from Eagle Creek Reservoir are limited to an annual average of 12.4 MGD, and a maximum monthly withdrawal rate of 19.84 MGD.

Source Water Improvements

Veolia Water has developed the Central Indiana Water Resources Partnership (CIWRP) between Veolia Water and IUPUI. Veolia Water's 2004 research program, conducted through this partnership, is summarized below.

Water Quality and Nutrient Cycling in Indianapolis' Drinking Water Reservoirs and Their Watersheds

The 2004 Water Quality and Nutrient Cycling research follows the 2003 comprehensive monitoring study, Water Quality and Nutrient Cycling in Three Central Indiana Watersheds and Their Reservoirs: Eagle Creek/Eagle Creek Reservoir, Fall Creek/Geist Reservoir, and Cicero Creek/Morse Reservoir. The project will be implemented in March 2004 and consists of five components: (1) Hypolimnetic Anoxia Study; (2) Phytoplankton Community Structure Study; (3) Nutrient Mass Balance Study; (4) Effects of Watershed Residential Development on Stream Loading and Water Quality Study; and (5) Watershed Input Tracking of Organic Matter and Nutrients Study. In addition to these five studies, the program will continue to monitor copper loading to reservoir sediments.

One long-range goal of the research objectives of CIWRP is to characterize, model, and predict the major impacts on water resource quality in central Indiana. The first phase of our efforts have focused on bulk characterization of the geochemistry, microbiology, and sedimentology of the three principle reservoirs (with emphasis on Eagle Creek Reservoir), on the characterization of watershed loading and the hydrologic and sediment dynamics of watershed inputs to those reservoirs, and on the modeling of land-use and land-use change to develop a framework for targeted watershed-scale analysis of important factors (e.g., nutrients, carbon, sediment) that may have future impacts on water quality in central Indiana.

This first phase has allowed us to develop a research infrastructure that will propel us toward significantly more advanced and quantified studies of water quality factors in this region. It has also produced several key findings:

- The sediments in the reservoir bottoms are highly enriched in phosphorus and organic carbon, a condition that might contribute to eutrophication and water quality degradation.
- Relatively consistent and predictable shifts in ecosystems within Eagle Creek Reservoir might be related to cyclic variations in nutrient conditions within the reservoir.
- A significant additional load of bioavailable phosphorus is entering the reservoirs via runoff.
- Land use will continue to evolve over the next 20 years, with the biggest impact being the expansion of suburban development in the region.

These findings led us to a refined set of questions that we began addressing with research efforts in 2004:

- What role does the benthic reflux of phosphorus from reservoir bottoms play on ecosystem dynamics and water quality? Does carbon and nitrogen cycling within the reservoir also contribute? Is this flux a trigger for algal blooms?

- How does the development of stratification in the reservoirs interact with phosphorus, carbon, nitrogen, and silica cycling to impact ecosystem dynamics within the reservoirs?
- What is the source of the bulk of additional nutrients and carbon and how does it impact the reservoirs? In particular, can we quantify the nutrient and carbon release rates (in dissolved and particulate forms) from sub-watersheds and characterize the role that land-use change has on these release rates?
- With additional sub-watershed scale characterization of nutrient and carbon release, can we begin to predict future trends in input to these reservoirs and characterize the net impact that these changes might have on ecosystem status within the reservoirs?

We designed research projects to address these questions and to continue with efforts to monitor the watersheds as defined under the general research plan of CIWRP and the goals and objectives of Veolia Water and the City of Indianapolis.

Public Education and Awareness Training

Veolia Water's watershed and water quality education and awareness program in Indianapolis has five main goals:

- Develop a watershed education plan for children and families that includes realistic objectives and strategies directed toward increasing knowledge about watershed resources and watershed management practices.
  - Develop innovative programs that help citizens understand the need to protect and preserve aquatic and riparian habitat associated with streams and wetlands.
  - Provide specific opportunities for children to become more aware of the practices that have an effect on water quality.
- Promote the conservation of Indianapolis' high quality, affordable drinking water for present and future generations.
  - Develop educational strategies/programs to reduce water consumption by 15% by 2010.
  - Promote water conservation through collaborations with like-minded organizations.
  - Promote water conservation through targeted public service messages.
- Provide a range of programming that raises awareness of land use issues and personal behaviors related to water quality.
  - Develop partnerships and collaborations.
  - Develop a variety of opportunities for building understanding of the origin, flow, distribution and output of the water that is managed by VWI.
  - Utilize the Indianapolis Water Web site to further understand water quality, the watershed and the water environment.
- Continue working with schools throughout the Indianapolis water service territory to introduce and integrate the Water Box as a prime water educational tool for use in 4th, 5th, and 6th grades.
  - Work with principals, directors or education and curriculum coordinators of targeted schools to train appropriate teachers in the use of the Water Box.

- Provide at least one quarterly evening teacher workshop at Indianapolis Water.
- Continue to use the Indianapolis Water Web site to convey messages about the Water Box.

- Promote an understanding of the relationship between the quality of the water in our Central Indiana watershed and the quality of water as it travels to southern bodies of water and to the overall health of habitat and environment, especially in Central Indiana.
  - Develop strategies to foster public involvement in storm water pollution prevention.
  - Promote existing and create new wetlands for multiple use.

Technical Advisory Group

The following is a set of minutes from a TAG meeting, which outlines the members of this group and the type of work that they perform.

Technical Advisory Group (TAG) – Meeting

Notes from Indianapolis Water Algal Control Work Group Meeting at Veolia Water Indianapolis Conference Room
December 16, 2004
Bill Beranek

January 9, 2005

Participants:
Bill Beranek, Indiana Environmental Institute, facilitator
Christine Arnold, Indiana Department of Environmental Management
Lisa Barnese-Walz, US Army Corps of Engineers, Louisville District
Tom Flatt, Indiana Department of Natural Resources
Jane Frankenburger, Purdue University
Jill Hoffmann, Parsons
Bill Jones, Indiana University
Carole Lembi, Purdue University
Mike Littlejohn, Speedway Water Utility
Martha Clark Mettler, IDEM - Watershed Planning
Jeff Miller, Earth Day Indiana
John Pankhurst, Eagle Creek Parks Foundation
Lani Pascual, IUPUI School of Geology, CEES; Univ. Michigan
Gary Powdrill, Retired Ford
Bowden Quinn, Sierra Club
Glenn Pratt, Environmental Consultant
Dick Van Frank, IKE and Audubon Society
Dan Moran, Veolia Water Indianapolis
Dr. Chandra Mysore, Veolia Water North America
Jean-Michel Seillier, Veolia Water Indianapolis
Dale Pershing, Veolia Water Indianapolis

Observers:
LuAnn Baker, Veolia Water Indianapolis
Karol Bartlett, Experience Science

Jhani Laupus, Veolia Water Indianapolis
David Gadis, Veolia Water Indianapolis

Meeting began at 1:10 p.m.

LuAnn Baker was introduced as a new consultant to Veolia Water who will assist with the watershed nutrient reduction project. Jean-Michel distributed copies of the Water Conservation Plan and invited those TAG members who did not receive a copy and who wish one to request it of him.

This work group meeting focused on the scientific information associated with the phenomenon of chemicals produced by certain blue-green algae (cyanobacteria) under certain conditions that pose a toxic effect on animals. We call these "algal toxins."

Carole Lembi continued and expanded her presentation from two months ago:

Cyanobacteria are of greater concern for nuisance and toxicity than freshwater algae. They tend to be successful in freshwater systems because they tend not to be consumed by zooplankton (presumably due to toxicity or noxiousness of chemicals produced). Many have gas vacuoles allowing them to live at the upper layers of the water body, shading the photosynthetic organisms competing for sun and nutrients and many excrete chemicals that are toxic to algae.

Historically, the three cyanobacteria of concern in Central Indiana have been Anabaena, Aphanizomenon and Microcystis. More recently, Pseudanabaena (Morse, 1989; Eagle Creek 2000, 2001) and Cylindrospermopsis (Eagle Creek 2001, 2004) have been found. As yet, the appearance seems uncorrelated with identifiable changes in parameters.

It is clear that reducing the concentration of phosphates low enough would inhibit growth of blue-greens. Manipulating the growth conditions to favor algal competitors could inhibit blue-greens and, for the short-term, direct control can be used to stop a bloom.

In general, water bodies are characterized by the amount of biological material and potential nutrients present. Low biological material and nutrient concentration is called oligotrophic, medium is mesotrophic and high is eutrophic. Water bodies being managed for public water supplies are better with lower biological content and nutrient concentrations than the levels that characterize eutrophic or mesotrophic. Eagle Creek Reservoir was characterized by Tedseco as eutrophic in August 2004, with an average concentration of 900 ug/L total nitrogen and 94 ug/L total phosphorous present.

There are four general ways to manage bacteria and algal growth for the short term: 1) harvesting; 2) biomanipulation; 3) biological controls; and 4) chemical pesticides.

Harvesting means to pump the water from the affected area, filter off the algae and bacteria and return it. The cost of energy for the pumping and the time required makes this infeasible for all but the smallest water bodies.

Biomanipulation for algae control means to adjust the balance of aquatic species present. In theory, if the majority of fish present were carnivorous instead of species that feed on zooplankton, then the concentration of zooplankton in the water body would thrive, out-competing the phytoplankton (such as cyanobacteria). In practice, that has been achieved by killing all of the fish with rotenone and replacing them with carnivorous fish only. Unfortunately, zooplankton do not tend to consume blue-greens. Moreover, excess

nutrients (phosphate for blue-greens; phosphate and nitrate/ammonia for algae) tend to be a more powerful force on aquatic system phytoplankton growth than the effect of carnivorous fish. In Midwest lakes, excess nutrients ensure that phytoplankton dominate the aquatic systems regardless of the amount of carnivorous fish.

The only *biological controls* for cyanobacteria and algae (control meaning a large organism eats the cyanobacteria and algae at significant rates) that themselves can be controlled are tilapia fish, but tilapia require warm water year round. Invasive mollusks, such as zebra mussels, have shown to be effective consumers of certain types of bacteria and algae in the Midwest waters, but they cause a seriously unbalanced aquatic community. Experiments are being conducted with a bacterium first isolated in Louisiana that evidently exudes a compound that causes the cell wall of the blue-greens to lyse (and only that type of cell wall). Since the blue-green bacterial cell wall is different than algal cell walls, this would allow "good algae" to thrive. Good algae are resistant to the toxic compounds that the blue-greens excrete. In laboratory conditions, it has shown effectiveness in reducing the concentration of blue-greens. This is some years from development and approval by USEPA for intentional use as a commercial biological control agent.

Chemical pesticides targeted at bacteria and algae ("algaecides") are effective. However, great caution should be used in their application. The application is always limited to portions of a reservoir. Because they treat the symptom and not the cause of the unwanted phytoplankton, people can use it and ignore the cause. Traditionally, the divalent form of oxidized copper has been widely used with great success. Copper sulfate (bluestone) is an inexpensive treatment. The salt is applied directly into the water where it then dissolves, or it is dissolved in water and the copper water solution is applied. Either way, the solubility of the copper in the water body depends directly on the ionic strength of the water and the concentration of other chemicals that could combine with the copper (e.g., $CuSO_4$ would be less soluble in water high in carbonates, such as in Indiana hard water). With the inorganic and organic matter present in the water body, the copper gradually combines with other constituents and particles to precipitate to the sediments. The chelator is an alternative class of compounds to use to administer the copper instead of the sulfate salt. When these dissolve into solution, each chelator remains bonded to each copper ion in a manner that the combination resists the precipitating effects of free copper with the other constituents. This copper, as a complex, stays in solution longer than the free copper dissociated from the sulfate version, still retaining the toxic effect on living organisms. Cutrine is copper with ethanolamine as the chelator. (Ethanolamine is a two-carbon chain with an alcohol group at one end and an amine at the other.)

While copper is toxic to the cyanobacteria/algae, what is the safety of copper compounds to people? The label is listed as "danger." The toxicity category is "high." The dose applied regularly to a white rat that would kill half of the rats is 470 mg/kg. The same toxic effect in a 154-pound human would require eating and absorbing 33 grams. Caffeine, nicotine and arsenic are much more toxic to humans. Copper is an essential nutrient in mammals and is included in mineral supplements for humans and animal feed. Carole noted that if a person drank a gallon of water a day of the maximum concentration of 0.25 ppm that a part of the reservoir is treated for, that would be less copper than in the usual daily mineral supplement pill.

In general, even when administered as Cutrine chelate, most of the copper is diffused or precipitated from the application area within four to seven days. Copper per se never goes away. Other than the trace amount that stays in solution, copper accumulates in the sediments. It does not bioaccumulate up the food chain.

The copper does tend to bind tightly to the chemical and biological constituents in the sediment. There are no state or federal government standards for what an "acceptable" concentration of copper in sediments might be. It depends on the aquatic situation, on the sediment matrix and on social factors.

Carole noted that the European Union established a value of 140 mg copper per kg of soil as guidance for maximum acceptable concentration of copper in agriculture soil. In California, after decades of intense aerial spraying of copper compounds in rice fields, the average sediment concentration of copper is now 70 mg/kg. That illustrates both the long-term it takes for accumulation and also the possibility of reasonably high levels being achieved.

Another disadvantage to copper treatment is that it kills zooplankton, leaving the fish temporarily with a reduced food supply. But cyanobacteria also are detrimental to zooplankton.

A more expensive alternative chemical pesticide to copper without the sediment contamination problem is sodium carbonate peroxyhydrate. It is marketed as GreenClean Granular Algaecide by a company called Bio-Safe Systems. When dissolved in water, the peroxyhydrate goes into solution as hydrogen peroxide with a strong oxidizing potential. The carbonate in solution will tend to increase the pH while forming a certain amount of bicarbonate. The hydrogen peroxide will oxidize the organic matter of the biological organisms (breaking carbon-carbon bonds by adding oxygen).

This pesticide is likely as indiscriminant in its actions against all plankton as chlorine (because the mechanism of attack is identical), but it is possible for different types of organisms to have different susceptibilities. This must be explored with the applicator before use. Bio-Safe Systems is trying to obtain federal permission to use on water after it is drawn from public water supply reservoirs. It has never been used on Eagle Creek-sized water bodies. In lab studies it appears that under appropriate circumstances a homogeneous concentration of 17 lbs per acre/ft would clear the water of Cylindrospermopsis.

(It is interesting to note in passing a November 23, 2004, news release about a University of Florida isolation of a bacterium that metabolizes free MIB in solution. That observation may or may not have any future practical application, but it could be an interesting finding, depending on the mode of action and conditions of the reaction.)

Carole reminded us that ultimately treatment of algae is a stop-gap measure. It is better to manage the watershed and reservoir to prevent nuisance levels of cyanobacteria and algae from growing. In St. Paul, Minnesota, in the past, nuisance cyanobacteria effects were controlled with copper sulfate in the reservoir and treatment in the drinking water treatment plant. Currently, the control is being accomplished 1) with inactivating phosphorous with iron chloride (probably at sewage treatment plants); 2) retention ponds at points of urban runoff (to trap phosphorous in pond sediments); and 3) aeration (to inactivate phosphorous in sediments of ponds and of reservoirs).

Bill Jones discussed the application of alum to lakes to inactivate phosphorous in sediments. He participated as a researcher in a 1998 project to apply alum to different parts of the bottom of Lake Shakamak. The impetus came from former lifeguards noting the serious deterioration of the quality of water over forty years due to high nutrient loading. The alum application did help reduce phosphorous concentration (and amount of cyanobacteria and algae) in the water column but it was not a long-term solution because 1) the initial dose was too low; and 2) the source of nutrients (e.g., septic systems and rural runoff) continued.

Jill Hoffmann reviewed the experience of the Indiana Blue-Green Algae Task Force and possible next steps. The Task Force was a group of people from IDNR (Fish and Wildlife, Entomology and PP, PIE, Lake and River Enhancement), IDEM (GW, BSS), Purdue (Animal Disease Diagnostic, Botany and Plant Health), Indiana State Department of Health, IU SPEA, USEPA, Board of Animal Health, Illinois EPA, Indianapolis Water Company, Indiana Lake Management Society, and other private professionals.

In late August, a Michigan researcher on vacation noted unusual phytoplankton in the water of Ball Lake in north eastern Indiana. She saw no zooplankton but high blue-green without visible filaments. She evaluated a water sample the next day in her laboratory, confirming the presence of Cylindrospermopsis with "counts off the charts". A Wright State Professor (Wayne Carmichael) later confirmed presence of the toxin. The Indiana State Department of Health and the local health department combined to respond to estimate the risk and to communicate it to the lake users with door-to-door notification. Fortunately, within days heavy rains washed away the high Cylindrospermopsis concentrations. No one ever reported symptoms of toxicity (e.g., dermatitis) from the Ball Lake incident (there was never a thorough attempt to discover such information and the tourist industry was not anxious to find such problems). Purdue Animal Health staff did not consider the concentrations of Cylindrospermopsis found in subsequent samples to be of concern to humans swimming in it or to animals that would drink it.

The Task Force was convened to assess the Ball Lake finding and to develop a coordinated emergency response procedure among agencies for the potential of similar findings elsewhere.

One observation was that the federal government had no standards for acceptable concentrations of various toxic blue-greens or of the toxins. (Now the toxins are on a list at USEPA to develop enough human toxicity information to create a maximum contaminant level for finished drinking water. That process will likely take more than 10 years at the best.) The World Health Organization has guidance for concentration of other blue-greens. Indiana based its immediate advisory extrapolating from these factors. The State of Florida has long experience with higher concentrations of Cylindrospermopsis in its waters and, in fact, it considers acceptable for swimming concentrations that were higher than what Indiana told its citizens might pose a concern.

Jill said that 80 alligator were confirmed dead in the summer of 2001, suspected to be from Cylindrospermopsis ingestion.

In 2003, the first human death confirmed from cyanobacteria was reported. Four teenage boys in Madison, Wisconsin, played one evening in a golf course pond green with algae. Three were sickened and the fourth died. Jill said that an algal toxin was isolated from the dead boy's liver in concentrations that was determined to have caused acute liver damage,

which resulted in the death. Dale agreed to find the scientific papers describing the toxin and precise circumstances.

Improvement to Indiana approach as a result of the Task Force deliberation:

1) There is greater expertise in-state to look for Cylindrospermopsis.

2) All findings of toxic blue-greens or algal toxins are to be reported to Bob Teclaw of the Indiana State Department of Health.

3) Permits for herbicide application to waters serving as drinking water supply sources from IDNR require an IDEM condition to check for Cylindrospermopsis to avoid inadvertently killing them in a manner that could release toxins into the water.

4) The IDNR Aquatic Nuisance Species Program has expanded its vigilance to address microorganisms.

5) There is a Frequently-Asked-Question section about Cylindrospermopsis on the IDNR web page.

6) Data from Army Corps of Engineers Indiana reservoir studies was reviewed.

The Task Force is no longer meeting as a group. Nobody in the state is assigned primary responsibility to watch for blue-greens. Nobody is coordinating this effort at the state agencies.

Left to do is to establish a solid research protocol to evaluate types of lake conditions that would have highest likelihood of receiving and supporting growth of the toxic blue-greens and then implementing that protocol in a systematic manner. Also needed is a single place for citizens to call capable and willing to provide answers to local concerns and to report concerns. The Indiana Lake Management Society is pursuing funding for a research effort.

Bill Jones has analyzed for Cylindrospermopsis -- 2002 and 2003 samples from a number of lakes taken for a different research purpose. The results are incomplete and cannot be told to public health officials yet. However, Bill said his tentative results showed "more than anticipated" positives for Cylindrospermopsis.

Lisa Barnese-Walz, U.S. Army Corps of Engineers, Louisville District, reported on the findings of the Corps on eight types of bacteria and algae in the eight Indiana reservoirs that the Corps runs. The Corps samples each reservoir four times each year from late spring to early fall. Cylindrospermopsis is analyzed in manner coordinated with the Michigan researcher who first discovered the blue-green in Ball Lake. In 2001, Cylindrospermopsis was found in the Monroe Reservoir. Unfortunately, while fall is when Cylindrospermopsis would be expected, the Corps does little sampling in the fall. In 2004, at Salamonie Reservoir, Anabaena and Microcystis were found in high concentrations in waters that were noticeably blue-green.

Dr. Chandra Mysore reviewed the human toxicity of blue-greens and the susceptibility of different cyanobacteria and their toxins to removal at the drinking water treatment plant. He said that about 50% of the known generaof cyanobacteria produce a toxin with animal toxicity (Microcystis, Anabaena, Oscillatoria, Nostoc, Hapalosiphon, Anabaenopsis, Nodularia, Lynbya, Schizothrix, and Cylindrospermopsis). Common toxicities include neurotoxicity

(nerve poison such as saxitoxin that is the paralytic shellfish poison and anatoxin), heptatoxicity (liver poison such as microcystin and Nodularins), general cytotoxicity (range of health problems such as gastroenteritis, kidney and liver damage; example is Cylindrospermopsin) and endotoxicity (gastrointestinal upsets and skin irritation; examples are the lipopolysacharides).

Table III.C-1, below, provides a listing of the common toxins and the different cyanobacteria genera that are known to produce them. Note that one genus may produce more than one type of toxin. It is not yet known whether that observation is the result of different strain of species in the genus producing different toxins or if all species are capable of producing all the toxins that the genus has been observed to produce.

Table III.C-1. Common Toxins

Toxin Category	Toxin groups	Primary target organ in mammals	Typical genera producing the listed toxin
Hepatotoxic cyclic eptides	Microcystins Nodularin	Liver Liver	Microcystis, Anabaena,Oscillatoria, Nostoc, Anabaenopsis Nodularia
Neurotoxic alkaloids	Anatoxins Saxitoxins	Nerve synapse Nerve axons	Anabaena, Aphanizomenon, Ocsillatoria Anabaena, Aphanizomenon, Lyngbya, Cylindrospermopsis
Cytotoxic alkaloids	Cylindrospermopsins	Liver, kidney, lymphoid tissue	Cylindrospermopsis, Aphanizomenon, Umezakia
Dermatotoxic alkaloids	Aplysiatoxins Lyngbyatoxin	Skin Skin, gastrointestinal tract	Lyngbya, Schizothrix, Oscillatoria Lyngbya
Irritant toxins	Lipopoly-saccharides	Any exposed tissue	All

In the United States, there are three cyanotoxins: microcystin, saxitoxin and Cylindrospermopsin. In 1931 there was a gastroenteritis outbreak from drinking Ohio River water. In 1979, people were hospitalized from drinking high concentrations of Cylindrospermopsis or the toxin in Queensland, Australia. In 1988, 88 deaths occurred from gastroenteritis by the consumption of "treated water" (degree of treatment is not clear) that contained high concentrations of Cylindrospermopsis in a reservoir in Brazil due to a flooded dam. In 1996, 50 deaths due to hepatitis occurred in Brazil due to Microcystis or microcystin contamination in finished water provided to dialysis patients.

Different strains and subpopulations within strains seem to produce toxins at different rates (differ by factors of two or three). The waxing and waning of the concentration of toxins during an apparently constant algal bloom could be due to the cycle of growth of the

different strains. Cyanobacteria produce toxins when in the active growth phase and when under stress. Blooms themselves wax and wane in as yet unpredictable ways. The reason for the toxin production is not certain.

Microcystin is a small peptide-type compound with 70 known chemical variants. The microcystin-LR variant is the one the toxicity is standardized to. This LR variant has a leucine and an arginine in key positions. The World Health Organization (WHO) guideline is 1 ug/L for this compound, the same WHO toxicity health level as for Cylindrospermopsin. Both are on the list for USEPA drinking water standard development pending solid toxicity data development. At low doses it causes gastro-intestinal upset, skin irritation and respiratory difficulty. It is lethal within one to two hours at high doses with liver and kidney failure. There is evidence it may be a very potent tumor promoter in long-term exposures.

Cylindrospermopsin is an alkaloid. Anatoxin is a ketone with a borneol-type carbon structure. Saxitoxin is a nine-member heterocyclic core with different functional substitutions for different compounds.

The LD50 in rats for microcystin LR is 0.05 mg/kg; Cylindrospermopsin 0.2; saxitoxin 0.003; anatoxin A 0.4.

The treatment plant removal strategy is generally 1) remove intact cells with adsoprtion or coagulation and then 2) destroy the toxin with oxidation by chlorine or ozone.

Adsorption with PAC or GAC (especially wood-based charcoal with 45-minute contact time) can also remove most mycrocystins and saxitoxins. Alum or iron chloride removes 95% of microcystin because most of the microcystin is bound to the Microcystis cyanobacterial cells that are removed. Lime is sometimes useful.

Ozone or ozone/biologically active filters are very effective against all the cyanobacteria toxins. Breakpoint chlorination similarly is very effective for all three toxins (need above pH 8 for saxitoxin).

Therefore, it is relatively straightforward to treat the raw water for algal toxins. The best strategy is to treat the cyanobacteria intact but, if the system is properly configured and operated, the toxin itself can be removed with great effectiveness in the basic treatment plant process.

The meeting ended, noting that the February meeting would be focused on the optimal protocols for the state and local governments and water utilities to use when in the future the presence of toxic cyanobacteria is detected.

The meeting adjourned at 4:00 p.m.

Appendix D

VEOLIA Water

Appendix D

Appendix D

Part One

Capital Program Management – Brochure

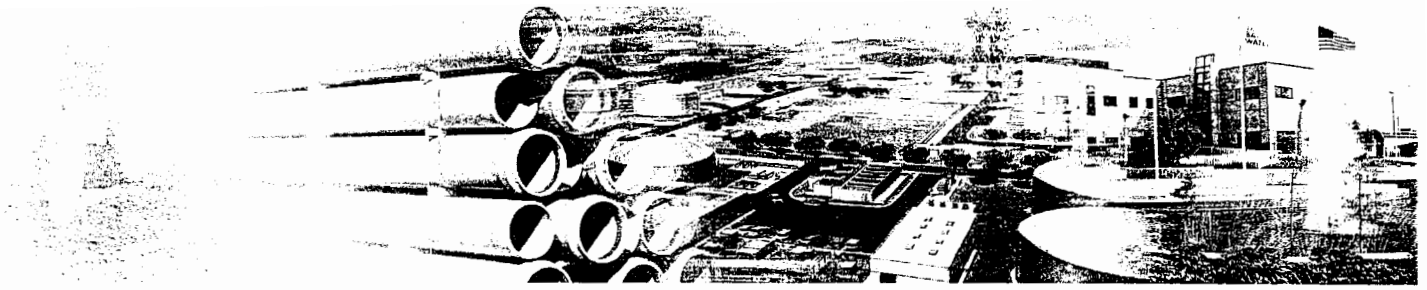
VEOLIA Water

Capital Program Management

Most of our customers know that Veolia Water North America is the market leader in operating and maintaining municipal and industrial water and wastewater treatment facilities and systems. Sometimes they're surprised to find out that we're also a market leader in the specialized design-build-operate and design-build model for constructing new water and wastewater treatment assets plants or expanding and upgrading existing assets.

Above: Moving dirt in Rialto, Calif.

VEOLIA Water



Our Capital Management Program Delivers Results

We strongly believe that a DB or DBO process is the project delivery method that best meets the owner/customer's needs, aligns the interest of the service provider and simultaneously addresses complex project challenges. Typically, most of our customers want to achieve a high-quality project that is cost-effective to build, operate and maintain—and they want as well as delivered via an accelerated schedule. Our approach delivers this approach and our track record demonstrates success.

Veolia Water North America's Capital Program Management team (CPM) consists of highly qualified professionals who have engineering and construction experience as well as have an understanding of operations and maintenance issues. Our team also understands the impact each discipline has on the other. Our total project management scope includes the following services:

- Capital Improvement Planning
- Project Budgeting
- Pre-construction Activities such as scheduling and organizing
- Procurement Assistance
- General Contracting
- Project / Construction Management
- Project Cash Flow Analysis

CPM's role as a DBO manager is critical to the success of our capital improvement projects at facilities we operate. During the early stages of a capital improvement project, our CPM team focuses on the components that can deliver a high-quality, cost-effective project. We identify safe and qualified local contractors and select proven engineering partners.

Considerable time is spent to ensure these firms understand your project and participate as a team member and partner, not "just" a subcontractor. During design and construction, the CPM group pays particular attention to critical areas, including:

- Further process validation
- Evaluation of system alternatives
- Constructability issues/enhancements
- Value engineering
- Operation and maintenance efficiency
- Overall life cycle costs
- Assurance of a quality constructed project delivered on time

Regardless of project size, these items are critical in importance. Using a partnering approach to run project teams, CPM typically functions as the project leader and your main point of contact during the project. This highly coordinated approach results in increased speed of delivery, the elimination of "finger-pointing" and seamless execution of all project phases without misunderstandings commonly found among multiple project parties. Our objective is always to keep all team members working together—providing O&M input and support during the design-build phase, supporting the O&M staff during the startup and transition phases, and also providing other support resources to support the long-term viability of the project.

CPM also maximizes the advantages of a design-build project delivery approach by utilizing innovative methods to expedite project delivery and select the best technologies that will ensure your facility is reliable, durable and cost-effective to construct, operate and manage.

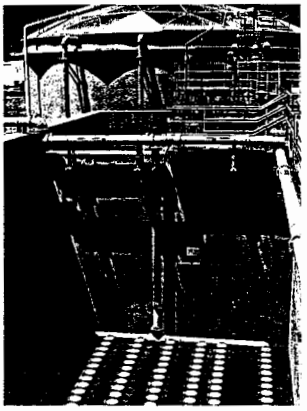
Your team in the West is led by Craig Watkins, vice president, CPM, for Veolia Water North America - West LLC. He brings more than 23 years of experience in the engineering and construction industry. He has significant experience performing design-build projects in the water and wastewater industry for both municipal and industrial clients.

Several recent successful projects for the CPM group include: Lathrop, Calif., Richmond, Calif., Atwater, Calif., and Cle Elum, Wash.

City of Lathrop, California

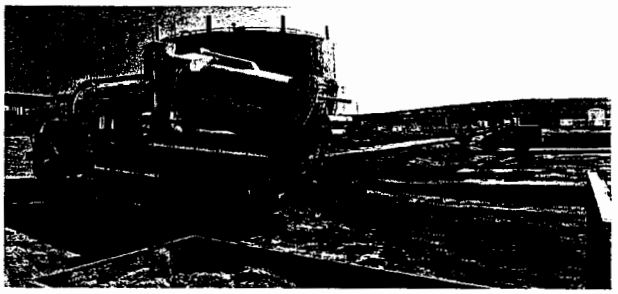
The Lathrop project is an excellent example of how a public-private partnership can provide a quality project at an affordable price in an expedited time frame. This project performance was recognized with the 2004 Small Plant of the Year Award (<5-million gallons per day category) from the Northern San Joaquin Section of the California Water Environment Association (CWEA).

In 2003, Veolia Water was contracted to provide DBO services to the city for the development of a new wastewater reclamation plant while keeping the city's existing facilities in operation during the design and construction of the new facilities.



Veolia Water provided fast-track design and construction services for a new 0.75-million gallons per day tertiary treatment plant. Our CPM group performed the project management for this project. This facility is designed to replace an existing plant and will, when fully expanded, meet California's Title 22 requirements for effluent reuse. The new plant has been designed for expansion, in incremental increases of 0.75-million gallons per day, up to 10-million gallons per day; the first expansion phase will add redundant solids handling equipment to ensure efficiency in managing plant biosolids. The new plant also features several state-of-the-art components: a MemJet™ immersed membrane bioreactor, Mectan® grit collector system and ZABOCS® biological odor control system.

Additionally, Veolia Water has completed preliminary designs to add sand filters to the existing plant. When the city authorizes implementation, these improvements, along with changes to the aeration system and possibly influent equalization, will bring the facility into full Title 22 reuse compliance. Additionally, Veolia Water assisted the city in developing a land application program for the beneficial use of biosolids, and we are developing O&M manuals to meet state regulatory agency requirements.



City of Richmond, California

Veolia Water recently concluded a multi-million dollar rehabilitation of the City of Richmond, California's wastewater treatment plant, upgrading systems plant-wide. Completed in just two years, this project focused on restoring environmental compliance and addressing historic odor problems.

The capital improvements program focused on upgrading, modernizing and automating existing systems at the plant. Capital improvements included a new automated bar screen; rehabilitated primary clarifiers, rebuilt digesters and new domes, and rebuilt and improved aerators using Envirex® systems; new computerized controls throughout the plant; a new disinfection system and equipment and controls; and a new chemical containment facility to enhance worker safety and environmental protection and improve facility appearance.

In a demonstration of its satisfaction with our work, in 2004, the city expanded our scope to include a similar effort to its 240-mile collection system-adding $20 million in capital to our O&M project scope. The scope of work includes a major rehabilitation of the city's collection systems and lift stations, as well as asset management of the systems when capital improvements are complete.

Cle Elum, Washington

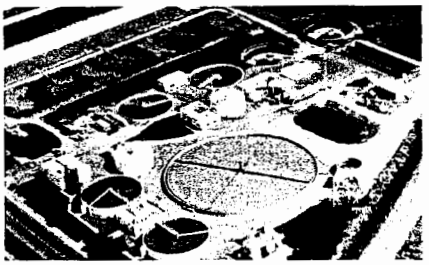
Veolia Water submitted a bid to design-build a new regional wastewater treatment plant for the cities of Cle Elum, South Cle Elum and Roslyn. Also, interim operations of the existing plant while construction took place. Because the existing plant was to be substantially modified while the new plant was under construction, the bid also included the provision CPM perform as the project manager.

A team including a local engineer, regional contractor and design support, as well as other project services from a central Veolia office, provided the owner(s) with a quality, on-time project. One of the first major tasks was to provide

an alternative design to reduce the capital budget by over $3 million. Through value engineering and a review of solids handling alternatives, Veolia was able to lower the cost which allowed the project and dependant development to proceed.

As the result of a subsequent bid, Veolia Water has now been selected to operate the plant for the next 10 years. A major factor in the award of the long-term bid was the relationship that Veolia Water, later led by CPM, was able to form with the city. City staff commented that we did exactly what we said we would do when we started the project. This indicated to them that we had a good plan, the core values to deliver and the quality staff to perform the work.

Atwater, California



CPM has been working closely our operations staff and the City of Atwater to assist in thirteen major maintenance projects at their wastewater treatment plant. CPM has partnered with Boyle Engineering, a local engineering firm, to support prioritizing/scope/development and to procure construction activities for these projects. It is anticipated that CPM will manage approximately $1 million in capital improvements for the 2005 fiscal year at the Atwater WWTP. All of this work is being performed in conjunction with the master planning of the plant from the average daily flow of 6 MGD to 10 MGD, to the production of Title 22 quality reuse water.

An example of CPM's capabilities is the fast and efficient execution of an emergency replacement at the plant. In February 2005, the original primary clarifier drive unit finally failed. The Atwater wastewater plant was then operating with one primary clarifier of which this drive unit could fail at anytime. Veolia Water developed a specification for the procurement of new primary clarifier drive units. In March 2005, Veolia Water and City of Atwater officials opened two sealed proposals from the proposing suppliers.

The CPM design/ build approach has identified a potential savings of over $20,000 if both clarifier drives are replaced now. As the client needs to replace the other drive this type of communication is very beneficial to the City and will help stretch their precious dollars to facilitate additional repairs.

Rialto, California

In May of 2003, the City of Rialto and VWNA entered into a contract to operate and maintain the City's Wastewater Reclamation Facility and Wastewater Collection System. This facility consists of five wastewater treatment plants that have been constructed over the past several decades on the same site. Two plants, numbers 1 and 2, are very old and have not been maintained to a standard considered adequate for continued operation. In order to meet the requirements of the city's regulatory discharge permits, it was necessary to continue to operate plants #1 and #2 until capital improvements could be made to the other plants that make up the Wastewater Reclamation Facility. This was not an efficient use of capital resources and also contributes to ineffective use of electrical and plant process resources. Plants #3 and #4 are the next oldest facilities. It will be very important for the long-term plan to keep these plants operational to a standard that will offer sufficient capacity and backup to the more modern Plant #5.

One of the initial projects performed was the design-build approach of a new liquid chlorine disinfection system. This $600,000 project was executed within schedule and budget. Due to the success of this project and developed trust, we developed a Capital Improvement Plan (CIP) for the assets under management. CPM identified and prioritized $5-$7 million in capital improvements.

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VEOLIA Water

Appendix D
Part Two
Customer Service at Indianapolis, Indiana

VEOLIA Water

2005-2006 CUSTOMER SERVICE PLAN

TABLE OF CONTENTS

Introduction

Veolia Water Indianapolis, LLC (VWI) shares the goals of the City of Indianapolis for a responsive Customer Service Plan. A Customer Service Plan makes an invaluable link between Indianapolis Water and the public. It is the "human" side of operations that can supersede all the technical expertise of an organization. A strategic Customer Service Plan is the first step to satisfied customers. When Customer Relations staff display professionalism, courtesy, competency and concern, customers simply feel better. Customers tend to share negative experiences rather quickly, and one bad impression from one single customer can easily be heard by scores of others.

The Customer Service Plan (CSP) addresses the Company's approach to customer relationship management. Per the Management Agreement contract, the CSP will be submitted to the Department annually.

The CSP states what the Company will provide, how and when the service will be provided, and underscores our commitment to retain loyal customers with quality service. The CSP establishes guidelines for employees and is in line with the Department's requirements. It spells out what customers can expect from the Company through established policies and procedures as well as identifying areas of opportunity for the next year.

The objective of the Customer Service Plan is to build customer satisfaction and loyalty, improve customer perception, increase speed of response, and ensure accurate information is obtained and properly used in order to protect the Department's investment. We see our strategic vision for the future of the Company accomplished through implementation of technologies that will streamline process flow and improve customer services while simultaneously improving the level of customer satisfaction.

The VWI Customer Relations department has the responsibility to meet each customer's needs for customer contact and revenue management. During the past year-and-a-half, many of the customer-related processes have been reviewed and continuously monitored to attain the incentive criteria and raise the level of service provided to the customers. There have been significant measurable improvements in the delivery of customer service

since 2002, and VWI expects to continue this progress into the future. Reporting on the status of the customer relations incentives is submitted to DOW on a regular basis and, therefore, this CSP will not duplicate that effort.

Key customer service programs have been identified, and these serve as the basis for improvements in the quality of customer service delivery. Because they are the critical link in the process, employees are at the top of the program. VWI is committed to developing and retaining a talented and motivated workforce. These are the people who will provide service to customers on behalf of the Department of Waterworks. The customer and the DOW are served well when reactive contacts are reduced and replaced with a longer-term proactive plan. When VWI can anticipate the customer's needs and fulfill them the first time, then the customer will receive better service while having less direct contact with the utility.

Billing and Meter Reading

Currently most meters are read every other month and billed monthly. As a result, there are six estimated meter readings for each meter per year. Any customer may send a written request to Veolia Water Indianapolis to obtain monthly readings for an additional charge. Meter reading exceptions for each bill cycle are reviewed by the billing quality assurance team to ensure accurate billings. The second step in the QA process involves a review of billings that fall outside normal parameters. This process allows any corrections to be made to the customer's bill prior to mailing. The last step is a review of a sample of actual bills to ensure accuracy prior to release to Union Federal for processing and mailing.

The billing quality assurance team is also responsible for maintaining contact with customers that consume large quantities of water and high risk customers such as health care facilities.

Billing Services is also responsible for reviewing and approving any changes made to the customer information billing system. These processes involve testing and review in several test regions prior to the move to the production database.

Projects: 2005-2006

The billing department will enhance existing procedures related to billing and customer satisfaction. We continue to monitor the performance of the Smart Suite billing system to ensure the timely and accurate production of billing statements. Improvements in documentation for standard procedures will allow the company to maintain its ISO certification.

- Continue to monitor current bill sampling procedures to ensure billing accuracy.
- Development of time study report to track the timeliness from meter reading export to final batch processes.
- Work with Health Departments outside of Marion County to identify schools, medical facilities and nursing homes to create an emergency contact database. This is addressed in the VWI Emergency Response Plan.

- Utilization of the customer-level bill messages to notify customers of friendly water related tips.
- Develop structured relationship with high volume commercial and industrial customers to address their concerns and gather contact names and telephone numbers.
- Create a database of commercial and industrial customer contacts for quick reference in the event of a water emergency.

Automated Meter Reading

The purpose of the creation of this working group is to propose an environment where Veolia Water Indianapolis, LLC and its major clients, the Indianapolis Department of Water (DOW) and the Indianapolis Department of Public Works (DPW), can study together the requirements and benefits of an Automatic Meter Reading (AMR) system for the City of Indianapolis water customers.

Veolia Water Indianapolis LLC (VWI) follows meter reading past practices of the Indianapolis Water Company. This means that only 2,700 of its customers (typically the largest industrial and commercial users) of the 312,000 water meters are read and billed monthly. The remaining meters are scheduled to be read and billed every other month, with intervening months billed on a calculated estimate of previous usage. With more than half of its water and sewer bills being based on estimates, VWI and DOW/DPW have created an environment which could imply a loss of confidence from the customers concerning the accuracy of their water bills.

An automatic meter reading (AMR) system would virtually eliminate all estimated bills; reduce the volume of customer calls, field visits, and the cost of customer service operations; reduce customer service transactions time; reduce opportunities for billing errors; support VWI's and DOW/DPW revenue protection efforts; and enable enhanced and more proactive customer service.

VWI evaluated several meter-reading technologies. Mobile radio is the most widely deployed. Fixed radio, which uses neighborhood data collectors to capture readings, provides greater customer service capabilities and is the fastest growing technology, but can be more expensive to operate.

The team should consider the benefits and costs of choosing a technology that could be compatible with the needs of other utilities in Indianapolis (Citizen's Gas, Vectren, Cinergy, etc), and has the potential to read some or all of its meters over existing networks, such as IPL's.

The AMR project team must ensure installation quality and data integrity, to minimize the burden on customer service staff.

Based on a detailed analysis of VWI's current operations, review of AMR technologies, visits to utilities using or desiring to use AMR, and financial analyses of alternative solutions, the project team should recommend to VWI and DOW's senior management the rationale for AMR, what benefits

are expected to be achieved, at what costs, the optimum product to be used, as well as a detailed breakdown structure of the implementation project.

The team should be made of:

several key technical staff from VWI.
DOW.
DPW.
Other utilities.

The topics to be reviewed by the working group could be:

- Should DOW and VWI implement an AMR system (should include the whys)?
- What system is best for Indianapolis? The team should consider proposals for both mobile and fixed radio AMR, since the latter provides more capabilities and is expected to eclipse the former in the next few years. It should consider life-cycle costs.
- How best to pay for the system. Who will own it? (In addition to purchase, possible options include leasing or user fees to use other utility's equipment.) Who will receive which benefits? The team should recommend how to handle large meters on a case-by-case basis since many of these meters are expensive to replace and because large customers may have special data needs. This expense should be weighed against significant potential loss of revenue if the meter replacement is delayed.
- Time frame for deployment (risk of potential obsolescence during deployment vs. cash flow requirements vs. labor cost reductions vs. enhanced customer services).
- Team should establish a dedicated project management team by the time it is ready to evaluate proposals.
- Customer Relations process re-design to take full advantage of the new system.

AMR Activities Completed in 2004-2005

- A VWI executive team consisting of David Gadis, Jackie Groth, Jean-Michel Seillier and Kathy Humphrey has been established.
- Milt Keys has been identified as project manager and other team members include: Debbie Foster, Paul Dicken, Bill Hulse, Debbie Willis and Jim Washburn.
- Several site visits were made to IPL to learn first hand about their experiences with implementation and ongoing operations.
- Worked with ViaStar to begin the cost analysis for AMR. Used their categories and developed a spreadsheet which included multiple scenarios.

Projects: 2005-2006

- Send several VWI AMR team members to the national AMR conference in September for the purpose of continuing to learn about AMR opportunities.
- Work with the DOW to continue to develop cost scenarios to determine financially and operationally feasible solutions.

Contact Center

We will continue to improve our level of customer service excellence and quality assurance as our highest priority. We believe that by continuing to improve our employee skills, work environment, work ethics, training and communication, we will have loyal and satisfied employees, which will result in loyal and satisfied customers and clients. We will continue to meet and exceed our performance metrics as defined by the management contract. We will continue to work to enhance services provided, such as bilingual agents as the Hispanic population in the city continues to grow.

Projects: 2005-2006

Utilize IVR upfront messages as "emergency notifications, or current updates ", and seasonal tips to coincide with billing messages printed on customer bills, as a means of communication with our customers and clients.

Networking/benchmarking with other utilities and similar contact center structures for continued comparison and best practices.

Set up escalated customer complaint process with problem description, problem resolution and supervisor or agent that handled complaint on shared V drive. Tracking response times to escalated customer complaints helps identify problems and prevent future occurrences speedily.

Implement on-line SOP reference tool for customer relations for quick access to client/customer information.

Work with the Mayors Action Center; investigate setting up a direct phone line between the MAC center and Veolia Water Indianapolis customer contact to accommodate the transfer of customers to qualified agents.

Have on-going employee workshops to improve customer service skills.

Critical to an effective Customer Service Contact Center is a well-trained and cross-trained workforce. We will continue improvements for customer service excellence with:

- Ongoing training and goal setting for employees.
- Improvement in call center environment and employee morale.
- Options for employee shift trades, flex-time, or makeup time.
- Open line of communication with agents & supervisors.
- Regular agent coaching & monitoring for feedback, employee growth and empowerment to take care of our customers.
- Daily performance reports for individual agents.
- Contact center agents & supervisors organized into teams for more structure.
- Create positive feelings among employees, instilling purpose, motivation, recognition & pride in our work.

Collections and Remittance Processing

The collection of revenue and remittance processing is a critical function of a customer service organization. Our collection policies and practices meet the city's rules and all other governmental agencies' rules and regulations. We continue to grow our available payment options for customers, and with the closing of the lobby, have added enhancements to existing options and another alternative of a pay site.

We have extensive experience in developing and implementing effective collection processes, especially in the area of shut-off policies and procedures for nonpayment. We are planning to make the shut-off process more automated, while giving more personal attention to industrial and commercial customers in working with them to keep their balances current.

Much work has been done to refine collection processes and to review the receivable accounts to ensure a smoother process and the achievement of the collection rate incentive. This process will continue to ensure proper rollover of the receivables.

We are experienced in providing management reports, and it is our intent to continue to provide timely, accurate reporting of customer service performance in monthly, quarterly and annual management operating reports.

Projects: 2005 - 2006

- Meet the contract incentive of collection rate of 99.4% for 2005, and 99.5% for the remainder of the Management contract
- Review payment options for enhancements and improvements in order to offer convenient methods of paying the bill for our customers while still insuring timely postings of payments
- Continue with, minimally, semi-annual, meetings with lockbox provider to insure the process is working smoothly with all agents. Also include discussions of additional automation to the process.
- Provide management reports timely and accurately, including a monthly listing of revenue adjustments, and a report showing the method of payments used by customers.

Training

It is the mission of the Training Program to ensure that Customer Relations employee is afforded the opportunity to develop existing skills and acquire new skills and knowledge in order to continually improve their overall competency and performance. Properly trained employees are not only essential to our goal of maintaining the most cost-efficient customer relations but training is an investment that pays dividends to our clients. New employees in the contact center are provided with 160 hours of training, which includes shadowing and supervised hands-on experience. New employees in the other areas are provided much of this same training, plus one-on-one training for specifics of the area.

Projects: 2005-2006

In order to ensure our employees receive the best training and the customers receive the best customer service possible, a new position will be created. The position will be for Supervisor of Training.

This training supervisor will have several seasonal refresher training sessions to include the following topics:

- ISO Training
- Cold Weather
- Irrigation meters
- Backflow
- Soft skill Training
- Water Quality

We will provide agents with daily tips and better ways to handle specific calls.

We will implement "intermittent" training sessions to allow all agents to be kept up to date on new and changing procedures.

Customer Survey

VWI's current measurement of performance is based on feedback acquired from the DOW. VWI will implement a Client Satisfaction Survey that will be conducted annually to better measure the performance by VWI in regards to client relations and communications. The implementation of this tool will assist in improving the service provided and will provide a documented evaluation of the service provided to the client. VWI will continue to seek direction from the DOW on how to more effectively respond to its needs.

Projects: 2005-2006

- A new "customer satisfaction index" based on a model used for other water utilities nationwide, and on survey data we have collected for VWI on customer perceptions and satisfaction among residential drinking customers over the past 3 years.

The VW-CSI is a customer satisfaction index designed to:

- Measure overall satisfaction among residential customers as a whole.
- Allow for breakdowns into separate (sub)indexes for each of the two segments of residential customers (i.e. callers and non-callers).
- Generate separate scores on each of the six different factors that drive over all satisfaction and comprise the total satisfaction index.

The six factors are:

1) water quality and safety
2) customer service
3) information
4) value and price
5) reliability of water service and supply
6) conservation

The index has been constructed and tested using large random samples and appropriate statistical processes. It has also been designed to allow for continual expansion to incorporate comparable measurements taken in future surveys of other important customer segments and stakeholder groups, including commercial and industrial customers.

ISO

ISO registration was a contract requirement with the city. Veolia was required to be registered in two areas 9001 – Quality, and 14001 – Environmental. A large effort was made to be ready for the ISO audit by May 15, 2005, and registration was recommended in both areas. For Customer Relations, this effort included generating three departmental procedures to support the company-wide procedure for Customer Satisfaction. These three procedures (which are included) refer to the annual required customer satisfaction survey, the required documenting and reporting of formal complaints, and the training needed by all customer service employees in order to acquire and maintain the competency needed to provide good customer service and thus ensure customer satisfaction.

Besides these three procedures, all work instructions, forms, reference material, and reports related to functions within the customer relations area were accumulated and reviewed. Although every task within customer relations has not been formally documented, a significant start has been made, and plans are to continue to augment this body of documentation with appropriate ISO formatted instructions for all tasks and functions.

As one of the main departmental procedures has to do with training, a significant effort has been made to make the customer relations training program more structured and better documented. This will help keep the ISO documents current with department processes, and ensure that all tasks, functions, and processes will be appropriately documented.

Projects: 2005 – 2006:

- Make sure current documentation is completely maintained in the ISO format in time for the annual walk-through (audit).
- Continue to build a body of work instructions for all tasks and functions within Customer Relations, conforming to ISO format.
- Establish a process which will put tracking controls on both sides of the transfer of water quality calls that go to the lab for follow-up.
- Review the new ISO 14001:2004 ruling and ensure that Customer Relation complies with any portion that affects customer satisfaction.

Office and Clerical Union Contract

Veolia Water Indianapolis, LLC and the National Conference of Firemen & Oilers, S.E.I.U. Local 131 office and clerical group have a collective bargaining agreement. The purpose of this agreement provides for orderly and constructive employee relations in the public interest, in the interest of the company and the company's clients. This agreement expires on December 31, 2005.

Projects: 2005-2006

Negotiate a new agreement. Preparations for negotiations will begin with:

- A VWI negotiating team has been formed and has begun to determine issues/priorities to be addressed.
- Establish negotiation bargaining unit.
- Contingency operating plan. This plan will include 2 categories: the Operating Plan and the foundation of the plan (including general picket info, general communication info and security issues.
- Sympathetic Action Plan

It is the goal of the Customer Relations department to negotiate a contract that will provide the customers of DOW service that exceeds the expectations of the communities we serve and the IURC and OUCC.

Relationship with Stakeholders

A customer service organization is highly dependent upon its customer information and billing system. The dependence causes a close alliance between the customer service organization and the company's IT organization whose job it is to support the system, generate required reports and develop any enhancements. As with any large system that maintains information for thousands of customers, issues and system problems are inevitable. To minimize the frequency and severity of these problems, our customer service staff work closely with all users of the customer information billing system and the IT department. A structured issues management process, managed jointly with users and IT staff, has been established to prioritize, evaluate and manage progress.

Good working relationships with the Mayor's Action Center, OUCC and IURC are critical to VWI's success in operating IWC. When customer requests or inquiries escalate to VWI management or are directed to us through other state and local agencies, the complaint is documented and tracked from the first step through resolution.

Once the complaint has been resolved, it is then categorized, logged and the results reported back to the agency of origination as well as reported to the DOW monthly.

In order to make the communication and problem solving process work smoothly, developing business relationships with agency staff and management is important. Educating our stakeholders on customer & field operations, water production and environmental stewardship with IWC & VWI is beneficial to creating the type of partnership necessary to resolve difficult consumer concerns and problems. Production plant tours have also been and will continue to be an effective tool to assist with the learning process.

Proactive communication occurs to the IURC and OUCC triggered by a news release. When practical, a personal contact is made prior to the release to the media. Customer Relations performance data is provided to the IURC monthly and update meetings are scheduled periodically as needed or requested.

Citizens Advisory Group (CAG)

The CAG is an advisory group established for the purpose of providing advice and used as a barometer for IWC/VWI relationship with customers.

Mission/Purpose:
The Citizens Advisory Group ("CAG") is organized to:

- Establish a medium for communication and feedback on issues relating to the services provided by Veolia Water Indianapolis, LLC (VWI) to customers of Indianapolis Water.
- To provide advice to VWI in the areas of communication with customers, customer service, satisfaction, and water quality.
- To serve as a sounding board through which VWI'S management can communicate ideas, rationale, and explanations regarding VWI's policies and actions to customers in the service territory.
- To serve as a medium where customers within the District can express their needs and concerns on the services of VWI in the areas of customer service, and satisfaction and water quality.

Membership:

The CAG is composed of twenty water customers with a direct stake in water quality and supply issues, plus two VWI employees. The CAG is a group of volunteers participating in an unincorporated volunteer organization. The membership should reflect the diverse backgrounds and viewpoints of the customers of the Department of Waterworks (DOW). Each member shall serve a minimum of a two year term. The requirements for membership are as follows:

- Appointment and approval thereof by VWI and the DOW.
- Desire to assist Indianapolis Water and VWI in their efforts to achieve and maintain a world-class water system.
- A current residential, industrial and or commercial customer(s) or representative of an industrial and or commercial customer(s).
- A willingness to attend meetings and to actively participate in the activities of the group.
- A willingness to serve as an ombudsman for VWI and the DOW.

All members may select an alternate and the alternate's name shall be submitted to VWI prior to the first meeting of the year. The names of the alternate will be

submitted to Indianapolis Water for appointment and approval. Alternates must be a customer located in the District. If a member cannot attend a meeting and will have his or her alternate in attendance, the member is required to notify VWI of the alternate's attendance prior to the meeting.

Role of a Member:

To advise and assist VWI in understanding how its decisions may affect its customer base by serving as a medium on issues/matters that are related to customer service, customer satisfaction and water quality. To assist VWI in projects that may be assigned to the body by VWI in its endeavor to improve customer service, customer satisfaction and communication to its customer base. To serve as a vehicle by which customers of VWI can bring forth issues in the areas of customer service, satisfaction and water quality. To serve as ombudsman for VWI and the District in their efforts to raise the quality of service to customers in the district.

Agendas/Programs:

CAG members and Veolia Water Indianapolis will work together to determine agendas and programs. VWI staff will provide information for each meeting. The company will mail agendas to members in advance of the meetings and provide further assistance at the direction of the membership. Under most circumstances, VWI will recommend and contact speakers for meetings at the direction of the committee. If a member has a desire to have a speaker for a meeting, the member shall obtain approval from VWI prior to contacting the speaker.

Meetings Frequency-Time

Schedule to be determine by the CAG at the December 14, 2004 meeting. Attendance at meetings is a requirement of membership to the CAG. It is a member's responsibility to make attendance at all meetings a priority. If a member cannot attend a scheduled meeting, the member should notify the company or its representative prior to the meeting and make arrangements for his or her alternate to be in attendance.

Networking with other Associations and Utilities

The management of VWI is committed to providing continual learning and development opportunities to management by encouraging participation and leadership in professional organizations, associations and networking with other utilities and like businesses for best practice comparisons.

Projects: 2005-2006

Maintain memberships with:

- Indiana CPA Society
- American Waterworks Association
- SOCAP (Society of Consumer Affairs Professionals)

Network with:

- Citizens Gas:
  Discussions about methods and practices used in call center, billing and cash applications; comparisons and practices about training and other human resource issues; discussions regarding payment issues as they are a pay agent for the water company.

- Indianapolis Power & Light
  Discussions about methods and practices used in call center, billing and cash applications; comparisons and practices about training and other human resource issues; discussions regarding payment issues as they are a pay agent for the water company.

- IEIFS (collections)
  Discussions regarding collection methods and practices; information concerning new bankruptcy laws; discussions concerning additional automated services available.

- Union Federal
  Discussions concerning remittance and bill print practices and methods; discussions concerning additional automated services available.

- Normandy Project via Veolia

Working with European Veolia counterparts to determine best practices for functions within a customer service organization.

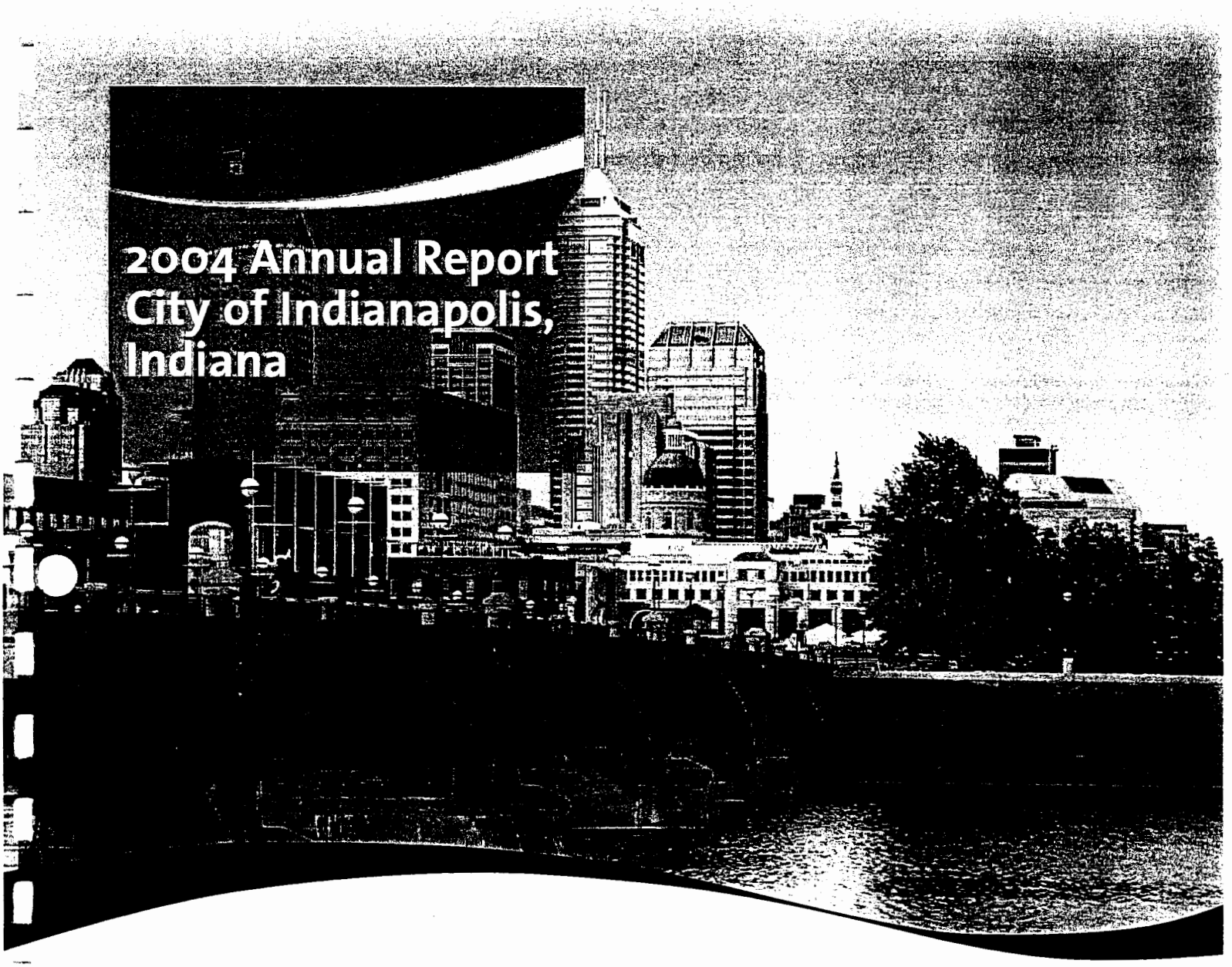
Conclusion

This Customer Service Plan described a list of actions which have been and will be implemented in the near future. A CSP should be considered as a living document which could be amended any time to take into account the moving environment in which we are working. The fact that several actions have been described in more detail than others doesn't mean that they are more important than the ones which have been simply listed.

Appendix D
Part Three
Project Scorecards

VEOLIA Water

VEOLIA Water Indianapolis



2004 Annual Report City of Indianapolis, Indiana

VEOLIA Environment

Assets We Manage for You

Scope of Services

- Operation and maintenance
- Capital programs
- Meter reading and replacement
- Billing, collections and customer service

Facilities

- System serves approximately 900,000 people
- 12 water treatment plants
- 143 MG daily water production
- 31 pumping stations
- 4,000 miles of water main
- 32,000 fire hydrants
- 19 water storage tanks
- Eight well fields
- Service area encompasses most of Marion County and parts of the surrounding eight counties

Indianapolis Water Partnership Produces Big Results

Key Highlights

- The partnership has enabled the City to freeze water rates for five years.
- Veolia Water Indianapolis, LLC (VWI) has tackled the challenge of significant taste and odor problems, reducing the number of complaints from 501 in 2001 to just 26 in 2004.
- Overall customer satisfaction is above the national average for utilities (70%) with more than 8 of 10 customers saying that VWI is doing an "excellent" or "good" job.
- The Minority Business Enterprise/Women's Business Enterprise (MBE/WBE) program established by VWI has become one of the premier programs in Central Indiana. Not only are goals exceeded, but mentoring relationships are established as well. The overall goal for MBE/WBE participation is 16% or a spend of $7,473,428 (combined Operations and Maintenance and Capital). VWI achieved over 31% with an MBE/WBE spend of $13,939,648 out of a total spend of $44,834,029.
- VWI achieved over 94% with a local procurement spend of $41,983,642 out of a total spend of $44,834,029. The overall goal for local participation is 86% or a spend of $38,557,264.
- VWI posted the best safety numbers in 10 years during 2004.
- Customer service improvements such as pay-by-phone, on-line bill pay, an interactive voice response system and more readable bills have given customers more access to their account information in a timely manner.
- Improved infrastructure, fewer main breaks and more efficient water production have resulted from capital projects.

Executive Summary

In 2002, the City of Indianapolis acquired the assets of the waterworks and selected Veolia Water North America to operate and manage the entire Indianapolis Water (IW) system, including its subsidiaries. This marked the start of the largest public-private water partnership in North America.

With the creation of VWI, the City ensured that the waterworks system would receive the global expertise of Veolia Water while maintaining local control and oversight. VWI has made great strides in just two years to prove itself as a worthy and trusted partner in the community.

The 20-year contract allows both the City and VWI to make investments in the waterworks infrastructure, technology, people and the community. With a unique fee structure, including performance-based incentives, continual improvement is in everyone's best interest.

Partnership Incentives

The City included 37 incentive criteria as part of the management agreement to provide outstanding service to its customers. VWI is responsible for operating towards achievement of those established criteria, identified in the following areas:

- Customer Service
- Water Quality
- Capital Projects
- Technical, Operations and Maintenance (O & M)
- Caring for the Community

Partnership Highlights

CUSTOMER SERVICE

The Customer Service department has worked hard to provide quality service to customers and clients by providing outstanding service to a diverse set of constituents. Overall customer satisfaction is now above the national average for utilities, according to the annual customer satisfaction survey conducted by an independent firm. **The 2004 survey showed an increase in overall customer satisfaction from the previous two years – 83% in 2004, 76% in 2003 and 73% in 2002.**

Key Highlights

> Overall customer satisfaction now exceeds the national average for utilities. The 2004 survey results showed a 10 point increase over 2002 results (83% in 2004, 73% in 2002).

> Comprehensive system improvements, management processes, 24/7 access, training and many additional measures have created a complete customer care culture.

> Bill accuracy, new payment methods, improved reporting and accurate meter reading has been delivered through quality-assurance measures.

The most significant management processes that led to the improved customer satisfaction rating included:

- **Call center management reports** developed and implemented for call center agents, including:
  - productivity report
  - question and answer monitoring form
  - coaching form

  These individual reports, along with additional information, are compiled into a contact center report which allows management to see daily performance and track trends affecting customer service.
- **We invested in employees** by providing 160 hours of training for each new agent and on-going training for existing agents, including refresher training for seasonal information. In addition, a training manual has been deveoped and implemented to ensure consistency among the contact center staff.

The customer service lobby closure was successfully completed with few disruptions or complaints. New and more convenient ways for customers to pay their bills have been established through electronic methods such as pay by phone and internet payments. Other new payment options include Union Federal Bank locations as well as ACE Check Express. All of these payment options are explained in a newly developed brochure called "12 Easy Ways to Pay".

To ensure better billing accuracy, a quality assurance group was established. Meters are now being read two days ahead of the bill date. This has helped to eliminate recordable meter reading errors by giving more time to research and resolve issues.

> Exceeded 2004 goal for incoming calls answered within 30 seconds. Goal: 82% Achieved: 82.7%.

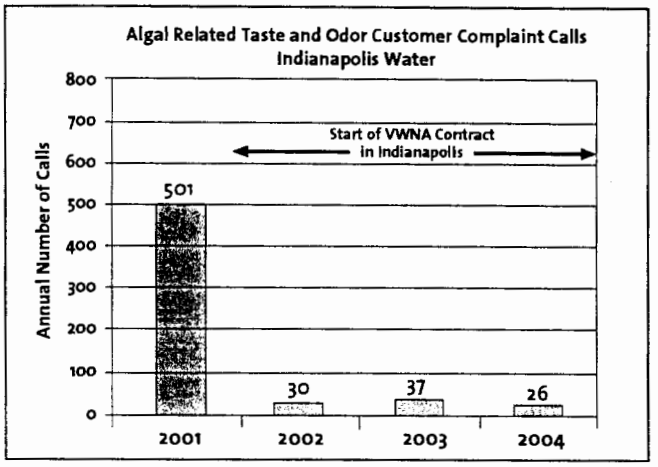
> This goal was achieved while answering a total of 616,092 incoming calls for all clients in 2004.

When VWI began providing the full range of customer services from bill creation, call center, remittance processing and collections for IW in 2002, we began implementing technology and management tools to better manage the customer processes. Prior to this time, most of the customer service processes were manual, difficult to quantify and measure, with limited technology deployed. The most significant technology enhancements developed and implemented since May 2002, that have had the most significant positive impact on VWI's performance include:

- **Automation of the customer bill payment research function,** implemented by utilizing our remittance processing partner's technology which resulted in streamlining this task from hours to minutes, resulting in faster response time to customer inquiries.
- **Help desk function improvements** adding the capability to track trouble tickets and better manage the process, thus leading to less down time for the call center agents.
- **Conversion to Smart Suite billing system** that eliminated most paper processes and allowed for more timely access to critical information, such as status of field and distribution work orders and bad debt information readily available on a shared drive for employee access. Also enabled a more user-friendly bill format to be implemented with more options for customer messaging.
- **Development of the expertise to produce, refine and customize reports** that enable us to be responsive to client's changing needs for data.
- **Improved customer access** into the call center by increasing the number of lines and capacity by upgrading the phone switch technology. Installation of the Interactive Voice Response system now enables customers to access some account data 24 hours a day, seven days a week, without talking to a live agent. The upgrade also provides management the ability to change messages at any time.

Partnership Highlights

- Our call center reporting software, Symposium, offers the **ability to better analyze workload,** providing more flexibility in scheduling employees, adding skill-based routing functionality and minute-by-minute incoming call center data displayed on the call center floor.
- Utilizing technology from Experian has allowed for **improved credit checking and positive identification of customers,** thereby increasing billing accuracy.
- By using internet technology, **customer service agents are able to more rapidly respond to customer inquiries.** Customers are able to enter account information into the system prior to speaking with an agent, thus reducing call time.
- **New network management** has been installed that provides our Information Technology department the ability to remotely monitor all activity and traffic on the system in order to proactively detect and prevent possible problems.
- A backup **facility generator was installed** at the call center to provide uninterrupted delivery of power to the call center and data center in the event of local power outage.



WATER QUALITY

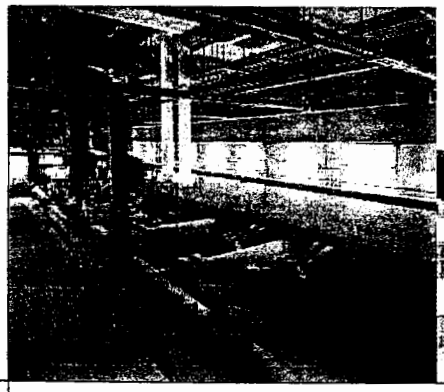
VWI accepted the challenge of resolving significant taste and odor problems related to algae growth in the drinking water supply reservoirs. In 2002, VWI implemented several initiatives to mitigate objectionable taste and odor events caused by the growth of nuisance algae in the water supply reservoirs. An extensive reservoir monitoring program was initiated to monitor conditions on the supply reservoirs. This was coupled with a proactive algaecide treatment program to mitigate nuisance algal growth before development of severe blooms. In addition, extensive testing was conducted to evaluate the most effective powdered activated carbons for removal of taste and odor causing compounds within the treatment facilities. These tests resulted in changes in the type of carbon used at the facilities. VWI continues to seek improvements in its reservoir monitoring and treatment program through its long-term research partnership with IUPUI. Through this integrated approach to monitoring, evaluating, treating and continually improving, VWI has significantly reduced the number of taste and odor related customer complaints.

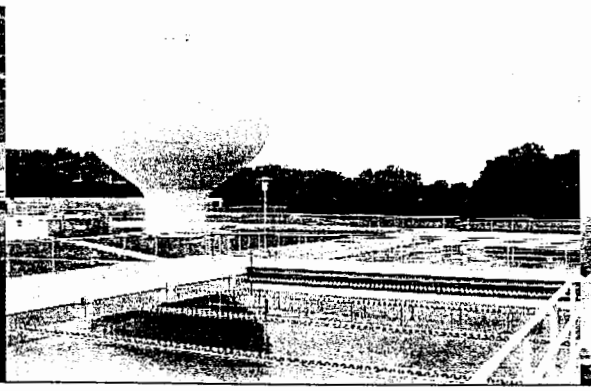
The IUPUI partnership is proving to be a huge success, not only in providing technical expertise to develop watershed management strategies, but in leveraging other funding sources for improving Indianapolis source water quality and in developing a technical center of expertise at the university. In 2004, the university added three new faculty positions in the water resource management area largely due to the stability offered by VWI's long-term commitment. The research and development activities currently undertaken by the partnership are associated with understanding, modeling and predicting reservoir water quality and how the water quality may be impacted by various management practices.

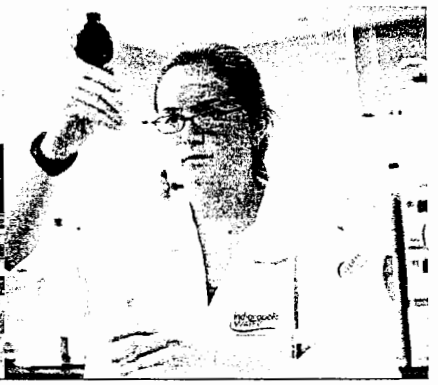
VWI has worked closely with the Technical Advisory Group (TAG) on a variety of complex operational and water quality issues. The TAG is made up of scientists and engineers representing local industries, environmen-

Key Highlights

> Reduced taste and odor complaints from 501 in 2001 to 26 in 2004.
> Produced a record 51.9 billion gallons of water in 2004.
> Performed 172,780 laboratory tests on 32,318 water samples to confirm the water quality.
> Improved relationships with advocates and agencies.
> $250,000 annual investment in Indiana University Purdue University Indianapolis (IUPUI) research partnership







tal organizations and universities, who provide a forum for discussion and evaluation of technical and policy issues. The TAG has taken up topics ranging from long-term capital planning to comply with future water quality regulations, to reservoir management to minimize taste and odor issues, to proper response procedures in the event of certain water quality questions or concerns. VWI has included international Veolia Water experts as well as outside experts and regulatory personnel in meetings on specific topic areas where their involvement proved to be beneficial. The TAG discussions have resulted in improved relationships with local community environmental advocates and with regulatory agencies.

SAFETY

Continuous employee training has assisted in reducing the number of incidents. VWI has reduced the recordable incident rate an average of 7.7% over a 10-year history compared with the water supply industry rate reduction of 4.1% per year over the same time period.

We reduced the recordable incident rate 22% in 2003 and 18% in 2004 when compared with the year previous. The recordable incident rate of 7.07 for 2004 was an all-time low for VWI.

We delivered over 50 training sessions and classes on a variety of topics including confined space, asbestos awareness, vehicle safety and others. Four new guidance policies were developed and implemented and the first-ever employee evacuation drill was conducted.

Key Highlights

> The recordable incident rate of 7.07 for 2004 was the all-time best safety record for the utility in the past 10 years.

Year	Indianapolis Water/ VWI Recordable Incident Rate	Bureau of Labor Statistics Data for SIC Code (1623) Water, Sewer Pipeline (communications and powerline)	Bureau of Labor Statistics Data for SIC Code 4941 (Water Supply)
2001	10.4	7.8	5.9
2002	9.82	6.2	8.2
2003	8.64	6.9	6.6
2004	7.07	not available	not available

Partnership Highlights

CAPITAL PROJECTS AND INVESTMENTS

Key Highlights

> Gaps in the system were closed using proactive capital projects.
> Capital projects reduced main breaks and other service interruptions.
> System reliability has been improved, in large part, because of capital projects completed under VWI's management.
> Executed $46.2 million of capital projects in 2004.

Under previous management of IW, capital projects were prioritized differently. VWI has identified numerous projects which improve the system's efficiency and reliability and meet future water quality regulations. Typically these projects improve the redundancy and flexibility of the system.

Our project's priorities are focused on infrastructure and water quality. As a result, these projects improve the system's operating effectiveness, long term reliability and improve customer relations. Examples include:

- **30 projects totaling approximately 30 miles of main** were identified and approved for construction. These projects close gaps in the system, improve the hydraulic efficiency of the system and reduce the number of dead-ends that can potentially contribute to water quality issues.
- Over the past two years, **22 projects have been identified and constructed that replace those segments of main with the highest number of main failures.** These failures result in service interruption, damage to City infrastructure such as sidewalks and roads, and loss of water. In the past, these projects had not been a priority. VWI has identified a number of locations that, with coordination with the Indianapolis Department of Public Works, will allow an extended life to their public improvements.
- Four, one-million-gallon elevated storage **tanks are being constructed to improve system reliability** and allow the existing infrastructure to meet peak system demands.
- **Improvements are being made to the existing filters** at the White River and Fall Creek treatment plants that will reduce the requirements for backwash water and increase the available supply.
- An expansion is underway at Geist Station to **increase this plant's capacity** by 4 million gallons per day.
- Significant improvements have been identified at the White River Treatment Plant. The **improvements address infrastructure** that will be unable to meet upcoming water quality regulations and significantly improve the reliability of this source of supply. The improvements include the construction of a new water intake structure for this facility, reducing the dependency on the canal as a source of supply and upgrading the sedimentation/flocculation basins to insure adequate water quality prior to filtration.
- A new **residuals handling facility was created** to eliminate water treat ment plant disposal to the Indianapolis sewer system.
- Major pipeline contracts involving neighborhoods with contaminated wells were completed. Cooperation with the Marion County Health and Hospital as well as the Indiana Department of Environmental Management to **install water lines and new customer services and close contaminated wells** occurred to prevent future access.
- An investment in SCADA/technology improvements in 2003 **enhanced chemical and power management** through better data collection, increased online monitoring and improved trend analysis.

- In order to assist the City in determining their capital financial needs and avoid unexpected capital requests during the year, VWI has **consistently identified critical capital projects in the Capital Plan** and has achieved both incentives in this category each year.

TECHNICAL OPERATIONS & MAINTENANCE

VWI has implemented operational and distribution system modifications to improve water pressure to areas of the IW system prone to experiencing low pressure. Using pressure monitors installed within the distribution network, VWI continually monitors pressures at key locations. The number of occurrences in 2003 and 2004 in which the pressure at any of these locations dropped below 30 psi was reduced by an average of over 40% from the number occurring in the baseline year of 2002. This reduction was due to a combination of recommending and implementing distribution system infrastructure improvements in certain critical areas, and ensuring that the pumping system is operated in a manner to minimize even momentary low pressure occurrences.

Key Highlights

> VWI has increased efficiency in the system through the use of technology.

> Water quality has been increased with the use of alternative treatments.

> Project management technology has been streamlined for more effective tracking.

VWI has made process adjustments in several areas to provide more efficient operation and improved water quality. Modifications were made at the Fall Creek and White River treatment plants to provide alternative locations in the surface water treatment process to blend groundwater. The alternate blending locations provide additional flexibility to optimize the coagulation and filtration processes at the treatment facilities. In addition, VWI has switched from the use of low concentrations of chlorine as a pre-oxidant during warm-weather periods to the use of sodium permanganate. This change has reduced the formation of disinfection by-products in the treatment process, thus improving water quality delivered to Indianapolis customers.

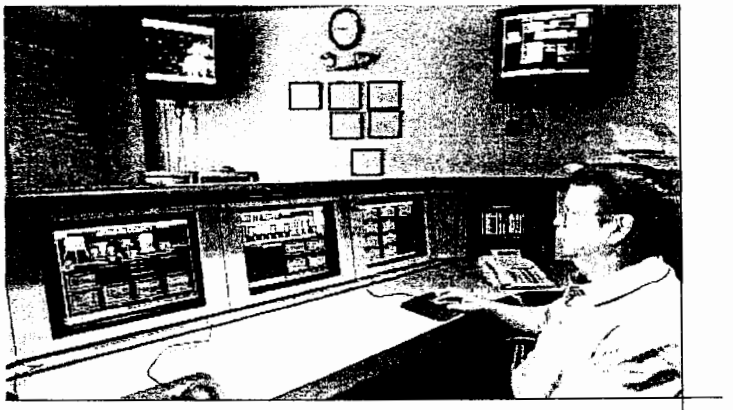
VWI has implemented several upgrades to its monitoring and control systems in both the treatment plants and in the distribution systems. Several process monitoring instruments were installed online in the treatment process to provide additional continuous, real-time monitoring. In addition, online water quality instruments were installed at critical locations to assess potential water quality degradation within the distribution system. A new control room was constructed at the White River Treatment Plant to upgrade the control and reliability of the treatment process. In addition, the control room included an operator interface for controlling pumps and valves throughout the distribution system to provide an alternative location for these operations.

VWI successfully implemented Synergen in September 2003. Synergen is an Enterprise Asset and Work Management system (EAM) / Computerized Maintenance Management System (CMMS) that allows companies to optimize asset performance and reliability. Through the use of the CMMS, maintenance programs are streamlined and the full life cycle of the asset is taken into consideration. Synergen is a web-structured program that allows projects to share information to improve overall efficiency.

Maintenance costs were more accurately captured and reporting to the client was greatly improved. Preventive Maintenance (PM) tasks were generated based off calendar date and/or run time. Initially the PM were developed from past practice, but with the implementation of Reliability Centered Maintenance (RCM), the frequency and scope of the PM are changing for improved asset management.

RCM is a process used to determine what maintenance activities should be done to an asset to ensure it operates at the user's expectations throughout its life. RCM uses seven separate activities to identify what should be done to properly maintain an asset. VWI has analyzed over 20 separate processes throughout the overall system. Many predictive tasks have been established and the results have been favorable.

The process of continually inputting facility information into the water system Global Information System (GIS) has improved since VWI began management of the system. The process has been streamlined by using technology, improved project tracking system and commitment to ever decreasing deadlines. Global Position Systems are being used to speed data entry as well as increase the accuracy of locating each fitting, valve, fitting and pipe. The project tracking system helps all know when projects are ready for the next step. Total number of projects added to GIS between 2002 and 2004 was 2,090.



Partnership Highlights

CARING FOR THE COMMUNITY

VWI has one of the best MBE/WBE programs in Central Indiana. The program engages the services of many local and national firms and aggressively courts MBE's and WBE's for ongoing projects. With these firms now responsible for more than 31% of subcontracted work for capital and O & M, VWI has well exceeded the city's stated requirements and levels reached by prior managers of the system.

In 2004, we far exceeded goals in the MBE/WBE program.

Key Highlights

> Central Indiana minority and women business owners single out VWI's MBE/WBE program as one of the best.

> VWI has contributed more than $2 million to the community since signing the contract.

> Community service and volunteerism is practiced by VWI employees starting with senior management's commitment.

With 31% of total expenditures coming from MBE/WBE vendors, we almost doubled the goal of 16% for the year. We were also able to successfully establish mentoring relationships with several MBE/WBE vendors, leading to a nomination for the Mayor's Celebration of Diversity Awards in 2004. One of the goals of the mentoring program with our MBE and WBE vendors is to elevate them from second tier vendors to prime contractors and we are proud to say that over the past two years, two of our second tier vendors have become prime contractors. VWI is also proud to have increased the number of certified MBE/WBE's last year.

The MBE/WBE Review Committee that was established immediately after VWI was awarded the contract to operate and manage the assets of IW is a key reason that the incentive goals have been met and exceeded for the past three years. The committee meets quarterly and reviews the progress of the MBE/WBE Local Services Plan. The plan was put in place as a road map to success for the program.

The committee consists of MBE and WBE business owners and members of organizations such as the Indiana Regional Minority Supplier Development Council, Indiana State Hispanic Chamber of Commerce, National Association of Women Business Owners and the City's Department of Administration.

Keeping money local was another important factor in the City's decision to purchase the waterworks assets. VWI is sensitive to this issue and strives to use local providers whenever possible. Utilization of local providers for the purchase of goods and services for all facets of capital and O&M accounted for 94% of the expenditure dollars for 2004.

Citizens Advisory Group

The Citizens Advisory Group ("CAG") is organized to:

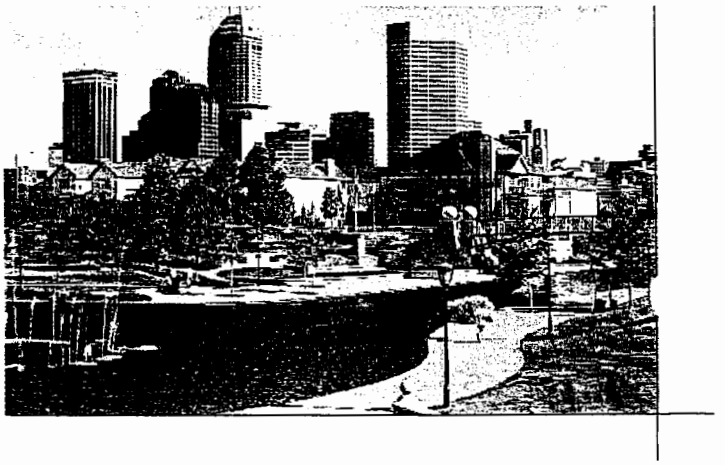
- Establish a medium for communication and feedback on issues relating to the services provided by VWI to customers of IW.
- To provide advice to VWI in the areas of communication with customers, customer service, satisfaction, and water quality.
- To serve as a sounding board through which VWI'S management can communicate ideas, rationale, and explanations regarding VWI's policies and actions to customers.
- To serve as a medium where customers can express their needs and concerns on the services of VWI in the areas of customer service and satisfaction, and water quality.

The CAG is an unincorporated volunteer group, comprised of twenty water customers with a direct stake in water quality and supply issues, plus two VWI employees. An annual CAG survey is performed to assess the members and their satisfaction with the forum. 2004's survey resulted in a nearly 92% satisfaction rate.

Community Involvement

As part of its contractual agreement with the City, VWI agreed to significant community involvement in Indianapolis. Since the contract began, VWI has contributed more than $2 million to local not-for-profit organizations. This includes multi-year commitments to the world's largest children's museum, The Children's Museum of Indianapolis as well as Martin University, Junior Achievement of Central Indiana and the Purdue University Science Bound program which is a program that provides opportunities for Indianapolis Public School students to earn full scholarships to study careers in the engineering, math, science and technology fields and to promote diversity in these underrepresented academic areas.

VWI's community involvement also includes a major educational outreach component to provide Water Boxes to all of the schools in the IW service territory. The Water Box is an educational tool for grades 4-6 designed to be a hands-on student activity to teach students about water and the water cycle. The Water Box is a safe, simple way to teach all the fundamentals of water. There are currently more than 140 water boxes being used by schools in the IW service territory to teach students about the earth's most valuable resource.



VWI's 10 member senior management team, led by Tim Hewitt, president and operations manager, is also heavily involved in the community, serving on boards or volunteering with the following organizations:

- Little Red Door Cancer Agency
- Indianapolis Chamber of Commerce
- Crossroads of America Boy Scouts
- Greater Indianapolis YMCA
- YWCA
- National Coalition of 100 Black Women
- Community Development Law Center
- Indiana Swimming Executive Committee
- Indiana Regional Minority Supplier Development Council
- Indianapolis Urban League
- Purdue University Science Bound
- St. Mary's Child Development Center
- Indianapolis Symphony Orchestra
- Lutheran High School
- Indiana Chamber Legislative Committee
- Ronald McDonald House Resource Development Committee
- Ballet Internationale
- Eiteljorg Museum of American Indian and Western Art
- BOS Community Development Corporation
- Big Brothers Big Sisters of Central Indiana
- Junior Achievement of Central Indiana
- Flanner House
- Rebuilding Together

CARING FOR EMPLOYEES

Employee Relations

VWI recognizes that the 400 individuals employed with us are the backbone and lifeblood of the Indianapolis project. Employees are encouraged to participate in community service projects through the VWI employee volunteerism program which recognizes employees who give back to the community. Employees also have the opportunity to participate in community events such as The Race for the Cure, the Indiana State Fair and the Race Against Prostate Cancer with fellow co-workers.

Training and development are key to ensuring the success of the workforce and VWI offers full tuition reimbursement to employees as well as opportunities for a variety of training courses. Employees are encouraged, through goal setting, to stretch their abilities and strive for constant learning.

VWI also supports various employee activities. The activities are determined by a committee made up of employees representing the departments of VWI. Activities include golf tournaments and leagues, a bowling league, fishing tournaments, softball leagues and more. Each year, employees and retirees are invited to a VWI sponsored health and wellness fair where they receive valuable medical tests such as cholesterol and glucose level checks at no cost. VWI also gathers employees and retirees each summer for a fun-filled cookout on the grounds of the Indianapolis Water General Office.

Who We Are

Veolia Water North America is the leading provider of comprehensive water and wastewater services to municipal and industrial customers, providing services to approximately 14 million people in more than 600 communities. We operate the nation's largest public-private partnership for water services in Indianapolis and the country's very first partnership, established in 1972 with Burlingame, Calif., an ongoing customer now for more than 30 years.

Formerly known as USFilter Operating Services, in early 2004, we proudly adopted the name of our parent company. The company is part of Veolia Water, the No. 1 water company in the world, serving more than 110 million customers. Veolia Water is a subsidiary of Veolia Environment, the largest environmental services company in the world, with more than 295,000 employees in about 80 countries and annual revenues of more than $28.6 billion.

ASSETS WE MANAGE

- Water treatment facilities and distribution systems
- Wastewater treatment facilities and collection systems
- Reclamation and effluent reuse facilities and distribution systems
- Residuals management (sludge/biosolids/compost) and marketing
- Combined sewer and sanitary sewer systems
- Groundwater remediation sites
- All related aboveground and underground assets (plants, pumps, pipes, hydrants, meters, tanks, towers, reservoirs,wells, etc.)
- Call centers and customer service centers

WHAT WE DO

- Operations and maintenance
- Design-build-operate
- Customer service
- Asset management and capital improvements
- Technology and equipment
- Master planning
- Environmental, safety and security programs
- Industrial pretreatment programs
- Financing

Veolia Water Indianapolis, LLC
1220 Waterway Boulevard
Indianapolis, Indiana 46206
317.631.1431
www.indianapoliswater.com

WATER PARTNERSHIP COUNCIL

VEOLIA Water

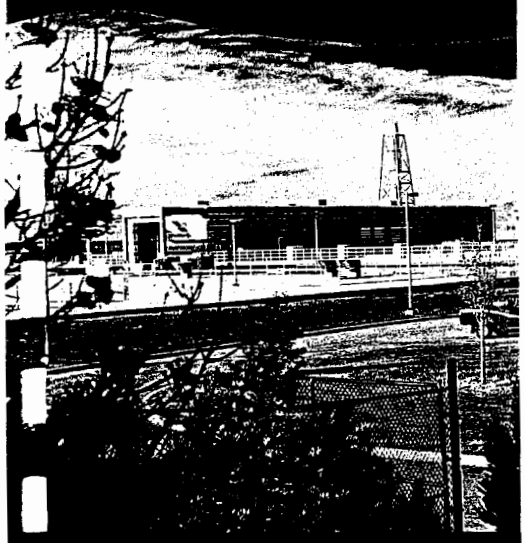
VEOLIA Water

2004 Performance Summary

New Bedford Wastewater Treatment Facility

VEOLIA Environment

Assets We Manage for You



Facilities

> 30 MGD activated sludge WWTP

Scope of Services

> Operation and Maintenance

> Biosolids disposal via separate contract between the City and Synagro

Proud and Trusted Partner

Veolia Water (then Professional Services Group) has proudly served the New Bedford community since 1990 when we began operation of the then primary wastewater treatment facility. At that time, the City was under regulatory mandate to upgrade the system.

Veolia Water designated a Special Project Manager to assist the City during the construction phase of its new facility, which upgraded the plant to secondary treatment and went online in August 1996. Additionally we were tasked with demobilizing the primary facility while transitioning our staff from a primary to secondary treatment facility which required new training on process equipment and a higher operator license certification. After demolition, the primary facility's location is now an open expanse as part of the Fort Taber Park-home to the community's amphitheater.

Over the course of the **14-plus year partnership,** Veolia Water has helped the city realize many benefits, including:

PRIOR TO THE CONSTRUCTION OF THE NEW FACILITY

- Improved electrical load efficiency from 77 to 98 percent and reduced electrical billing by $1,400 per month
- Development of a new septage receiving facility, allowing septage to pass through grit removal prior to entering the facility
- Reducing chlorine usage by instituting a flow-paced chlorine dosage system
- Reducing the city's annual water production requirement by two percent with the installation of an online water filtration unit to reuse treated effluent

AFTER CONSTRUCTION OF THE NEW FACILITY

- Drastically reduced odor complaints and electrical consumption by assisting the City in transitioning the facility from a cake dewatering and hauling facility to a liquid sludge hauling facility
- Guaranteeing cost maximums by capping kilowatt-hour annual usage and annual sludge hauling
- Completion of a state laboratory certification program

Three additional benefits of our partnership are:

99% COMPLIANCE AT YOUR FACILITY

Your regulatory compliance has been a fundamental risk management benefit since we entered into our partnership. In fact, facility compliance has improved dramatically under Veolia Water's operation, and we achieved continuous compliance with stipulations of a federal consent decree, which superseded the existing NPDES permit to discharge. Since 1998, we are more than 99 percent compliant at your facility.

We also reduced historically high fecal coliform counts, which had been one obstacle to allowing the City to open shellfish beds that had been closed for over 20 years due in part to combined sewer overflow and discharge problems at the primary facility.

SAVINGS OF $23 MILLION DELIVERED

By selecting Veolia Water as your partner to operate your facility the city of New Bedford has saved $23 million.

MEANINGFUL COMMUNITY SERVICE ROUTINELY PROVIDED

When the city entered into a partnership with Veolia Water for wastewater services, it gained more than just an operations partner—It gained a true community partner committed to making New Bedford a better place to live and work. Over the years the company has been involved in many programs from beautification to supporting youth sports.

Financial Performance Overview

As a result of our successful partnership, the city of New Bedford has realized a savings of $23 million. The savings are the result of the city's decision to enter into an operate and maintain (O&M) service contract with Veolia Water versus another competitor. The next highest bidder's costs have been CPI adjusted to reflect the city's estimated costs if it had chosen their services. With the O&M agreement, Veolia Water has been able to mitigate environmental concerns through cost-effective services and pass those savings onto the city of New Bedford.

FINANCIAL COMPARISON-VEOLIA WATER VS NEXT HIGHEST BIDDER

	7/1/95-6/30/96	7/1/96-6/30/97	7/1/97-6/30/98	7/1/98-6/30/99	7/1/99-6/30/00	7/1/00-6/30/01	7/1/01-6/30/02	7/1/02-6/30/03	7/1/03-6/30/04
CPI				1.20%	3.06%	2.50%	0.55%	3.00%	3.01%
Next competitor's price			$ 7,429,167	$ 7,518,317	$ 7,748,378	$ 7,942,087	$ 7,985,768	$ 8,225,341	$ 8,472,924
Electrical costs				$ 1,212,339	$ 1,026,236	$ 1,370,029	$ 650,000		
Total costs			$ 7,429,167	$ 6,305,978	$ 6,722,142	$ 6,572,058	$ 7,335,768	$ 8,225,341	$ 8,472,924

	7/1/96-6/30/97	7/1/97-6/30/98	7/1/98-6/30/99	7/1/99-6/30/00	7/1/00-6/30/01	7/1/01-6/30/02	7/1/02-6/30/03	7/1/03-6/30/04	7/1/04-6/30/05
CPI				1.20%	3.06%	2.50%	0.55%	3.00%	3.01%
Base contract	$2,765,545	$4,524,861	$5,759,651	$3,371,148	$3,478,550	$3,572,444	$3,573,987	$3,678,717	$3,826,159
Maintenance			$250,000	$253,000	$260,590	$267,105	$268,575	$276,739	$285,318
Sub-total contract costs	$2,765,545	$4,524,861	$6,009,651	$3,624,148	$3,739,140	$3,839,549	$3,842,562	$3,955,456	$4,111,477
Sludge rebate			$0	$0	$248,884	$203,656	$193,584	$188,384	$214,645
Maintenance rebate						$ 8,976	$ 7,589	$ 10,625	
Total costs	$2,765,545	$4,524,861	$6,009,651	$3,624,148	$3,490,256	$3,626,916	$3,641,389	$3,756,447	$3,896,832
Total Savings			$ 1,419,516	$ 2,681,830	$ 3,231,886	$ 2,945,142	$ 3,694,379	$ 4,468,895	$ 4,576,092

Cumulative Savings $23,017,739

Operational Summary from your Wastewater Plant

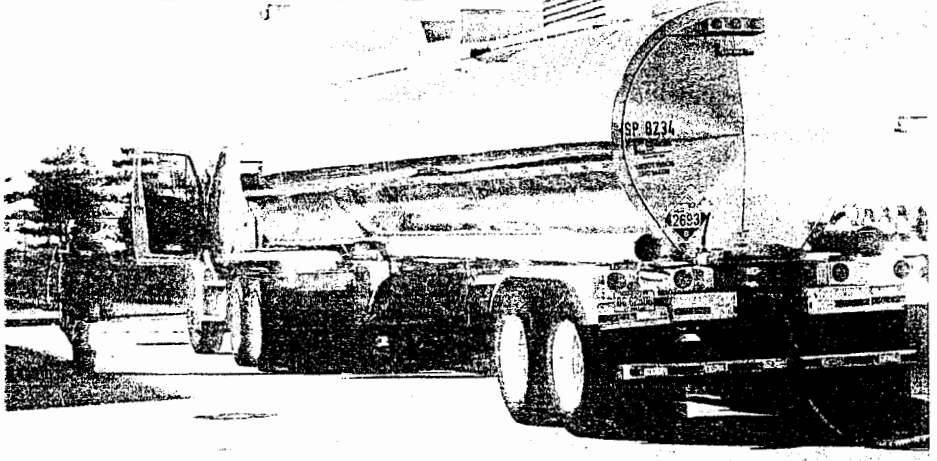
We are proud to have served as your risk management and mitigation partner over the years for environmental compliance and safety. We have a proven track record in environmental compliance and employee training and safety programs. Veolia Water has experts in all of these fields and strong experience in effectively delivering these programs.

OPERATIONAL PERFORMANCE SUMMARY

Variable (units)	1996	1997	1998	1999	2000	2001	2002	2003	2004
Flow (Avg MGD)	26.44	22.33	25.03	21.12	22.21	22.62	21.24	24.24	20.96
Total rainfall (inches)	24.83	48.37	58.20	45.18	53.08	53.16	36.94	36.79	27.18
TSS (lbs avg)	43,291	31,252	33,553	36,272	36,352	30,299	37,349	29,245	26,522
TSS (% removal)	unavailable	unavailable	92.1	91.5	91.2	93.3	92	89.1	89
BOD (lbs avg)	54,898	40,922	47,554	45,215	39,193	37,558	43,084	40,208	37,280
BOD (% removal)	91.0	93.0	96.0	94.0	92.8	94.9	93.8	95.2	94.3
Effluent pH (avg)	6.9	6.8	6.8	6.8	6.9	6.9	6.7	6.9	7.0
Biosolids Disposed (DT/Yr)			6,209	5,853	5,464	4,904	4,489	5,784	4,112

Since the start-up of the secondary facility we have maintained near perfect compliance at 99 percent. We achieve this as a result of our employees who are required to stay up-to-date on all applicable regulations, allowing you to feel at ease for not having to navigate the complicated and ever-changing environmental policies and regulations.

Our training programs for our employees to ensure safety and security in the work environment are unsurpassed and time-tested. As a result of Veolia Water's commitment to creating a health and safety conscious culture, we have a near perfect safety record. Each employee knows how their individual job actions affect utility operations and impact the environment. We understand the risk of having the ultimate responsibility for training and plant environmental compliance.



How to Reach Us

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Veolia Water North America
281-985-5405

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President
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Northeast LLC
781-792-0640

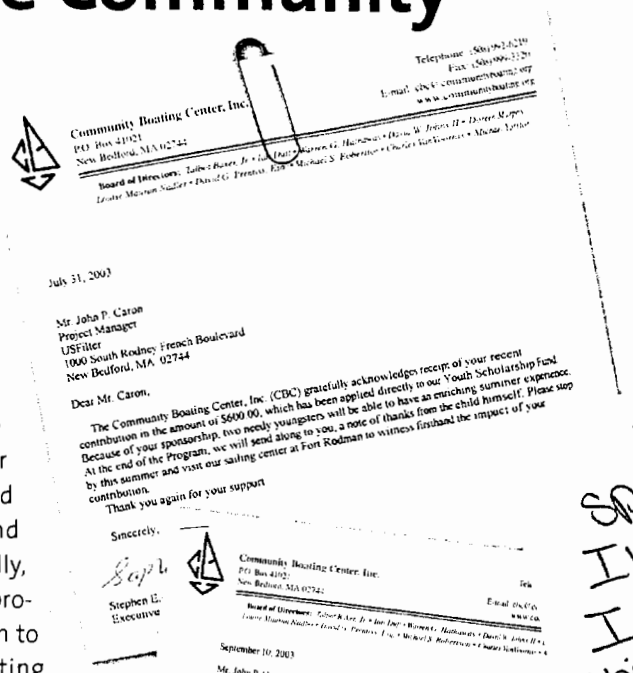
Sandy Sullivan
Business Development
401-467-7210 x110

Jim Galipeau
Senior Area Manager
508-991-6164

John Caron
Project Manager
New Bedford, Mass
508-991-6164

Caring for the Community

Veolia Water has a vested interest in New Bedford because New Bedford is home to many members of the Veolia Water team. Over the past 14 years, we have worked to strengthen our community through the sponsorship of many meaningful events, programs and associations such as WHALE (Waterfront Historic Area League) which restores and saves historical buildings throughout the City; the City of New Bedford Chamber Foundation, the Greater New Bedford Colt/Palomino Baseball League, and Easter Seals Volley Ball. Additionally, annually we sponsor a summer youth program that enables disadvantaged youth to enjoy 30 hours of hands-on boating instruction, and we contribute to the New Bedford Symphony Orchestra's Seaside Symphony Swing.


Community Boating Center, Inc.
P.O. Box 41021
New Bedford, MA 02744

July 31, 2003

Mr. John P. Caron
Project Manager
USFilter
1000 South Rodney French Boulevard
New Bedford, MA 02744

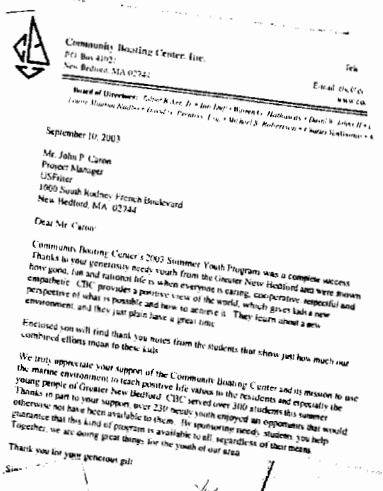
Dear Mr. Caron,

The Community Boating Center, Inc. (CBC) gratefully acknowledges receipt of your recent contribution in the amount of $600.00, which has been applied directly to our Youth Scholarship Fund. Because of your sponsorship, two needy youngsters will be able to have an enriching summer experience. At the end of the Program, we will send along to you, a note of thanks from the child himself. Please stop by this summer and visit our sailing center at Fort Rodman to witness firsthand the impact of your contribution.

Thank you again for your support.

Sincerely,

Stephen E.
Executive


Community Boating Center, Inc.
P.O. Box 41021
New Bedford, MA 02744

September 10, 2003

Mr. John P. Caron
Project Manager
USFilter
1000 South Rodney French Boulevard
New Bedford, MA 02744

Dear Mr. Caron:

Community Boating Center's 2003 Summer Youth Program was a complete success. Thanks to your generosity needy youth from the Greater New Bedford area were shown how good, fun and rational life is when everyone is caring, cooperative, respectful and empathetic. CBC provides a positive view of the world, which gives kids a new perspective of what is possible and how to achieve it. They learn about a new environment, and they just plain have a great time.

Enclosed you will find thank you notes from the students that show just how much our combined efforts mean to these kids.

We truly appreciate your support of the Community Boating Center and its mission to use the marine environment to teach positive life values to the residents and especially the young people of Greater New Bedford. CBC served over 300 students this summer. Thanks in part to your support, over 230 needy youth enjoyed an opportunity that would otherwise not have been available to them. By sponsoring needy students, you help guarantee that this kind of program is available to all, regardless of their means. Together, we are doing great things for the youth of our area.

Thank you for your generous gift.

Thank you for sponsoring me. I had fun at CBC I greatly value this experiece. Thank you Jessica

Thank you for letting me go to CBC it was great and fun I had a go time

Thanks

Kiara

P.O. Box 41021
New Bedford, MA 02744

Dear ... Thank You for sponsoring us. I really like boy river. It was very fun. All the instructors are very nice and good. I learned what the JIB Boom. I Love To sail. Thank you very much.

Sincerely
Bert

Center, Inc.

Thank you for sending me to this camp it rocks. We have fun all summer well for the 3 weeks I learn so much and the instructors rock.

Thank you
Matt

Who We Are

Veolia Water North America is the leading provider of comprehensive water and wastewater services to municipal and industrial customers, providing services to approximately 14 million people in more than 600 communities. We operate the nation's largest public-private partnership for water services in Indianapolis, serving approximately 1.1 million people, and the country's very first partnership, established in 1972 with Burlingame, Calif., an ongoing customer now for more than 30 years.

Formerly known as USFilter Operating Services, in early 2004, we proudly adopted the name of our parent company. The company is part of Veolia Water, the No. 1 water company in the world, serving more than 110 million customers. Veolia Water is a subsidiary of Veolia Environment, the largest environmental services company in the world, with more than 295,000 employees in about 80 countries and annual revenues of more than $28.6 billion.

ASSETS WE MANAGE

- Water treatment facilities and distribution systems
- Wastewater treatment facilities and collection systems
- Reclamation and effluent reuse facilities and distribution systems
- Residuals management (sludge/biosolids/compost) and marketing
- Combined sewer and sanitary sewer systems
- Groundwater remediation sites
- All related above-ground and underground assets (plants, pumps, pipes, hydrants, meters, tanks, towers, reservoirs, wells, etc.)
- Call centers and customer service centers

WHAT WE DO

- Operations and maintenance
- Design-build-operate
- Customer service
- Asset management and capital improvements
- Technology and equipment
- Master planning
- Environmental health, safety and security programs
- Industrial pretreatment programs
- Financing

Veolia Water North America
14950 Heathrow Forest Parkway,
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Houston, Texas 77032
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www.veoliawaterna.com

WATER PARTNERSHIP COUNCIL
MEMBER

VEOLIA
Water

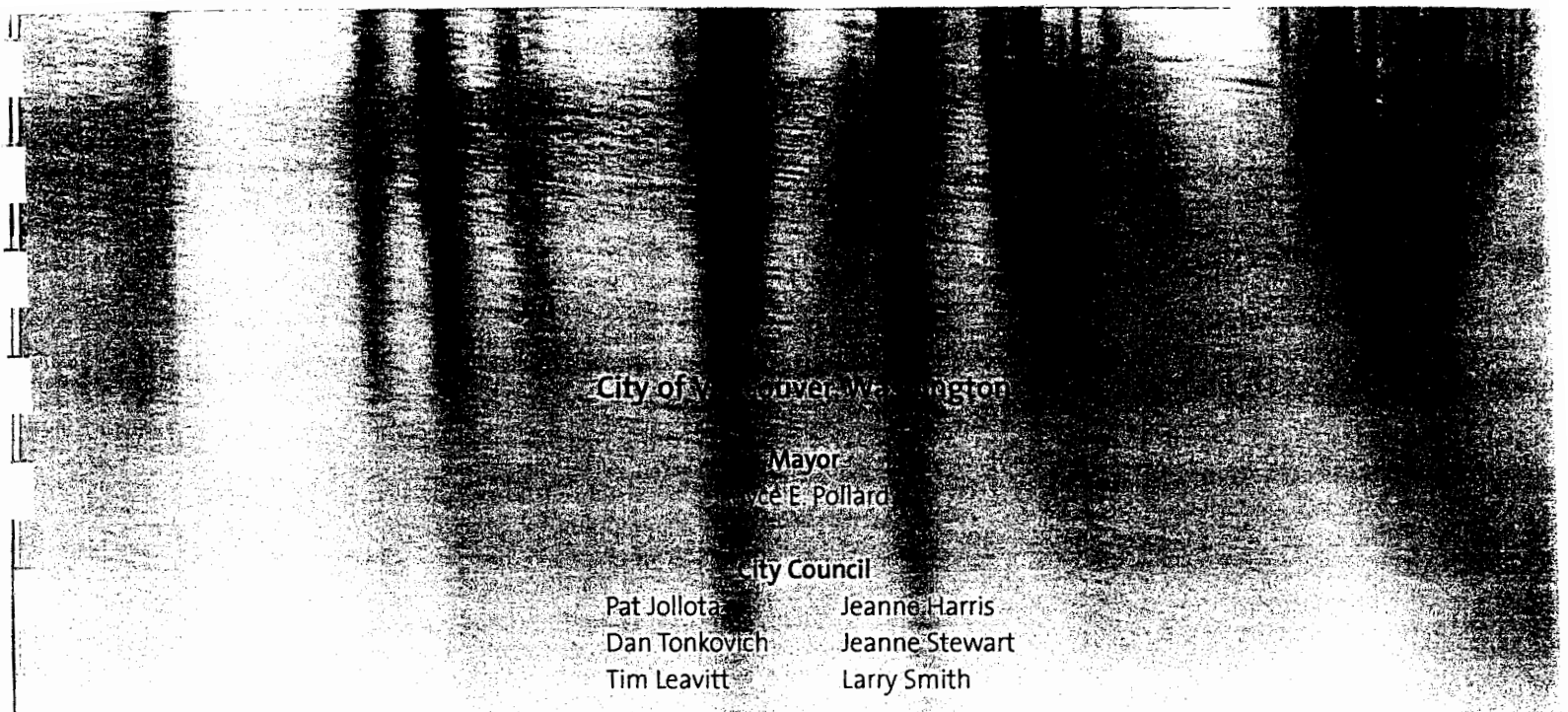
Defining a Partnership

2005 Annual Report to the City of Vancouver

Water Reclamation Facilities

Westside Water Reclamation
Marine Park Reclamation
Industrial Pretreatment Lagoon

VEOLIA Water



City of Vancouver, Washington

Mayor
Royce E. Pollard

City Council

Pat Jollotta	Jeanne Harris
Dan Tonkovich	Jeanne Stewart
Tim Leavitt	Larry Smith

City Staff

Pat McDonnell, *City Manager*
Betsy Williams, *Assistant City Manager*
Brian Carlson, *Public Works Director*
Victor Ehrlich, *City Engineer*
Thomas D. Boyer, *Assistant City Engineer*

Report prepared by
Vancouver Project Team
Veolia Water North America – West LLC
2323 West Mill Plain Blvd.
Vancouver, Washington 98660
360.696.0959

Taking things for granted... not hardly!

It's easy for the average citizen to take the city's three wastewater treatment facilities for granted. Though management of wastewater affects every Vancouver citizen, the topic of wastewater is something not commonly thought of unless there is a significant environmental, infrastructure or economic issue at hand.

To a degree, we want citizens to be able to take wastewater for granted because they should be able to trust that their municipal leaders are doing the "right thing" in ensuring wastewater treatment and environmental compliance while protecting area waterways. But in this year's annual report, we think it's important to take a moment to demonstrate to citizens how the city is treating and managing wastewater and related city assets.

We do this through a quick process overview and through photos of the project and our team at work. Hopefully, you'll get a sense that these facilities are highly sophisticated—akin to process technology operations found only on a complex manufacturing site. After winning numerous awards from peer groups, it's clear the city's assets and operations are well managed by any standard in the U.S. municipal water and wastewater industry.

Now in place for 26 years, the partnership between the City of Vancouver and Veolia Water North America is delivering cost-effective, compliant operations to citizens while protecting the local environment.

We are pleased to serve our community.

Tom Burns
Vancouver Project Manager
Veolia Water North America – West LLC

Scope of Services

- Operation and maintenance
- Industrial pretreatment program
- Septage receiving program
- Effluent reuse program
- Biosolids reuse, management and disposal

Facilities

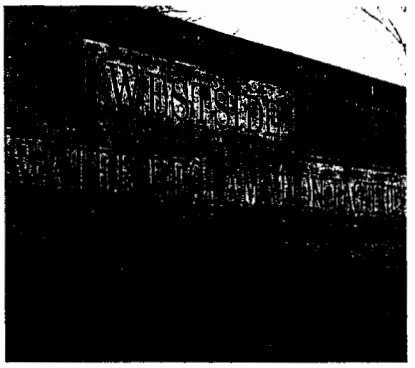
- 21.3-MGD Westside secondary activated sludge
- 16-MDG Marine Park secondary activitated sludes
- 4.1-MGD multi-state activated slude industrial lagoon
- Eight pump/lift stations

T[illegible] Vancouver partnership is routinely [illegible]ognized by water industry peers.

- [illegible] Water Environment Foundation - George [illegible]V. Burke Safety Award (2001)
- [illegible]ational Council for Public-Private Partnerships - National Council Public-[illegible]rivate Partnership Award (2000)
- [illegible]Vashington Department of Ecology - Outstanding Wastewater Treatment Plant Award (2000 - 2003)
- [illegible]acific Northwest Pollution Control [illegible]ssociation - Award for Ten Years of No Lost-Time Accidents (2000)
- [illegible]Vashington Department of Ecology - [illegible]erfect Compliance Award (1998,1999)

Vancouver management team (left to right): Dick Vaughn, Environmental Health Safety and Security Manager; Steve Snider, Laboratory/Industrial Pretreatment Manager; Mike Price, Process Control Manager; Tom Burns, Project Manager; Marc Yarlott, Assistant Project Manager-Facilities; Melissa Sandvold, Assistant Project Manager-Operations; and Owen Boe, Northwest Area Manager.

Assets We Operate



The **Westside Water Reclamation Facility** treats about 10 million gallons of wastewater each day and is designed to treat up to 25 million gallons of wastewater per day. It is the City's workhorse plant in that in addition to processing its own incoming solids, Westside also effectively handles the solids generated by the Marine Park Water Reclamation Facility some 5 miles away. Along with the Marine Park Plant it has consistently received treatment excellence awards from the State's Department of Ecology since 2000.

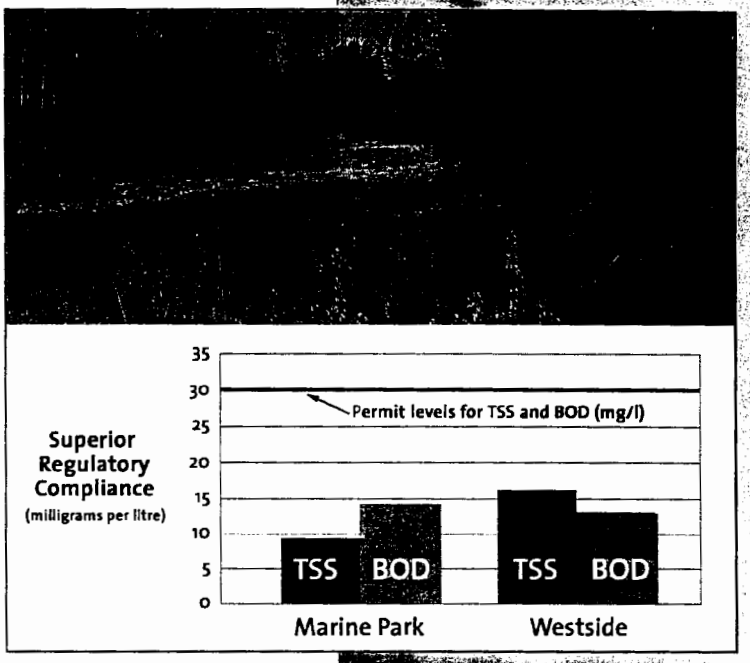
The **Marine Park Water Reclamation Facility** is the City of Vancouver's showcase treatment plant. It is currently designed at 16 million gallons per day and actually treating about 10 million gallons per day. It has received multiple architectural awards as well as Outstanding Treatment Plant Awards from the Washington State Department of Ecology. Closely linked to the Water Resource Education Center, it is visited by hundreds of groups each year from local schools to delegations from Russia, Japan, Australia and other countries. These visitors y are interested not just in the state-of-the-art processes controlled by Veolia Water staff but also in how they might incorporate a plant of this caliber into their communities.

The **Industrial Pretreatment Lagoon** stabilizes food processing waste from Frito Lay, Great Western Malting and Northwest Packing with an influent flow of about 2.3 million gallons per day. Its discharge enters the Westside plant for continued treatment. Since no sanitary waste enters this lagoon, the solids are classed as a fertilizer. They accumulate in the last stage, and are pumped onto an adjacent 85 acres of waterfowl forage. Spring and Fall harvesting of the grasses during 2004 ultimately resulted in the beneficial use of more than 500 bales of hay.

The Results

1. Environmental excellence abounds in meeting permit levels, protecting public health and the environment, recycling solid materials and biosolids, and working with local industry. Stewardship and operational acumen is a must; the Marine Park and Westside facilities both have strict NPDES permits allowing 30 milligrams per litre (mg/l) of Total Suspended Solids and Biochemical Oxygen Demand (BOD organic matter).

In 2004, the Marine Park facility averaged 8 mg/l for solids and 15 mg/l for organics. The Westside facility, which manages a higher level of food and industrial wastes from local industry, averaged 16 mg/l for solids and 13 mg/l for organics. This record is emblematic of our partnership's excellence. Since 1995, the Marine Park facility has never exceeded our NPDES permit. Since 1978, the Westside facility has had no major NPDES violations.



During the wastewater treatment process, captured solid materials are processed in an on-site fluidized bed furnace. Very high temperatures produce an ash which is beneficially reused as a composting material. The public's quality of life is further addressed as potential air emissions are captured and eliminated using scrubbers while potential odors are controlled through a treatment tower.

Veolia Water treats food processing wastes from Frito Lay, Great Western Malting and Northwest Packing in a separate Industrial Pretreatment Lagoon. Since no sanitary waste enters this treatment process, the useful settled solids are collected annually and beneficially used as fertilizer for an adjacent 85-acre site. Two cuttings of mixed grasses occurred during 2004 resulting in a harvest of more than 500 bales of hay

2. Cost-effective excellence is delivered. The charge we keep is to manage assets at the most cost-effective level, as if they were our assets. The fact that Vancouver has world-class assets and yet very affordable rates is quite telling. Comparisons with other area communities, from Camas to Seattle, demonstrate the city's adept management and practices. We know that our partnership greatly contributes to this community strength.

***Results**, continued on page 7.*

AREA UTILITY BILL COMPARISONS

Agency	Water	Sewer	Stormwater	Solid Waste	Total
Camas	$17.30	$22.25	-	$28.29	$ 67.84
Eugene	$12.50	$22.01	$7.29	-	$ 41.80
Vancouver	**$18.10**	**$27.77**	**$5.44**	**$21.80**	**$ 73.11**
Bellevue	$23.04	$36.68	$6.96	$15.18	$ 81.86
Tacoma	$23.88	$41.13	$12.00	-	$ 77.01
Portland	$25.93	$53.06	$12.58	$21.50	$113.07
Seattle	$32.20	$65.80	$10.14	-	$108.14

Information and assumptions by Association of Washington Cities

PAGES 5 & 6 ATTACH AT END

Community Involvement

- Freedom Walk
- Discovery Walk
- City River Walk
- Discovery Walk
- Pacific Northwest Clean Water Assoc.
- Local Cystic Fibrosis Walk-A-Thon
- Celebrate Freedom
- Selection Committee for George C. Marshall Leadership Awards
- Committee Member for Discovery Walk
- Member Chamber of Commerce
- Local Mentor for Boys Association
- ARC of Clark County—Disabled Adults
- Boy Scouts of America
- Campfire for Boys and Girls
- Onestop Neighborhood Association
- Dental & Diet Education for Local Youth
- Volunteer for Local Teen Center
- Contributions to the Tsunami that struck Asia
- Local Adopt-A-Family for Youth Camp
- Tours at the Marine Park Water Reclamation Facility
- Vancouver Artwalk
- KBOO & KOPB Public Radio
- Audubon Society
- Share House, Vancouver
- 6th Street Gallery Co-op
- March of Dimes
- City of Vancouver Fire Department
- Assistance in Developing Marine Park Explorer II
- Take Your Child To Work Day

***Results**, continued from page 4*

3. Community involvement runs deep. As for community involvement and outreach, our Mayor, the honorable Royce Pollard, has summed it up quite nicely. "Veolia Water Vancouver serves as an example of community involvement," says Mayor Pollard. Our staff takes the time and pride in supporting and contributing to numerous events and agencies every year. Vancouver is our community and we are Vancouver proud.

4. Safety, Security and Training programs reinforce our corporate commitments to employees and the community. Training programs for our employees are provided to ensure health, safety and security. As a result, each employee knows how their individual job actions affect each department and the environment.

Our commitment to safety tops the list, with only one lost-time accident occurring last year. As a result, our Lost-Time Injury Rate was 2.23 versus the industry average of 2.5 per Bureau of Labor Statistics standards. One accident is one too many and we strive for a completely safe work place. *Especially noteworthy is that only three lost-time accidents have occurred at our projects in the last 15 years—a remarkable record.*

Although the federal government does not require specific security preparations for wastewater treatment systems, we recognize the importance of Federal Public Health Security and Bioterrorism Preparedness and Response Act. We have developed security measures to include a review of secured fencing and gates, yard lighting, and accountability, protocol and monitoring of all visitors and contractors. Our emergency response plans include protection of staff, notification to local emergency response agencies, accountability of all persons, employee responsibilities and the coordination of all emergency activities.

Russ Watts, left, and Jack Brown install a backflow preventer.

Bettina Meadows uses an analytical balance to determine the parts per million (ppm) weight of solids.

Leroy Whitecotton (left) maintenance Planner Scheduler and Bill DuBay, Operator III are with the Westside Water Reclamation facility.

5. Asset management, sophisticated technologies and complex processes save the city money. Expert technicians enable this to occur. The city believes in doing things right and this core belief is echoed throughout our partnership, which focuses on high levels of automation and asset management with an emphasis on life-cycle costs. This approach rejects a "when it breaks, we'll fix it" attitude commonly reflected in many municipal programs that are costly to citizens.

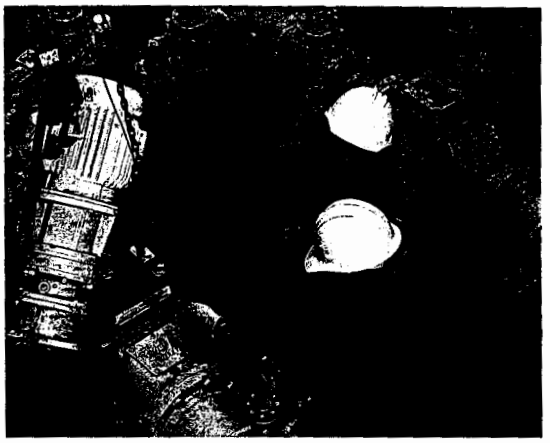
In a word or two, Vancouver's assets are *large and complex.* Good operators put good programs into place that extend the life of these assets and enable further investment. Standard maintenance practices require a large inventory of spare parts (an expensive requirement!) and are often replaced on an emergency basis (an expensive practice!). Standard maintenance practices also typically include low levels of automation and large staffs (again, an expensive requirement).

Instead, we employ high levels of automation to track our processes and remotely manage pump stations. Advanced predictive maintenance practices such as vibration analysis, thermography and precision laser alignment are also utilized. With such approaches in place, "unplanned" maintenance is minimized, resulting in a significant savings to the city.

John Brown, Maintenance Supervisor, uses the Shock Pulse Meter to predict the health of the bearings.

Just one example of our maintenance practices includes the Shock Pulse Meter (SPM), a portable instrument that enables a prediction of the "health" of bearings, has now been in use for the past two years. Due to our expertise in the use of the SPM, a team of NASA officials visited our staff last year to gain a first-hand understanding of how this instrument works so they might apply it to their own bearing manufacturing process for the Shuttle Spacecraft.

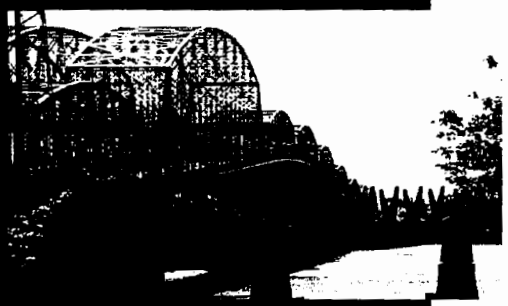
Controlling the processes within our state-of-the-art wastewater treatment plant requires a high level of experience and understanding in the environmental sciences. We sit at the table with the City and its engineers to reach conclusions on safe, effective management and operations of the City's investment. The result of these steps is important—no overflows, smooth transitions in process control, a reduction in spare parts inventories, and top-of-the-line treatment facilities recognized year after year by the State of Washington's Department of Ecology for "Outstanding Treatment."

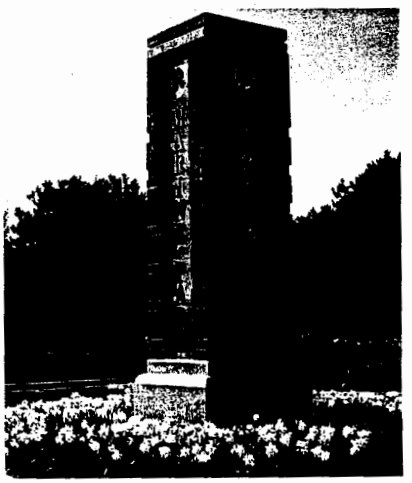


6. Career advancement and training helps employees be the most they can be. Training for personnel improvement is standard and we invest in staffing and training instrumentation techs and SCADA developers that are in-house resources.

7. Company-wide resources support and enhance the Vancouver operation. For resources, we are able to tap into our company's extensive and expert departments all across the country. This includes Operations & Maintenance, Technical Services, Environmental, Health Safety & Security, Laboratory Quality Control, Human Resources and others. Experts in these disciplines help challenge skill sets and solve issues.

Veolia Water North America is the nation's leading water services company, serving more than 600 communities, ranging from large cities (such as Atlanta, Indianapolis and the Tampa Bay area) to smaller communities (such as Leominster, Mass. and Burlingame, Calif.). The company is also expert at managing water and wastewater systems for America's leading manufacturing companies.





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Formerly known as USFilter Operating Services, in early 2004, we proudly adopted the name of our parent company. The company is part of Veolia Water, the Water Division of Veolia Environment (NYSE:VE and Paris Bourse: VIE), the largest environmental services company in the world with more than 252,000 employees in more than 80 countries and annual revenues of more than $33.6 billion. Visit the North American web site at www.veoliawaterna.com and the global web site at www.veoliawater.com.

ASSETS WE MANAGE

- Water treatment facilities and distribution systems
- Wastewater treatment facilities and collection systems
- Reclamation and effluent reuse facilities and distribution systems
- Residuals management (sludge/biosolids/compost) and marketing
- Combined sewer and sanitary sewer systems
- Groundwater remediation sites
- All related above-ground and underground assets (plants, pumps, pipes, hydrants, meters, tanks, towers, reservoirs, wells, etc.)
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WHAT WE DO

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- Design-build-operate
- Customer service
- Asset management and capital improvements
- Technology and equipment
- Master planning
- Environmental health, safety and security programs
- Industrial pretreatment programs
- Financing

Veolia Water North America - West LLC
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WATER PARTNERSHIP COUNCIL
MEMBER

VEOLIA
Water

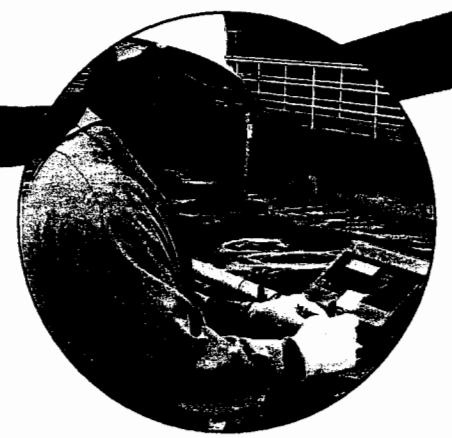
The Wastewater Treatment Plant In Today's World

Some 15 to 20 years ago, an individual could walk into the office of a wastewater treatment plant and be hired on the spot. Not so today. At a minimum, most positions require an associate degree in wastewater technology. Many positions require advanced degrees. Operators and technical specialists are certified in their disciplines.

This quick "walk through" of the Vancouver plants outlines some of the technological processes involved and the expertise required to operate and manage such facilities.

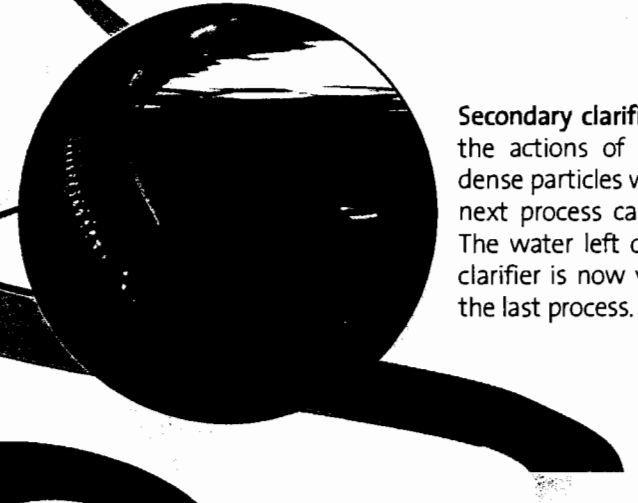
Headworks/Screening. Domestic and industrial wastewater enters the plant's headworks. Here, grit and various objects (sticks, objects, materials) are blocked and removed to help protect processes further on and to reduce the load. These objects and screenings are transported to the local landfill.

Primary clarification. The wastewater is next allowed to physically settle in primary clarifiers where about 75% of the solid materials (dirt, grit, etc) and 35% of the organic material (substances containing carbon compounds usually of animal or vegetative origin) is removed.

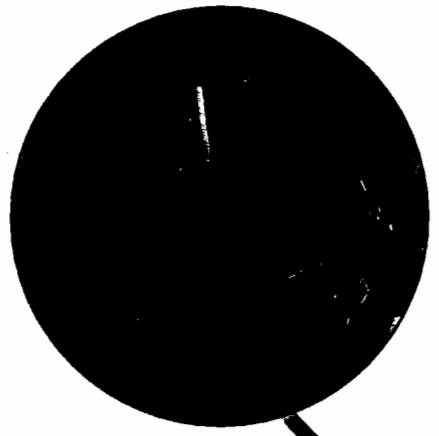


Aeration. The cleaner water remaining now flows to the aeration basins where beneficial microscopic organisms feed on the organic matter and reproduce. During this process, air is added to foster this biological activity.

Laboratory operations. Accurate data is critical to ensuring optimum efficiency at the plant level and ultimately protection of the environment. Our lab experts are highly trained in both analytical technique and quality control. As the state's first laboratory to be certified by the Department of Ecology, our technicians provide us with the benefit of accurate, timely reporting and monitoring of plant conditions. We processed over 15,000 samples in 2004 from the Westside plant, the Marine Park facility, the Industrial Pretreatment Lagoon and other locations in the area.



Secondary clarification. During aeration, the actions of the organisms produce dense particles which slowly settle in the next process called secondary clarifiers. The water left on top of the secondary clarifier is now very clean and ready for the last process.



Disinfection. This last stage disinfects the water using ultraviolet light. This is the final step in the 10-12 hour treatment process and will kill any harmful pathogens.

Discharge. The resulting water is then released into the Columbia River in a manner that is typically far superior to state and EPA permit requirements. For comparison, this photograph documents the incoming wastewater (left), the city's drinking water (middle), and treated wastewater (right).

Computers monitor all the processes in the treatment plant but it takes the knowledge and experience of staff to evaluate all data and make the right decisions to ensure all processes proceed in the right direction. Much of the decision making depends on analyses made in the on-site laboratory. Monitoring and appropriate process adjustments and all required equipment maintenance occurs on a 24/7 basis. Whether it's managing pumps, taking and testing samples or assessing programmable logic controllers (PLC's) for predictive and preventive maintenance, all work is performed by skilled technicians operating with public and staff safety in mind. In all we do, we pursue the best interests of our Vancouver neighbors and fellow citizens.

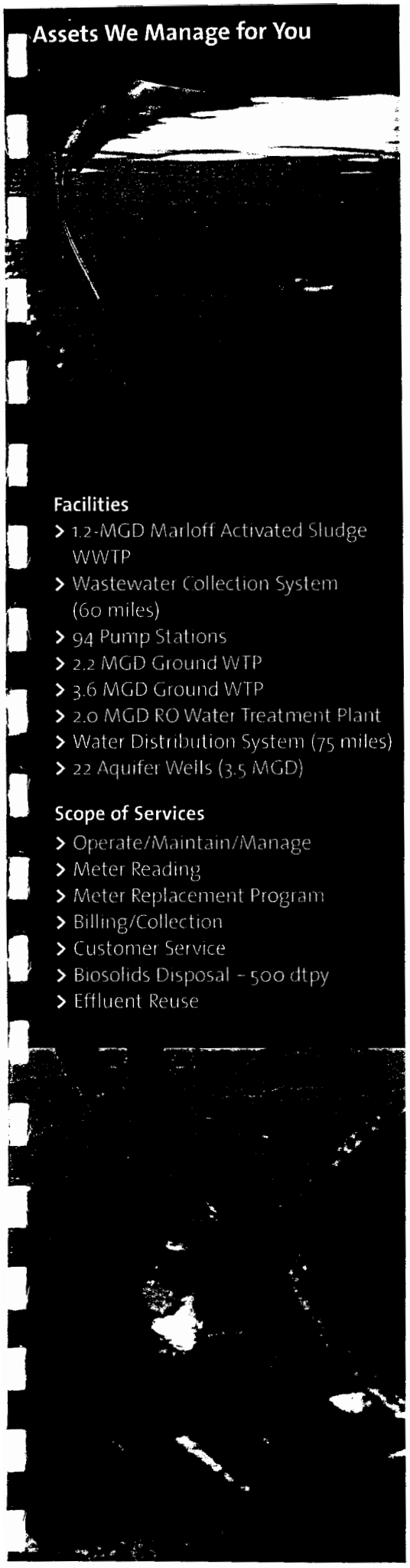
VEOLIA Water

Bringing Value-Added Services to Jupiter Island and Hobe Sound

- Risk Management
- Water Experts
- Emergency Assistance
- Technical and Capital Support

VEOLIA Environment

Assets We Manage for You



Facilities

- 1.2-MGD Marloff Activated Sludge WWTP
- Wastewater Collection System (60 miles)
- 94 Pump Stations
- 2.2 MGD Ground WTP
- 3.6 MGD Ground WTP
- 2.0 MGD RO Water Treatment Plant
- Water Distribution System (75 miles)
- 22 Aquifer Wells (3.5 MGD)

Scope of Services

- Operate/Maintain/Manage
- Meter Reading
- Meter Replacement Program
- Billing/Collection
- Customer Service
- Biosolids Disposal - 500 dtpy
- Effluent Reuse

Veolia Water—A Proud and Trusted Water Partner

In 1998, Veolia Water North America (then USFilter Operating Services) began our partnership with South Martin Regional Utilities (SMRU). Since that time, we have been a trusted partner, operating the utilities' entire system, including meter reading, billing and collection services, as well as the operation and maintenance of two water treatment facilities and one wastewater treatment facility.

Back in 1998, when the communities decided to ensure a long-term supply of water and water-related services by acquiring two separate utility systems, Veolia Water was selected as SMRU's partner because of our track record for managing related operations and services. Jupiter Island and Hobe Sound have gained much more than just a contract operator for their utility services—the communities have gained a true partner in Veolia Water. Take for example:

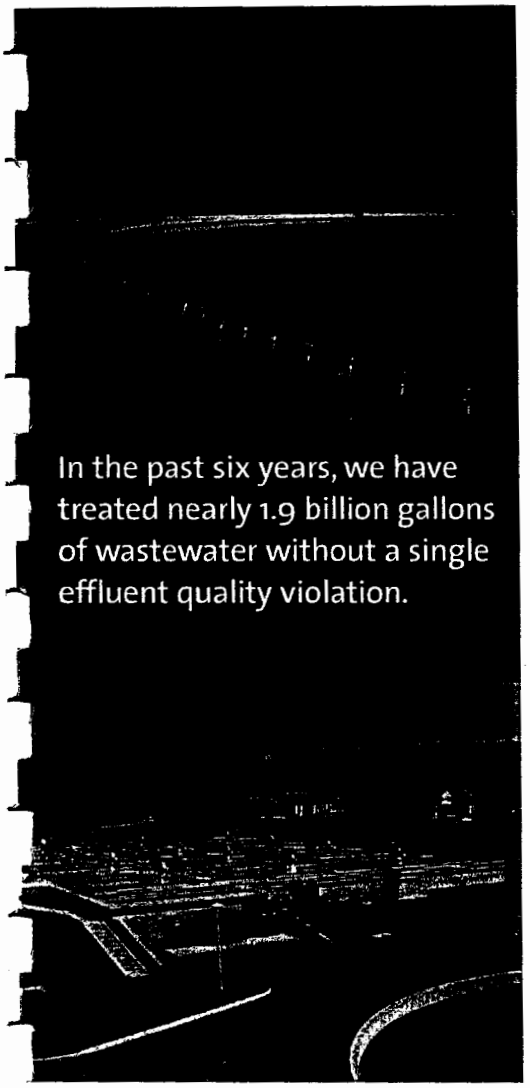
Risk Management. Veolia Water North America has assumed full responsibility for environmental compliance within the design capability of your facilities. Our employees are required to stay up-to-date on all applicable regulations, allowing you to feel at ease for not having to navigate the complicated and ever-changing environmental policies and regulations. Additionally, we have and can offer solutions—such as installing cutting-edge technology—to make your facilities operate within environmental guidelines. Also, we have assumed the full risk for the safety of the employees at the facility—in fact, we have gone 6 years without one single lost-time incident.

Global resources at your finger tips. With more than 3,000 employees in the United States and 77,000 around the world, SMRU has access to Veolia Water's experts in every water issue. In fact, since our partnership began, Veolia Water employees from around the country have spent close to 2,000 hours supporting the successful operations of your utilities—that's 2,000 man hours of outside value-added resources.

Emergency relief. More recently, Veolia Water employees from across the United States rushed to Jupiter Island after it was hit by both Hurricane Frances and Hurricane Jeanne. Thanks to the diligent work of Veolia Water employees, all systems stayed operational, plus the community benefited from the generators brought down from some of our projects in the southern region.

Technical and capital program management. Veolia Water has successfully managed more than $1.5 million in capital improvements at the utility. To name a few, the company improved the effluent quality at the wastewater plant—as well as electrical costs—by installing a fine bubble diffuser. Additionally, the company sent in some of its experts in reverse osmosis systems to assist with training and start-up of the utility's new Reverse Osmosis (RO) plant.

We Manage Your Environmental Compliance, Safety, and Security Risks



We are proud to have served as your risk management and mitigation partner over the years for environmental compliance, safety and security. We have a proven track record in environmental compliance and employee training and safety programs, as well as security of SMRU's water and wastewater system assets. Veolia Water has experts in all of these fields and strong experience in delivering these programs. Your regulatory compliance has been a fundamental risk management benefit since we entered into our partnership. Permit compliance has been continuously achieved for both the water and wastewater facilities, even though both systems have experienced increased flows and loads from continued community growth within the utility service area of SMRU.

In the past six years, we have treated nearly 1.9 billion gallons of wastewater without a single effluent quality violation. We are responsible for approximately 875 regulatory compliance samples per year for the wastewater system. Only one Notice of Violation has been issued in this period of time, for failure to report a discharge to the Rapid Infiltration Basin System that caused an odor, for which we took full responsibility and resolved.

> "...zero lost-time accidents or incidents in the past six years."

Since 1998, we have generated almost 7.5 billion gallons of drinking water, with only two regulatory violations for exceeding maximum concentration limits that required public notification.

The safety and security of the water treatment facilities have been demonstrated by compliance with more than 2,000 bacteriological tests each year of the drinking water produced by Veolia Water. Your environmental risks are managed and mitigated by our guarantees of service.

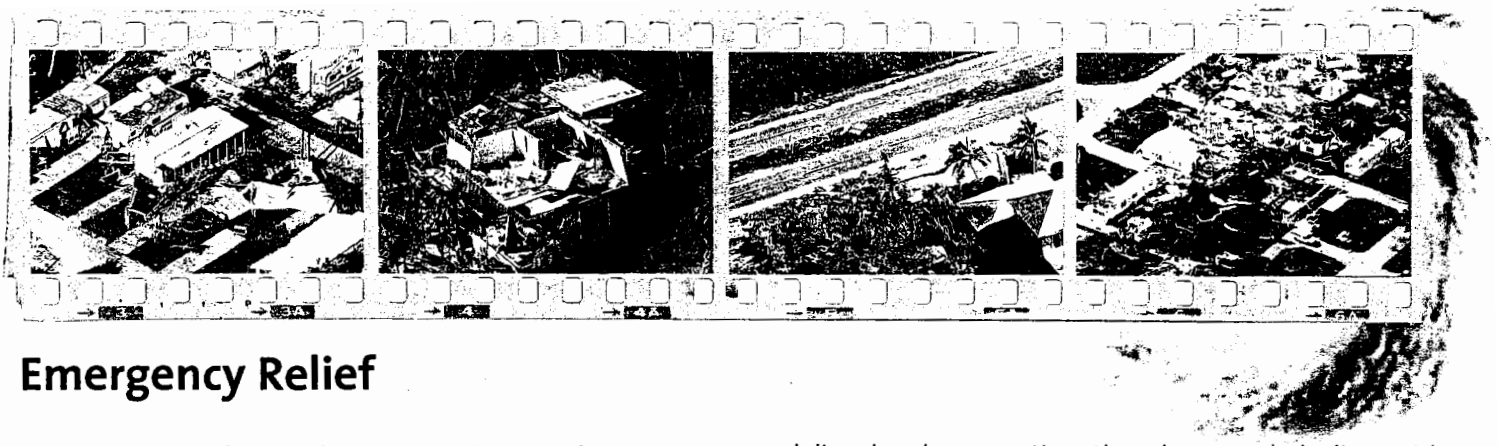
Our training programs for our employees to ensure safety and security in the work environment are unsurpassed and time-tested. As a result of Veolia Water's commitment to creating a health and safety conscious culture, we have a perfect safety record—zero lost-time accidents or incidents in the past six years. Each employee knows how their individual job actions affect utility operations and impact the environment. We understand the risk of having the ultimate responsibility for training and plant environmental compliance.

SMRU's risk for its water and wastewater system assets is significantly mitigated by our pledge to achieve and maintain compliance with all applicable federal, state and local environmental laws and regulations, and to do so in a safe and secure work environment. Our service objective has been and will continue to be 100% compliance with zero lost-time accidents. Thus, your risks are carefully managed so as to minimize potential impacts on costs, service rates and liabilities.

Global resources at your finger tips

Close to 2,000 man-hours have been dedicated, outside of the scope of our contract, to ensure successful operations of your facilities. Below highlights who and why these individuals were called.

Name	Title/Position	Purpose/Function	Man-Hours Provided
Melinda McElligott	South Business Center (SBC) Human Resource Mananger	Management training, staff training, transition support services, benefits training and support services	160
Jay Ritchey	SBC Environmental, Health & Safety Manager	Continual project support for all compliance, health and safety matters; Annual EH&S audit; Fleet Safety Audit; monthly project safety and compliance review; ongoing safety training	240
Don Phillips	Rolling Oaks Project Manager	Review of Customer Services policies and procedures	36
Don Patterson	Palmetto/Sarasota Project Manager	Ongoing support for WWTP operations	45
Van Aboush	SBC Business Manager (former)	Ongoing accounting/financial support for all AR/AP activities	110
Preston Cloke	SBC Business Manager (present)	Ongoing accounting/financial support for all AR/AP activities	60
J.R. Parrish	Hoover, AL, Project Manager	Computerized Maintenance Management Training, Equipment Maintenance Training, Predictive Maintenance Equipment Analysis	210
Pam London	SBC Laboratory QA/QC Manager Tampa Bay Water	Lab QA/QC annual audit, lab training, compliance support services	53
Dan Ryan	V.P. of Environmental, Health & Safety	On-site EH&S audit, Site Security audit	40
Chuck Brence, P.E.	VWNA Sr. Design Engineer (former)	Engineering services at the WWTP for the fine bubble diffuser project, WWTP evaluation	120
Bruce Ratzlow, P.E.	Envirex Design Engineer (former)	Fine bubble diffuser design	35
Harbans Kohli, P.E.	VWNA Sr. Technical Engineer (former)	RO Treatment Plant technical advisor	30
Alan Potter, P.E.	VWNA Sr. Design Engineer (former)	Odor control evaluation, WWTP evaluation	65
Glenn Dunkelburger, P.E.	VWNA SBC Engineering Director (former)	Coordinated all capital project engineering efforts for VWNAOS	78
Mike McCary	Sr. Operator, Hoover, AL, Project	OPS Win computerized operations program training and support	80
Brian Masher	Sr. WWTP Operator, West Melbourne Project	Provided WWTP operator services, training and support	80
John Wikel	Sr. WTP Operator, Tampa Bay Water Project	Provided RO water treatment plant startup operations, training and support services	60
Greg May	SBC Sr. Project Manager	Coordinated all off-site hurricane recovery efforts, and provided on-site recovery coordination and relief efforts	70
Jeff Greer	Wurtland, KY, Project Manager	Coordinated purchase and delivery of generators and fuel for hurricane recovery	40
TJ Meredith	CDR Project, Elizabethtown, KY Project Manager	Coordinated manpower and equipment delivery for hurricane recovery	40
Scott Hall	Sr. Equipment Maintenance Technician Pikeville, KY	Provided on-site hurricane recovery support	100
Matt Priddy	WTP/WWTP Operator, CDR Project, Elizabethtown, KY	Provided on-site hurricane recovery support	70
Carlos Stevens	Lift Station Maintenance Technician Wurtland, KY	Provided on-site hurricane recovery support	70
Melvin Carman	Hardinsburg, KY	Provided on-site hurricane recovery support	70



Emergency Relief

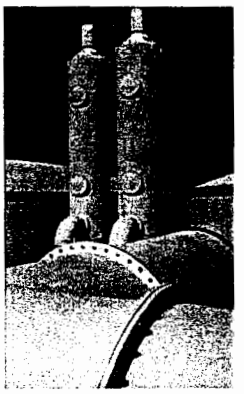
Earlier this year, for four long hours, the eye of Hurricane Frances lingered over Jupiter Island, blowing off roofs and destroying property. For four long days, the staff, families and emergency contractors were sequestered inside the three water and wastewater treatment facilities. The hurricane left a wake of downed power and telephone lines, damaged water mains, uprooted trees and a rubble of buildings—including the homes of three Veolia Water Jupiter Island employees.

The Jupiter Island facilities held up, but the amount of equipment and work needed to keep operations going was enormous. Personnel from our Kentucky projects in Elizabethtown (CDR), Wurtland, Hardinsburg and Pikeville came to Jupiter Island's aid. These employees worked around the clock, cleaning up debris; moving generators; identifying, shutting off and fixing leaking water meters and line breaks; operating the plants and dealing with administrative issues. Two of Veolia Water's employees from Pikeville, Ky., even drove for 20 straight hours to bring an additional generator to ensure continuous power at the plants and water services to the community.

When Hurricane Jeanne ripped roofs off of buildings and picked up debris still stacked on roadsides from earlier hurricanes, once more, the Veolia Water Jupiter Island team took refuge at the water and wastewater treatment plants and began the clean-up and recovery mode again.

The team's efforts paid off. Throughout the storms, the Jupiter Island project successfully maintained water pressure and only a few of the 94 pump stations had minor overflows. Overall, Veolia Water performed far better than neighboring communities, many of which issued boil water alerts and experienced major pump station overflows.

Technical Expertise and Capital Projects Support of Numerous Improvements



As SMRU's service area and assets have grown and changed over the years, we have supported many of these improvements by providing technical expertise and capital program management services. A partnership with Veolia Water has meant that SMRU has had access to a full-scope of municipal services from the world leader in environmental services. As highlighted below, we have provided better technology and needed improvements at the wastewater plant. These technology and equipment solutions have resulted in elevated process control, additional process flexibility, continuous effluent quality compliance and improved asset performance, which all has managed and minimized the life-cycle costs of your wastewater plant. We have demonstrated our priority in protecting and improving your wastewater treatment assets to ensure technical performance, regulatory compliance and environmental protection. In addition to the previously mentioned initiatives, others include:

- Installation of the fine bubble diffusers, rotating drum thickener, mixers for the surge tanks, influent flow meter, chemical odor control system, new blower, radio telemetry system, bar screen and VFD waste activated sludge pumps
- Upgrades to the reuse pump system and the complete rehabilitation of 3 clarifiers
- The replacement of digester diffusers
- The complete emptying and cleaning of all 4 wastewater treatment trains

Additionally, in 2003, we successfully commissioned and started up the Reverse Osmosis (RO) facility, which is a state-of-the-art membrane technology system for providing even higher quality and better-tasting water. As your O&M partner, we utilized in-house engineering and operations expertise with regional personnel. RO systems are the fastest growing state-of-the-art technology application for desalination processes, including treatment of brackish groundwater and surficial water, seawater, and repurification of secondary wastewater. Veolia Water operates more than 10% of the world's installed desalination systems and has demonstrated technology support and O&M expertise in municipal RO systems, including one of the largest seawater RO installations in the world.

Who We Are

Veolia Water North America is the leading provider of comprehensive water and wastewater services to municipal and industrial customers, providing services to approximately 14 million people in more than 600 communities. We operate the nation's largest public-private partnership for water services, in Indianapolis, serving approximately 1.1 million people, and the country's very first partnership, established in 1972 with Burlingame, Calif., an ongoing customer now for more than 30 years.

Formerly known as USFilter Operating Services, in early 2004, we proudly adopted the name of our parent company. The company is part of Veolia Water, the No. 1 water company in the world, serving more than 110 million customers. Veolia Water is a subsidiary of Veolia Environment, the largest environmental services company in the world, with more than 295,000 employees in about 80 countries and annual revenues of more than $28.6 billion.

ASSETS WE MANAGE

- Water treatment facilities and distribution systems
- Wastewater treatment facilities and collection systems
- Reclamation and effluent reuse facilities and distribution systems
- Residuals management (sludge/biosolids/compost) and marketing
- Combined sewer and sanitary sewer systems
- Groundwater remediation sites
- All related aboveground and underground assets (plants, pumps, pipes, hydrants, meters, tanks, towers, reservoirs, wells, etc.)
- Call centers and customer service centers

WHAT WE DO

- Operations and maintenance
- Design-build-operate
- Customer service
- Asset management and capital improvements
- Technology and equipment
- Master planning
- Environmental, safety and security programs
- Industrial pretreatment programs
- Financing

Veolia Water North America
14950 Heathrow Forest Parkway
Suite 200
Houston, Texas 77032
800.522.4774
www.veoliawaterna.com

WATER PARTNERSHIP COUNCIL
MEMBER

VEOLIA
Water

Appendix D

Part Four

Great Miami River Cleanup (Dayton, Ohio) - Brochure

VEOLIA Water

A special "Thank You" to the following for their support of the 2002 cleanup:

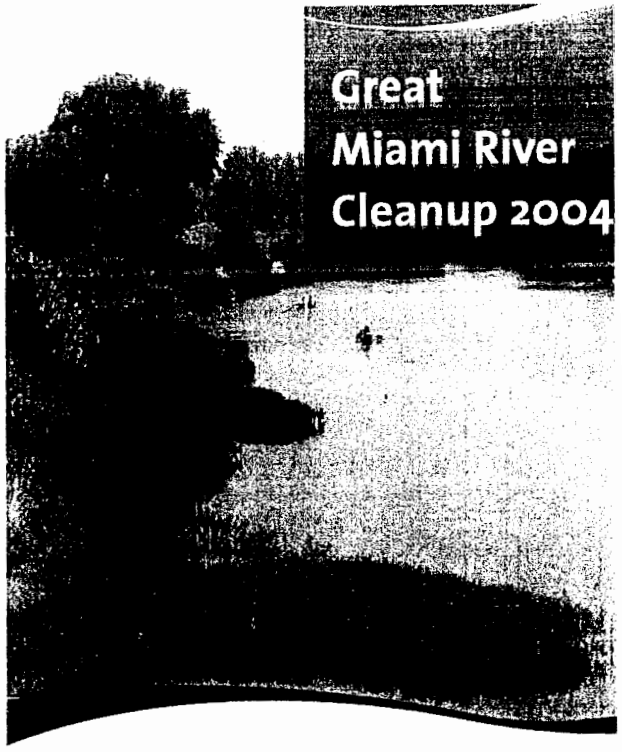
- Beau Townsend Ford
- Advanced Treatment Sciences
- City of Franklin
- City of Huber Heights
- Miami County Park District
- Ohio Department of Natural Resources
- City of Tipp City
- City of Vandalia
- Tri Cities North Regional Wastewater Authority

Project Coordinator
(937) 233-7083 x10

VEOLIA Water

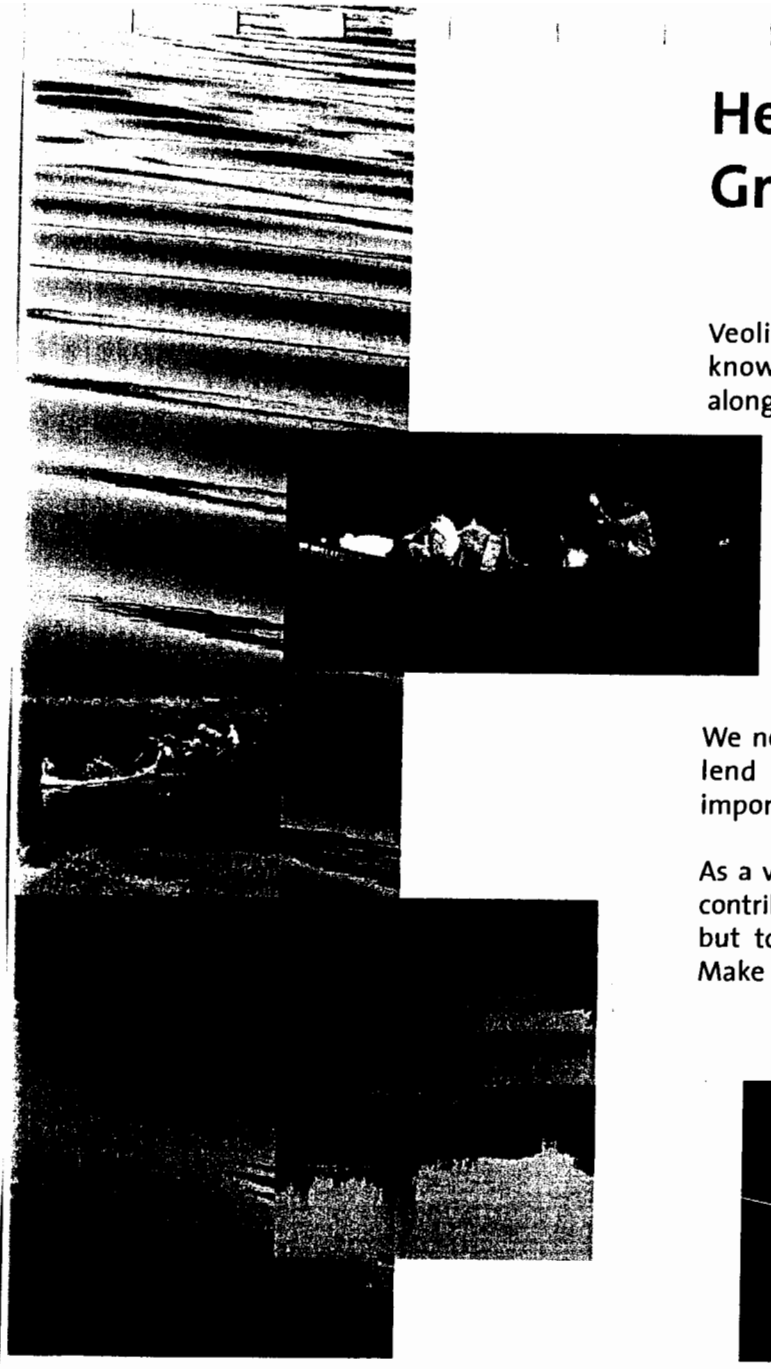
Veolia Water North America
Tri Cities North Regional Wastewater Authority
3777 Old Needmore Road
Dayton, Ohio 45424

www.veoliawaterna.com



Great Miami River Cleanup 2004

VEOLIA Water



Help Make the 16th Annual Great Miami River Cleanup a Success

Veolia Water North America (formerly known as USFilter Operating Services), along with the Miami Conservancy District, is once again sponsoring the Great Miami River Cleanup.

Over the past 15 years, the Great Miami River Clean up has been a huge success – removing more than 150 tons of trash and debris from the river!

We need your help again this year. Please lend a hand so we can maintain our important natural resource.

As a volunteer, you'll be making a positive contribution – not only to your community but to the environment as well. Join us! Make new friends and have some fun!

Great Miami River

Cleanup 2004

We'll clean approximately 30 miles of river bank through the course of four canoe trips. Four trips will leave simultaneously and extend from Piqua to the North Regional Wastewater Treatment Plant on Needmore Road. A fifth trip will cover the section of the river beginning at the Franklin Wastewater Treatment Plant.

About Veolia Water North America

We are the leading provider of comprehensive water and wastewater services to municipal and industrial customers, providing services to approximately 14 million people in more than 600 communities.

In the Miami Valley, Veolia Water operates four water and wastewater facilities – the Springboro Water and Wastewater Treatment Plants and the North Regional and Franklin Wastewater Treatment Plants.

About the Miami Conservancy District

Formed in 1915, the Miami Conservancy District protects lives and property through a comprehensive flood-protection system, preserves the quality and quantity of water through monitoring and education and promotes the enjoyment of our waterways through recreation. The District leads the

Appendix E

VEOLIA Water

Appendix E
Part One
Sample O&M Services Agreement

VEOLIA Water

Draft Agreement For
Operations, Maintenance and Management Services

THIS AGREEMENT is entered into this _____ day of _____2005, by and between

City of Nashua, New Hampshire, with its mailing address at _____ (hereinafter "OWNER")

and

Veolia Water North America - Northeast, LLC, with its principal address at 200 Cordwainer Drive, Suite 202, Norwell, Massachusetts, 02061 (hereinafter "VWNA" or "Company").

WHEREAS, OWNER owns and provides for the operation of a water system, including maintenance, repair, expansion administration, billing, collection, customer service and permitting functions; and,

WHEREAS, OWNER desires to employ VWNA to perform the operation, maintenance, repair and select customer service functions for the compensation provided for herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, OWNER and VWNA agree as follows:

1. General

1.1 Definitions of words and phrases used in this Agreement and the attachments are contained in Appendix A.

1.2 All land, buildings, facilities, easements, licenses, rights-of-way, equipment and vehicles presently or hereinafter acquired or owned by OWNER shall remain the exclusive property of OWNER unless specifically provided for otherwise in this Agreement.

1.3 This Agreement shall be governed by and interpreted in accordance with the laws of the State of New Hampshire.

1.4 This Agreement shall be binding upon the successors and assigns of each of the parties, but neither party shall assign this Agreement without the prior written consent of the other party. Consent shall not be unreasonably withheld. Notwithstanding anything to the contrary, Owner is expressly permitted to assign this Agreement to the Merrimack Valley Regional Water District.

1.5 All notices shall be in writing and transmitted to the party's address stated above. All notices shall be deemed given when delivered, if delivered personally or by courier mail service, i.e., Federal Express or Airborne Express, delivered after such notice has been deposited in the United States mail postage prepaid, if mailed certified or registered U.S. mail, return receipt requested; or received by the party for which notice is intended if given in any other manner.

1.6 This Agreement, including Appendices A through F, is the entire Agreement between the parties. This Agreement may be modified only by written agreement signed by both parties. Wherever used, the terms "VWNA" and "OWNER" shall include the respective officers, agents, directors, elected or appointed officials and employees and, where appropriate, subcontractors or anyone acting on their behalf.

1.7 If any term, provision, covenant or condition of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

1.8 It is understood that the relationship of VWNA to the OWNER is that of independent contractor. The services provided under this Agreement are of a professional nature and shall be performed in accordance with good and accepted industry practices for contract operators similarly situated. However, such services shall not be considered engineering services and nothing herein is intended to imply that VWNA is to supply professional engineering services to OWNER unless specifically stated in this Agreement to the contrary.

1.9 If any litigation is necessary to enforce the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees which are directly attributed to such litigation in addition to any other relief to which it may be entitled.

1.10 Nothing in this Agreement shall be construed to create in any third party or in favor of any third party any right(s), license(s), power(s) or privilege(s).

1.11 Prior to the commencement of work under this Agreement, each party shall designate in writing an employee or other representative of the designating party who shall have full authority to approve changes in the Scope of Work and compensation therefore, execute written Change Orders reflecting such changes, render decisions promptly, and furnish information expeditiously to the other party when necessary. The Owner's designated representative will also serve as the point of contact for the coordination of VWNA's activities with other OWNER organizations.

1.12 This Agreement shall be interpreted in accordance with its plain meaning and not strictly for or against either party hereto.

2. VWNA's Services – General

2.1 VWNA shall provide a sufficient number of certified and qualified personnel, including management, administrative, operational, technical, laboratory and clerical, who meet relevant State of New Hampshire requirements and certifications regarding water treatment operations, maintenance and management and are capable and demonstrate experience necessary to operate the Project covered by this Agreement. VWNA will provide a Project Manager whose services will be personal to this Agreement and whose replacement will be subject to OWNER's consent; such consent not to be unreasonably withheld.

2.2 VWNA shall provide ongoing training and education for appropriate personnel in all necessary areas of modern water process control, maintenance, safety, and supervisory skills.

2.3 VWNA shall utilize computerized programs for maintenance, process control, cost accounting, customer service, field operations and laboratory Quality Assurance/Quality Control.

2.4 VWNA shall operate, maintain and/or monitor the Project and the Facility on a 24-hour per day, seven day per week schedule, as described in Articles 3, 4 5 and 6 below.

2.6 Visits may be made at a reasonable time by OWNER's agents so designated by the OWNER's representative. Keys for the Facility shall be provided to OWNER by VWNA for such visits. All visitors to the Facility shall comply with VWNA's operating and safety procedures.

2.7 VWNA will implement and maintain an employee safety program in compliance with applicable laws, rules and regulations.

2.8 As required by law or permit, VWNA will prepare necessary reports and submit them to OWNER for signature and transmittal to appropriate authorities.

2.9 VWNA will provide laboratory testing and sampling presently required by plant performance portions of the Clean Water Act, the Safe Drinking Water Act, and/or any federal, state or local rules and regulations, statutes or ordinances, permit or license requirements.

2.10 VWNA shall provide OWNER with a full accounting of all billings at intervals and in sufficient detail as may be determined by OWNER, and assist OWNER in the preparation of annual operating budgets.

2.11 VWNA shall maintain all of the records generated by VWNA or the OWNER related to the Project. VWNA shall maintain the originals of all such records in the physical custody of the OWNER. Where records are maintained electronically, records shall be backed up to the OWNER's data processing facilities daily.

2.12 VWNA shall incur all costs related to the provision of the Services, except those costs incurred by the Owner, as specified in Article 7.

3. VWNA's Scope of Services – Transition Services

3.1 Within fifteen (15) days after the Service Commencement Date, VWNA shall submit a preliminary update to the Emergency Response Plan previously maintained by the former operator of the Facility. Within one-hundred and eighty (180) days after the Service Commencement Date, VWNA shall completely review and update the Vulnerability Assessment and the Emergency Response Plan and report to the OWNER on the completeness and appropriateness of these programs and any measures that were not implemented prior to the Service Commencement Date.

3.2 Within thirty (30) days after the Service Commencement Date, VWNA will provide a physical inventory of the OWNER's parts, tools, vehicles and equipment in use at the Facility and a general statement as to the condition of each vehicle or piece of equipment.

3.3 Within thirty (30) days after the Service Commencement Date, VWNA will provide OWNER with a physical inventory of chemicals and other consumables on hand at the Facility. VWNA will provide OWNER with the same quantity of chemicals or equivalent upon termination of this Agreement.

3.4 Within ninety (90) days after the Service Commencement Date, VWNA shall submit a report to the OWNER describing available automatic meter reading ("AMR") systems, a cost benefit analysis of the alternatives and a recommendation.

3.5 Within one-hundred and eighty (180) days after the Service Commencement Date, VWNA will provide a physical inventory of the OWNER's Facility and a general statement as to the condition of the Facility. If required, VWNA will make recommendations to OWNER regarding the need, if any, for OWNER to rehabilitate, expand or modify the Facility to comply with governmental safety regulations applicable to VWNA's operations hereunder and federal regulations promulgated pursuant to the Americans With Disability Act ("ADA"). Nothing herein shall be construed to place upon VWNA a duty to find and report violations

of either the safety laws or the ADA at the Facility. According to these recommendations, VWNA and the OWNER shall agree on a Priority Upgrading Works Program, to be implemented by the OWNER within an agreed schedule. For the avoidance of doubt, VWNA shall be relieved from any performance obligations when default of performance is caused by the non implementation of the Priority Upgrading Works Program. Until such time as OWNER completes the Priority Upgrading Works Program, OWNER shall reimburse VWNA any penalties or fines paid because of the insufficient condition of the Facility and VWNA shall operate and maintain the Facility on a best efforts basis.

3.6 Within eighteen (18) months after the Service Commencement Date, VWNA shall provide OWNER with a listing of recommended capital improvements that VWNA believes will be required for the Facility. VWNA and OWNER will negotiate the Capital Improvement Program to be implemented by OWNER, and the schedule of the Capital Improvement Program.

3.7 Within eighteen (18) months after the Service Commencement Date, VWNA shall submit a report to the OWNER on measures that can be implemented to conserve water and water resources within the Facility.

4. VWNA's Scope of Services - Operation and Management of Facility

4.1 This Article shall apply to VWNA's operation and management services for the Facility. The Facility is described in Appendix B.

4.2 Within the design capacity and capabilities of the treatment plant, and subject to the provision of Acceptable Raw Water, VWNA will manage and operate the treatment plant so that finished water produced from the plant meets the requirements specified in Appendix C. When Raw Water does not comply with the Raw Water Specifications of Appendix C, VWNA shall manage and operate the treatment plant on a best effort basis. And, if required, VWNA and OWNER shall negotiate in good faith an adjustment to this Agreement (and a fair compensation for VWNA, if required) in order to continue to produce finished water in accordance with the requirements set forth in Appendix C.

4.3 VWNA will operate and maintain the water distribution system and appurtenances as more fully described in Appendix D. VWNA's responsibility for the water distribution system shall end at the customer's water meter, or where no water meter exists, at the customer's property line. VWNA shall not be responsible for completing any new service taps unless OWNER agrees to pay for such service as a Change in Scope hereunder.

5. VWNA's Scope of Services – Maintenance and Capital Projects

5.1 Preventive and Predictive Maintenance shall be implemented and paid by VWNA. Unplanned Maintenance shall be implemented by VWNA and paid by OWNER Capital Projects services shall be implemented and paid by OWNER.

5.2 VWNA shall perform all Preventive and Predictive Maintenance for the Facility. VWNA shall bear all costs related to Preventative and Predictive Maintenance of the Facility.

5.3 VWNA shall provide the OWNER with full documentation that Preventive and Predictive Maintenance is being performed on OWNER's owned equipment at intervals and in sufficient detail as may be determined by the OWNER. Such a maintenance program must include documentation of all Preventive and Predictive Maintenance and a spare parts inventory.

5.4 VWNA shall be responsible for maintaining all manufacturers' warranties on new equipment purchased by OWNER and assist OWNER in enforcing existing equipment warranties and guarantees.

5.5 VWNA shall perform all Unplanned Maintenance for the Facility. The cost of Unplanned Maintenance is not a component of the Annual Fee set forth in this Agreement. VWNA will invoice the OWNER for all Unplanned Maintenance on a time and materials-plus basis.

5.6 VWNA shall notify the OWNER prior to commencing any Unplanned Maintenance VWNA reasonably believes will exceed Five Thousand (5,000) Dollars. VWNA will not commence Unplanned Maintenance costing in excess of Five Thousand (5,000) dollars without prior written approval from the OWNER.

5.7 Notwithstanding the provisions of Section 5.6, in any emergency affecting the safety of persons or property, VWNA may act without prior written approval, amendment or change order, at VWNA's discretion, to prevent threatened damage, injury or loss. VWNA shall be compensated by OWNER for any such emergency work notwithstanding the lack of prior written approval. Such compensation shall include VWNA's non-labor direct Costs for the emergency work. Nothing contained in this Section shall impose upon VWNA a duty to perform any emergency work absent a change order and failure to perform any such emergency work shall not impose upon VWNA any liability for errors and omissions.

5.8 OWNER and VWNA shall discuss all proposed Capital Projects related to the Facility or expansion of the Facility. The cost of any such Capital Project is not included in the Annual Fee set forth within this Agreement.

6. VWNA's Scope of Services – Field, Engineering and Customer Services

6.1 This Article shall apply to VWNA's operation, engineering and management services for the OWNER's billing, bookkeeping and customer service functions.

6.2 On a periodic basis, as set forth in Table 6.2 below, VWNA shall read the water meter for each customer of OWNER connected to the water system (hereinafter "Customer") and timely convey that information to OWNER. VWNA shall conduct all repeat meter reads and special readings for closing and opening of accounts.

Table 6.2

Meter Size/Description	Frequency of Meter Read
Meters larger than ¾ inch	Monthly
Meters equal or less than ¾ inch: commercial accounts	Monthly
Meters equal or less than ¾ inch: residential accounts where meters have been converted to radio readers	Monthly
Meters equal or less than ¾ inch: residential accounts where meters have not been converted to radio readers	Quarterly

6.3 VWNA shall respond to requests for service by OWNER such as turning on service for water, rechecking meter readings and physically disconnecting water service.

6.4 VWNA shall implement and maintain a backflow and cross-connection inspection program in accordance with the New Hampshire Environmental Services requirements.

6.5 VWNA shall provide a "one-call contact center" for purposes of receiving Customer inquiries, complaints and emergency service calls related to the Project.

6.6 At the OWNER's direction, VWNA shall provide Engineering Services, as more fully detailed in Appendix E. The cost of Engineering Services is not included in the Annual Fee set forth in this Agreement.

7. OWNER's Obligations

7.1 OWNER shall pay any amounts owed to VWNA by OWNER pursuant to this Agreement.

7.2 OWNER shall grant to VWNA the sole, exclusive and irrevocable right and discretion to perform the Services and to have access and operate the Facility.

7.3 The OWNER shall fund all necessary Unplanned Maintenance and Capital Projects within the schedule agreed with VWNA. Priority shall be given to safety and the ADA related expenses described in Section 3.5. Any loss, damage, or injury resulting from OWNER's failure to authorize Unplanned Maintenance costing in excess of Five Thousand (5,000) Dollars or Capital Projects when reasonably requested by VWNA shall be the sole responsibility of OWNER.

7.4 The OWNER shall keep in force all Project related warranties, guarantees, easements and licenses that have been granted to OWNER and are not transferred to VWNA under this Agreement.

7.5 OWNER shall obtain, maintain and renew all Project related authorizations for which OWNER is or may become responsible, including, but not limited to building permits. OWNER shall assist VWNA to obtain, maintain or renew all Project related authorizations for which VWNA is or may become responsible.

7.6 The OWNER shall pay all sales, excise, *ad valorem*, property, franchise, occupational and disposal taxes, or other taxes associated with the Project other than taxes imposed upon VWNA's net income and/or payroll taxes for VWNA employees. In the event VWNA is required to pay any sales tax or use taxes on the value of the services provided by VWNA hereunder or the services provided by any subcontractor of VWNA, such payments shall be reimbursed by the OWNER unless the OWNER furnishes a valid and properly executed exemption certificate relieving the OWNER and VWNA of the obligation for such taxes. In the event the OWNER furnishes an exemption certificate which is invalid or not applicable to services by VWNA, the OWNER shall indemnify VWNA for any taxes, interest, penalties, and increment costs, expenses or fees which it may incur as a result of VWNA's reliance on such certificate.

7.7 The OWNER shall provide VWNA, within a reasonable time after request and on an "as available" basis, with the temporary use of any piece of OWNER's heavy equipment that is available so that VWNA may discharge its obligations under this Agreement in the most cost-effective manner.

7.8 OWNER shall provide all registrations and licenses for OWNER's vehicles used in connection with the Project.

7.9 OWNER shall provide for VWNA's exclusive use of all vehicles and equipment presently in full-time use at the Project.

7.10 OWNER shall provide the Project with appropriate security personnel and/or devices to protect against any losses resulting from the theft, damage, or

unauthorized use of property owned by OWNER and shall accept liability for such losses except to the extent such losses are directly caused by the negligent acts or omissions of VWNA.

7.11 OWNER shall provide to VWNA all information, documents and records relating or connected with the Facility or the Services that OWNER has within its care, custody or control and which VWNA may require in order to meet its obligations under this Agreement.

7.12 OWNER shall provide and secure for the benefit of VWNA all rights of way and easements relating to the Facility and access to the Facility so that VWNA may perform its obligations under this Agreement.

7.13 OWNER shall be responsible for all non-rolling stock, Project-related fuel costs, including electricity, natural gas and fuel oil.

7.14 OWNER shall supply computers, related hardware, and computerized programs for maintenance, process control, cost accounting, customer services, field operations and laboratory Quality Assurance/Quality Control. OWNER will ensure that the computerized programs it provides are integrated with one another.

7.15 OWNER shall provide all administrative support required for handling customer inquiries, bill generation, payment processing and collection. OWNER shall also maintain the accounting systems to track billing, payment and collection activities.

8. Compensation

8.1 VWNA's compensation under this Agreement shall consist of an Annual Fee. The Annual Fee for the period _____ through _____ shall be $_____.

8.2 The services being provided under this Agreement are based on reasonably expected overtime for normal breakdowns or services required after hours. Any additional expenses including straight or over time wages caused by severe weather, a disaster or unplanned event that may be recovered through billing any third party including the State or Federal Government FEMA funds will be billed to the OWNER for reimbursement.

8.3 The Annual Fee shall be negotiated each year at least four (4) months prior to the anniversary of this Agreement's effective date. Should OWNER and VWNA fail to agree, the Annual Fee will be adjusted by multiplying the existing Annual Fee by the escalation formula below:

$$\text{Escalation Factor} = 0.65 \times \frac{L_N}{L_E} + 0.35 \times \frac{CPI_N}{CPI_E}$$

Where:

L: Labor Inflation Factor
CPI: General Inflation Factor

Escalation Factor shall be calculated every year, on the 1st January of year N, when no agreement on Annual Fee has been reached between OWNER and VWNA.
E shall be the last year where the Annual Fee has been agreed between VWNA and OWNER.

L_N	Last value of Labor Inflation Factor available on 1st January of year N
L_E	Last value of Labor Inflation Factor available on 1st January of year E
CPI_N	Last value of General Inflation Factor available on 1st January of year N
CPI_E	Last value of General Inflation Factor available on 1st January of year E

9. Payment of Compensation

9.1 One-twelfth (1/12) of the Annual Fee for the current year shall be due and payable on the first of the month for each month that services are provided.

9.2 All other compensation to VWNA is due upon receipt of VWNA's invoice and payable within fifteen (15) days.

9.3 OWNER shall pay interest at an annual rate equal to _____, said rate of interest not to exceed any limitation provided by law, on payments not paid and received within fifteen (15) calendar days of the due date, such interest being calculated from the due date of the payment. In the event the charges hereunder might exceed any limitation provided by law, such charges shall be reduced to the highest rate or amount within such limitation.

10. Scope Changes

10.1 A Change in Scope of services shall occur when and as VWNA's costs of providing services under this Agreement change as a result of:

10.1.1 any difference between the actual situation of the Project and the assumptions provided by VWNA in its price proposal;

10.1.2 any change in Project operations, maintenance, personnel qualifications or staffing or other cost which is a result of an Uncontrollable Circumstance;

10.1.3 increases or decreases in the user base as constituted as of the Bid Submission Date. For the avoidance of doubt, for purposes of this subsection, the actual user base is defined as those users who receive water-related services within the geographic area served formerly by Pennichuck Water Works, including the areas served formerly by Pennichuck East Utilities Inc. and Pittsfield Aqueduct Company;

10.1.4 increases or decreases of not less than seven percent (7%) in the volume of finished water delivered to customers, measured according to readings of customers' meters;

10.1.5 Change in Raw Water Specifications, per comparison with Appendix C as demonstrated by the twelve month average;

10.1.6 increases or decreases in rates or other related charges (including taxes) imposed upon VWNA by a taxing authority - excluding taxes based on VWNA's net income; and/or

10.1.7 OWNER's request of VWNA and VWNA's consent to provide additional services, including but not limited to, Capital Projects and Engineering Services, extension of the Services to assets not listed in Schedule B or extension of the services to new areas not included in the Services Area as of the Contract Date.

10.2 For Changes in Scope described in Sections 10.1.1 to 10.1.5 above, the Annual Fee shall be increased (or decreased) by an amount equal to VWNA's additional (reduced) Cost associated with the Change in Scope plus ten percent (10%).

10.3 For Changes in Scope described in Sections 10.1.6, the Annual Fee shall be increased (or decreased) by an amount equal to VWNA's additional (reduced) Cost associated with such Change in Scope.

10.4 OWNER and VWNA shall negotiate an increase in VWNA's Annual Fee for Changes in Scope based on Section 10.1.7.

10.5 Either OWNER or VWNA may submit or request a Change in Scope as set forth in this article. Each request for a Change in Scope shall be in writing and shall include, without limitation, the following: (i) an explanation of the basis for the request for Change in Scope in detail sufficient to allow the party receiving the notice to evaluate and approve or disapprove the request, (ii) any time restrictions on the implementation of the requested Change in Scope, (iii) the reasons for the Change in

Scope, and (iv) a statement of the sections of this Agreement that would be modified or otherwise affected by it. Following receipt of the written request the parties shall meet as soon as is reasonably possible and at such meeting shall discuss the nature of the Change in Scope and the reasons for it being requested. The purposes of the meeting shall be to increase the responsiveness of the parties to the situation or needs resulting in the request and, to the extent possible, to reach agreement on guidelines for how the change will best be effected.

10.6 Unless otherwise agreed to in writing, the party receiving notice of a requested Change in Scope shall accept or reject such request within 30 Business Days or such request will be deemed rejected.

11. Indemnity, Liability and Insurance

11.1 VWNA hereby agrees to indemnify and hold OWNER harmless from any liability or damages for bodily injury, including death, property damages and pollution damages which may arise from VWNA's negligence or willful misconduct under this Agreement; provided, VWNA shall be liable only for that percentage of total damages that corresponds to its percentage of total negligence or fault.

11.2 OWNER agrees to indemnify and hold VWNA harmless from any liability or damage or bodily injury, including death, property damages and pollution damages which may arise from all causes of any kind other than VWNA's negligence or willful misconduct, including, but not limited to, breach of an OWNER warranty.

11.3 Unless covered by the indemnities contained in Sections 11.1 and 11.2 above and the insurance policies provided by the parties herein, neither VWNA nor the OWNER shall be liable to the other in any action or claim for consequential, incidental or special damages, loss of profits, loss of opportunity, loss of product or loss of use. Any protection against liability for losses or damages afforded any individual or entity by these terms shall apply whether the action in which recovery of damages is sought is based on contract, tort (including sole, concurrent or other negligence and strict liability of any protected individual or entity), statute or otherwise. To the extent permitted by law, any statutory remedies, which are inconsistent with these terms, are waived.

11.4 VWNA shall be liable for those fines or civil penalties imposed by a regulatory or enforcement agency for violations occurring on or after the Service Commencement Date, of the finished water quality provided for in Appendix C-1 that are a result of VWNA's negligence. OWNER will assist VWNA to contest any such fines in administrative proceedings and/or in court prior to any payment by VWNA. VWNA shall pay the cost of any such contest.

11.5 OWNER shall be liable for those fines or civil penalties imposed by any regulatory or enforcement agencies on OWNER and/or VWNA that are not a result of VWNA's negligence or are otherwise directly related to the ownership of the Facility and shall indemnify and hold VWNA harmless from the payment of any such fines and/or penalties.

11.6 Notwithstanding anything contained within this Agreement, OWNER shall defend, indemnify and hold harmless VWNA from and against any Losses arising out of or related to:

(i) any Environmental Conditions on, in, under, across or at the Facility;

(ii) any Release or threatened Release of Regulated Substances from the Facility or any location used for the storage, treatment, disposal or beneficial use of influent, effluent, utilities, and wastes produced by the Facility; or

(iii) any violations of Environmental Laws related to operation or maintenance of the Facility, or the storage, treatment, generation, discharge, disposal or beneficial use or other wastes produced, generated or discharged by the Facility,

except to the extent that such Environmental Conditions, Releases or violations of Environmental Laws are caused by the negligent or willful acts or omissions of VWNA in performing its obligations under this Agreement.

11.7 To the fullest extent permitted by law and notwithstanding any other provision of this Agreement, VWNA's liability for performance or non-performance of any obligation arising under the Agreement (whether arising under breach of contract, tort, strict liability, or any other theory of law or equity) including, but not limited to its indemnity obligations specified in Section 11.1 of the Agreement, shall not exceed $_____ cumulatively for the duration of the Agreement, provided that the foregoing limitation shall not apply to any losses resulting from the gross negligence or willful misconduct of VWNA or VWNA's subcontractors, employees or agents in breach of VWNA's obligations under this Agreement.

11.8 Each party shall obtain and maintain insurance coverage of a type and in the amounts described in Appendix F. Each party shall provide the other party with satisfactory proof of insurance.

11.9 The provisions of Sections 11.1 through 11.7 above shall survive the termination of the Agreement.

12. Term, Termination and Default

12.1 The initial term of this Agreement shall be _____ (___) years commencing _____ ("Initial Term"). Thereafter, this Agreement shall be automatically renewed for successive terms of _____ (__) years each unless canceled in writing by either party no less than one hundred and twenty (120) days prior to expiration.

12.2 A party may terminate this Agreement for a material breach of the Agreement by the other party; only after giving written notice of breach; and, except in case of a breach by OWNER for non-payment of VWNA's invoices, in which case termination may be immediate by VWNA, only after allowing the other party thirty (30) days to cure or commence taking reasonable steps to cure the breach.

12.3 Upon notice of termination by OWNER, VWNA shall assist OWNER in assuming operation of the Project. If additional Cost is incurred by VWNA at request of OWNER, OWNER shall pay VWNA such Cost within 15 days of invoice receipt.

12.4 Upon termination of this Agreement and all renewals and extensions of it, VWNA will return the Project to OWNER as it was upon the effective date of this Agreement, ordinary wear and tear excepted. Equipment and other personal property purchased by VWNA for use in the operation or maintenance of the Project shall remain the property of VWNA upon termination of this Agreement unless the property was directly paid for by OWNER or OWNER specifically reimbursed VWNA for the cost incurred to purchase the property or this Agreement provides to the contrary.

13. Disputes and Force Majeure

13.1 In the event activities by employee groups or unions cause a disruption in VWNA's ability to provide the Services, OWNER, with VWNA's assistance or VWNA at its own option, may seek appropriate injunctive court orders. During any such disruption, VWNA shall operate the facilities on a best-efforts basis until any such disruptions cease.

13.2 Neither party shall be liable for its failure to perform its obligations under this Agreement if such failure is due to any Uncontrollable Circumstances beyond its reasonable control or Force Majeure. However, this Section may not be used by either party to avoid, delay or otherwise affect any payments due to the other party.

Both parties indicate their approval of this Agreement by their signatures below, and each party warrants that all corporate or governmental action necessary to bind the parties to the terms of this Agreement has been and will be taken.

CITY OF NASHUA, NEW HAMPSHIRE

By:____(DRAFT)_____

Name:_____

Title:_____

Date:_____

VEOLIA WATER NORTH AMERICA - NORTHEAST, LLC

By:_____(DRAFT)_____

Name: _____

Title: _____

Date:_____

CERTIFICATE OF COUNSEL

The undersigned, as counsel for the City of Nashua, New Hampshire ("OWNER") in this transaction, hereby certifies that (s)he has examined the circumstances surrounding the selection of Veolia Water North America – Northeast, LLC ("VWNA") and the award and letting of the foregoing contract to VWNA by OWNER, and has found that said selection and award process comply with the procurement laws of the State of New Hampshire and the City of Nashua.

_____ Date: _____

Counsel for OWNER

APPENDIX A

DEFINITIONS

A.1. "Acceptable Raw Water" means Raw Water compliant with the Specifications of Schedule C.

A.2. "Annual Fee" means a predetermined, fixed sum for VWNA's services. The Annual Fee includes Cost and profit.

A.3. "Bid Submission Date" means July 14, 2005.

A.4. "Capital Project" means (i) an item that will be of a long-term nature having a useful life in excess of three years, as defined by manufacturers' specifications and (ii) those items that require a modification, alteration, addition to, and or improvement to an existing facility with a construction, installation (including materials) or purchase value in excess of $5,000 and (iii) replacement of equipment that has met or exceeded its useful life and (iv) items for construction, placement of new facilities (e.g. piping, equipment, wells, etc., including material costs) and capital purchases that significantly improve operations and or maintenance, aesthetics, long-term capital conditions or other aspects not generally associated with ongoing operations and maintenance. A "Capital Project" shall not (i) include preventive, predictive, routine, and or periodic operations activities; (ii) include preventive, predictive, routine, and or periodic maintenance activities; (iii) allow the combination of a series of smaller projects or costs items to meet the $5,000 threshold, unless deemed eligible by the Owner prior to the commencement of the work activity.

A.5. "Change in Law" means the enactment, adoption, promulgation, modification, repeal or change after the Bid Submission Date of any Applicable Law which (a) necessitates or makes advisable a Capital Project, (b) modifies the Company's guarantees under this Agreement, (c) increases the cost of the Services by establishing requirements with respect to the operation or maintenance of the Facility, (d) otherwise impacts the Company's ability to perform its obligations under this Agreement, or (e) increases or decreases the rate of State gross retail tax or the rate of the use tax or any other tax and results in increased or decreased operation expenses to the Company, which, in the case of (a), (b), (c), or (d), are more burdensome than the most stringent requirements:

(1) in effect on the Bid Submission Date;
(2) agreed to by the Owner as of the Bid Submission Date in any applications for official permits, licenses or approvals to or for the Facility, other than any requirements set forth in said applications to comply with Applicable Laws;

and which, in the case of (e), any changes on the operation expenses of the Company as a result of such increase or decrease in taxes must be: (i) approved by the Owner; (ii)

minimized by the Company using its best efforts; and (iii) considered by the Parties to be a re-negotiation of this Agreement, which shall comply with the provisions of the Revenue Procedure.

A.6. "Contract Date" means the date specified on the first page of this Agreement.

A.7. "Cost" means all Direct Cost and indirect cost determined on an accrual basis in accordance with generally accepted accounting principles.

A.8. "Direct Cost" means the actual cost incurred for the direct benefit of the Services including, but not limited to, expenditures for project management and labor, employee benefits, chemicals, lab supplies, repairs, repair parts, maintenance parts, safety supplies, gasoline, oil, equipment rental, legal and professional services, quality assurance, travel, office supplies, other supplies, uniforms, telephone, postage, utilities, tools, memberships and training supplies.

A.9. "Emergency Response Plan" has the same meaning set forth in 42 U.S.C. §300i-2(b) (the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002"): "[t]he emergency response plan shall include, but not be limited to, plans, procedures, and identification of equipment that can be implemented or utilized in the event of a terrorist or other intentional attack on the public water system. The emergency response plan shall also include actions, procedures, and identification of equipment which can obviate or significantly lessen the impact of terrorist attacks or other intentional actions on the public health and the safety and supply of drinking water provided to communities and individuals."

A.10. "Environmental Conditions" means the presence of any Regulated Substance on or at the Facilities Site, including but not limited to, the presence in containers, on the surface, or in surface water, groundwater, soils or subsurface strata, or the migration of such a Regulated Substance from the Facilities Site.

A.11. "Environmental Laws" means any Applicable Law relating to (i) the protection of public health, safety, natural resources or the environment; (ii) the manufacturing, handling, generation, storage, treatment, processing, transportation, release, discharge, emission or disposal of Regulated Substances; (iii) Environmental Conditions; or (iv) the protection of human health and safety.

A.12. "Facility" means the water treatment and distribution system and appurtenances identified in more detail in Appendix B.

A.13. "Force Majeure" means any act, event or condition that has a direct material adverse effect on the performance of a subcontractor's or supplier's obligations to the Company if such act, event or condition is beyond the reasonable control of the Company, subcontractor or supplier asserting a Force Majeure as justification for not performing its

obligations; provided, however, such act, event or condition cannot be caused by the negligent or intentional action of the Company, subcontractor or supplier.

A.14. "Losses" means any losses, claims, demands, charges, expenses, costs (including costs of defense, settlement and reasonable attorneys' fees), liabilities, obligations, fines and penalties.

A.15. "Preventive and Predictive Maintenance" means actions performed periodically (or continuously) prior to functional failure (or multiple failure/demand requirements for hidden failures) to achieve the desired level of safety and reliability for an item.

A.16. "Project" means all equipment, vehicles, grounds, rights of way, and the Facility described in Appendix B and, where appropriate, the management, operations and maintenance of such.

A.17. "Services" means the services to be provided by VWNA as detailed in Articles 2, 3, 4, 5 and 6 of the Agreement.

A.18. "Services Area" means the perimeter served by former Pennichuck Water Works.

A.19. "Service Commencement Date" shall mean January 1, 2007.

A.20. "Uncontrollable Circumstance(s)" means any act, event or condition that (a) prevents the Company from meeting or (b) materially increases the cost of performing, its obligations under this Agreement, if such act, event or condition is beyond the Company's reasonable control; provided, however, such act, event or condition is not the result of the Company's failure to operate and maintain the Project in accordance with the terms and conditions of this Agreement.

(a) Subject to the immediately preceding paragraph of this definition, the following acts, events or conditions may qualify as an Uncontrollable Circumstance:

(1) flood, drought, hurricane, tornado, epidemic, severe earthquake, catastrophic fire or explosion, act of a public enemy, war, blockade, insurrection, riot, general unrest, restraint of government and people, civil disturbance, sabotage or similar occurrence;

(2) the order, injunction or judgment of any federal, State or local court, administrative agency or governmental body or officer, including any exercise of the power of eminent domain, police power, condemnation or other taking by or on behalf of any public, quasi-public or private entity; provided, however, that such order, injunction or judgment did not arise in connection with or is not

related to the negligent or wrongful action or inaction of the Company and that neither the contesting in good faith of any such order, injunction, or judgment nor the reasonable failure to so contest shall constitute or be construed as a wrongful or negligent action or inaction of the Company;

(3) the suspension, termination, interruption, denial, failure to issue, modification or failure of renewal of any permit, license, consent, authorization or approval necessary to the operation, maintenance, repair and management of the Project, if such act or event did not arise in connection with, or is not related to, the negligent or willful action or inaction of the Company; provided, however, that neither the contesting in good faith of any such order nor the reasonable failure to so contest shall be construed as a negligent or willful action or inaction of the Company;

(4) a Change in Law;

(5) the failure of any subcontractor or supplier to furnish services, materials, chemicals or equipment on the dates agreed to; provided (A) such failure is the result of a Force Majeure, (B) such failure materially and adversely affects the Company's ability to perform its obligations and (C) the Company is not reasonably able to obtain substitute services, material, chemicals or equipment on the agreed upon dates; and

(6) unavailability of Acceptable Raw Water.

(b) An Uncontrollable Circumstance shall not include:

(1) any act, event or condition which is caused by the negligence or intentional action of the Company, its subcontractors, agents and employees;

(2) any event, reasonably foreseeable on the Contract Date;

(3) economic infeasibility;

(4) change of certain economical parameters (such as conditions and/or price of supply of Raw Water, waste water discharge price, land use right or rent);

(5) any labor strike, work stoppage or slowdown on the part of the Company's employees;

(6) subject to the definition of a Change in Law regarding sales taxes, any order, injunction or judgment of any federal, State or local court, administrative agency or governmental body interpreting federal, State, or local tax laws; and

(7) weather conditions in the geographic area of the Owner, other than those listed in (a)(1) of this definition.

A.21. "Unplanned Maintenance" means all maintenance and repair activity not included in the definition of "Preventive and Predictive Maintenance."

A.22. "Vulnerability Assessment" shall have the same meaning set forth at 42 U.S.C. §300i-2(a) (the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002"): "an assessment of the vulnerability of [the community water system] to a terrorist attack or other intentional acts intended to substantially disrupt the ability of the system to provide a safe and reliable supply of drinking water. The vulnerability assessment shall include, but not be limited to, a review of pipes and constructed conveyances, physical barriers, water collection, pretreatment, treatment, storage and distribution facilities, electronic, computer or other automated systems which are utilized by the public water system, the use storage, or handling of various chemicals, and the operation and maintenance of such system."

APPENDIX B

DESCRIPTION OF PROJECT

VWNA agrees to provide the services necessary for the management, operation and maintenance of the following:

NOTE: This section left blank in order to comply with the RFP's request for scalability.

APPENDIX C

WATER TREATMENT CHARACTERISTICS

C-1 The water treatment plant has the following design characteristics:

A capacity of _____ MGD of finished water production with ability for chemical additions, flocculation, sedimentation and filtration based on ___ gallons per minute per square foot of filter area. The water treatment plant has the capability for post treatment by chlorination and fluoridation. The average daily flow of raw water is ____ MGD per day.

The raw water has the following characteristics

NTU Raw	_____
pH Low	_____
pH High	_____
Alkalinity	_____
Hardness	_____

C-2 VWNA will operate the water treatment plant so that water treated will meet the current drinking water standards. VWNA's Annual Fee is based on treating an average daily flow of ____ MGD of raw water per day to the standards specified below.

Turbidity	<0.5 NTU
Iron	<0.3 mg/l
Manganese	<0.05 mg/l
Fluoride	0.8 average mg/l
pH	≥ 7.0
Color	<15 color units
Corrosivity	Non-corrosive
Odor	<3.0 TON
E. Coli	Negative

C-3 The daily flows and raw water characteristics set forth in Paragraph C-1 are the actual twelve (12) months' average for the period ended _____ 200_. Any change of ten percent (10%) or more in any of these characteristics, based upon a twelve (12) month moving average, will constitute a Change in Scope (See Article 10).

C-4 If any of the following contaminants in the raw water causes the finished water to exceed the Maximum Contaminant Levels (MCL) established for finished water quality, VWNA will treat the raw water to reduce said contaminant to an acceptable MCL. The cost of any specific treatment will be in addition to the Annual Fee for the treatment required by this Article C-4.

Radionuclides	MCL
Radium	5.0 PCi/L
Gross Alpha	15.0 PCi/L

Organic Chemicals

Contaminant	MCL (mg/l)
Alachlor	0.002
Aldicarb	0.003
Aldicarb Sulfone	0.002
Aldicarb Sulfoxide	0.004
Atrazine	0.003
Benzene	0.005
Carbofuran	0.04
Carbon Tetrachloride	0.005
Chlordane	0.002
2,4-D	0.07
Dibromochloropropane (DBCP)	0.0002
o-Dichlorobenzene	0.6
p-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
cis-1,2-Dichloroethylene	0.07
trans-1,2-Dichloroethylene	0.1
1,2-Dichloropropane	0.005
Endrin	0.002
Ethylbenzene	0.7
Ethylene Dibromide (EDB)	0.00005
Heptachlor	0.0004
Heptachlor Epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Monochlorobenzene	0.1
Pentachlorophenol	0.001
Polychlorinated Biphenyls (PCB)	0.0005
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
Toxaphene	0.003
2,4,5-TP (Silvex)	0.05
1,1,1-Trichloroethane	0.02

Trichloroethylene	0.005
Total Trihalomethanes	0.1
Vinyl Chloride	0.002
Xylenes (Total)	10

Inorganic Chemicals

Contaminant	MCL (mg/l)	
Arsenic	0.05	
Asbestos	7	(million fibers/liter)
Barium	2	
Cadmium	0.005	
Chromium	0.1	
Fluoride	4	
Mercury	0.002	
Nitrate	10	(as nitrogen)
Nitrite	1	(as nitrogen)
Total Nitrate Nitrite	10	
Selenium	0.05	
Chloride	300	
Copper	1.0	
Fluoride	2.0	
Silver	0.10	
Sulfate	300	
Total dissolved solids (TDS)	1,000	
Zinc	5	

C-5 VWNA will provide laboratory services for monitoring only the following contaminants on an as-requested basis. These contaminants do not have an established MCL.

Aldrin	Hexachlorobenzene
Benzo(a)pyrene	Hexachlorocyclopentadiene
Butachlor	3-Hydroxycarbofuran
Carbayl	Methomyl
Dalapon	Metolachlor
Di(2-ethylhexy) adipatc	Metribuzin
Di(2-ethylhexyl)pthalarc	Oxyamyl (vydate)
Didamba	Pictoram
DichloromethaneDieldrin	Propachlor
Dinoseb	Simazine
Diquat	2,3,7,8-TCDD (Dioxin)
Entodhall	1,2,4-Trichlorobenzene
Glyphosate	1,1,2-Trichloroethane

APPENDIX D

(Description of O&M for Water Distribution System and Appurtenances)
(Intentionally Left Blank)

APPENDIX E

(Description of Engineering Services and Rates)
(Intentionally Left Blank)

APPENDIX F

INSURANCE COVERAGE

VWNA SHALL MAINTAIN:

1. Statutory workers compensation for all of VWNA's employees at the Project as required by the State of New Hampshire.

2. Comprehensive general liability insurance, insuring VWNA's negligence, in an amount not less than $5,000,000 combined single limits for bodily injury and/or property damage.

OWNER SHALL MAINTAIN:

1. Statutory workers compensation for all of OWNER's employees associated with the Project as required by the State of New Hampshire.

2. Property damage insurance for all property including vehicles owned by OWNER and operated by VWNA under this Agreement. Any property, including vehicles, not properly or fully insured shall be the financial responsibility of the OWNER. The OWNER's property damage insurance shall contain a waiver of subrogation in favor of VWNA.

3. Automobile liability insurance for collision, comprehensive, and bodily injury.

Each party will cause the other party to be added as additional insured on the above insurance policies and will require its insurance carrier to provide the other party at least thirty (30) days notice of the cancellation of such policies. VWNA may self-insure reasonable deductible amounts under the policies it is required to maintain to the extent permitted by law. Each policy shall provide a waiver of subrogation in favor of the other party.

Appendix E

Part Two

Veolia Water North America – Northeast, LLC

2005 - Affirmative Action Program

VEOLIA Water

2005 AFFIRMATIVE ACTION PROGRAM

For

Veolia Water North America – Northeast, LLC

Program Completed by: Michael Schnack
EEO Coordinator

Address: 200 Cordwainer Drive, Suite 202
Norwell, MA 02061

Program Approved by:

Philip Ashcroft
President

This Affirmative Action Program is effective from January 1, 2005 to December 31, 2005.

Veolia Water North America – Northeast, LLC

AFFIRMATIVE ACTION PROGRAM

STATEMENT OF PRIVILEGE

Copies of this Affirmative Action Program and all related appendices, documents and support data are made available on loan to the United States Government upon the request of said Government on the condition that the Government hold them totally confidential and not release copies to any person whatsoever. This Affirmative Action Program and its appendices and other supporting documents contain confidential information which may reveal, directly or indirectly, the Company's plans for business or geographical expansion or contraction. The Company considers this Affirmative Action Program, all portions thereof and all supporting material to be its private and confidential property and to be on loan to the Government only under specified conditions, including non-reproduction and non-distribution and to be exempt from disclosure under the Freedom of Information Act upon the grounds, inter alia, that such material constitutes: (1) personnel files, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy and are exempt from disclosure under 5 U.S.C. §552(b)(6); (2) confidential, commercial or financial information which is exempt from disclosure under 5 U.S.C. §522(b)(4); (3) investigatory records compiled for law enforcement purposes, the production of which would constitute an unwarranted invasion of personal privacy and are exempt from disclosure under 5 U.S.C. §552(b)(7); and (4) matters specifically exempted from disclosure by statute and are exempt from disclosure under 5 U.S.C. §522(b)(3).

The Company will submit further detailed documentation supporting this claim of privilege if necessary.

Veolia Water North America – Northeast, LLC

AFFIRMATIVE ACTION PROGRAM

NON ADMISSION STATEMENT

It is understood that this Affirmative Action Program, or any part thereof, does not constitute an admission by the Company of any violation of Executive Order 11246, as amended the Vocational Rehabilitation Act of 1973, the Vietnam Era Veterans' Readjustment Assistance Act of 1974, Title VII of the Civil Rights Act of 1964 or of any federal, state or local law and has been developed in order to reaffirm the Company's policy of providing equal employment opportunity for all persons without regard to race, religion, color, national origin, citizenship, sex, veteran's status, age or disability. Goals have been established, where appropriate, to endeavor to meet affirmative action obligations.

This program is not intended to and will not be used to discriminate against any applicant or employee because of race, religion, color, national origin, citizenship, sex, veteran's status, age or disability.

Veolia Water North America – Northeast, LLC

BRIEF HISTORY OF COMPANY AND MISSION

A NOTICE AND INVITATION TO ALL EMPLOYEES AND APPLICANTS

Philip Ashcroft, PRESIDENT

AFFIRMATIVE ACTION AND EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

Veolia Water North America – Northeast, LLC has been and will continue to be an equal opportunity employer. To assure full implementation of this equal employment policy, we will take steps to assure that:

a. Persons are recruited, hired, assigned and promoted without regard to race, religion, color, national origin, citizenship, sex, veteran's status, age or disability.

b. All other personnel actions, such as compensation, benefits, transfers, layoffs and recall from lay offs, access to training, education, tuition assistance and social recreation programs are administered without regard to race, religion, color, veteran's status, national origin, citizenship, sex, age or disability.

c. Employees and applicants shall not be subjected to harassment, intimidation, threats, coercion or discrimination because they have: (1) filed a complaint; (2) assisted or participated in an investigation, compliance review hearing or any other activity related to the administration of any federal, state or local law requiring equal employment opportunity; (3) opposed any act or practice made unlawful by any federal, state or local law requiring equal opportunity or (4) exercised any other right protected by federal, state or local law requiring equal opportunity.

I have appointed Michael Schnack, HR Manager, to take on the responsibilities of EEO Coordinator. As EEO Coordinator, he will be responsible for the day to day implementation and monitoring of this Affirmative Action Plan. As part of that responsibility, he will periodically analyze the Company's personnel actions and their effects to insure compliance with our equal employment policy.

If you, as one of our employees or as an applicant for employment, have any questions about this policy or would like to be considered under our Affirmative Action Plan, please see Michael Schnack during regular business hours.

I have reviewed and fully endorse our Affirmative Action and Equal Employment Opportunity program. In closing, I ask the continued assistance and support of all of the Company's personnel to attain our objective of equal employment opportunity for all.

Sincerely,

Philip Ashcroft
President

This Affirmative Action Program is effective from January 1, 2005 to December 31, 2005.

SEX DISCRIMINATION POLICY

In accordance with our policy of equal employment opportunity, we have adopted the following policy prohibiting sex discrimination and sexual harassment in the workplace. In addition to continued adherence to the goals enunciated in our Affirmative Action and Equal Employment Opportunity Policy, we will also continue to do the following as applicable:

I. RECRUITMENT AND ADVERTISEMENT

A. Recruit men and women for all positions, except where sex is a bona fide occupational qualification, without regard to the applicant's or candidate's sex.

B. Ensure that "help-wanted" advertising does not express a sex preference for any job, unless sex is a bona fide occupational qualification for that job.

C. Refrain from placing advertisements in newspapers or other media which are labeled "Males" or "Females," or otherwise segregated by sex, unless sex is a bona fide occupational qualification.

II. JOB POLICIES AND PRACTICES

A. Review personnel policies to avoid discrimination on the basis of sex.

B. Consider employees and applicants of both sexes for assignment, transfer or promotion to all positions for which they are qualified, except where sex is a bona fide occupational qualification.

C. Administer employment opportunities, wages, hours, conditions of employment, pensions, recreation programs and employee benefits without regard to sex.

D. Consider married and unmarried men and women equally in all personnel actions, including the administration of wages and benefits, without regard to the number of dependents which an individual may support or maintain. Retirement age and retirement benefits will be equal for both sexes.

E. Provide appropriate facilities, e.g., rest rooms and locker areas, for employees and applicants of both sexes.

F. Refrain from reliance upon state laws which conflict with Title VII of the Civil Rights Act of 1964, as amended, or Executive Order 11246 and are superseded thereby.

G. Provide leaves of absence to employees, without regard to an employee's sex. No employee will be discriminated against because of pregnancy.

Following childbirth, and upon signifying her intent to return within a reasonable time, the Company will reinstate such employee to her original job or to a position of like status and pay, without loss of service credits.

III. SENIORITY

Consider employees' seniority and administer any seniority system without regard to employees' sex.

IV. DISCRIMINATORY WAGES

Determine wage schedules without regard to sex. There will be equal pay for equal work.

V. SEXUAL HARASSMENT

The EEO Coordinator shall notify all supervisors and managers that they are prohibited from engaging in, tolerating or otherwise promoting unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature by employees or supervisors, when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, (2) submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individual or (3) such conduct has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment.

The EEO Coordinator shall take reasonable steps to prevent sexual harassment from occurring, including, but not limited to, expressing strong disapproval of such conduct, developing appropriate sanctions, informing employees of their right to raise the issue of sexual harassment under Title VII and the procedure therefore and, generally, developing programs to sensitize managers, supervisors and employees to the nature of this problem.

VI. DEFINITION

The terms "because of sex," on "the basis of sex" and "regardless of sex" include, but are not limited to, because of or on the basis of pregnancy, childbirth or related medical conditions. Women affected by pregnancy, childbirth or related medical or physical conditions shall be treated the same for all employment-related purposes, including the receipt of benefits under fringe benefit programs, as other persons who are not so affected but are similarly able or unable to work.

VII. LEAVE OF ABSENCE DUE TO MATERNITY

Leaves of absence due to maternity are treated under our Family and Medical Leave Act Policy, a copy of which is attached at the end of this section along with a list of employees who took maternity leave pursuant to that policy.

RELIGIOUS AND NATIONAL ORIGIN DISCRIMINATION POLICY

In accordance with its policy of equal employment opportunity, the Company has adopted the following policy prohibiting discrimination on the basis of religion and national origin, and supporting affirmative action to ensure that all individuals are employed and treated during employment without regard to their religion or national origin.

I. SCOPE OF THIS POLICY

This policy applies to all terms and conditions of employment, including, but not limited to, hiring, upgrading, demotion, transfer, recruitment, recruitment advertising, layoff or recall from layoff, wage and benefit administration and selection for training.

II. OUTREACH AND POSITIVE RECRUITMENT

To determine whether members of all religious and ethnic groups are receiving fair consideration for job opportunities, the Company will consider reviewing its employment practices. Special attention will be directed toward executive and middle-management levels, where employment problems relating to religion and national origin are statistically most likely to occur. Based upon the findings of such reviews, we will undertake appropriate outreach and positive recruitment activities, such as those listed below in order to remedy any existing deficiencies. The scope of our efforts, of course, will depend upon all the circumstances including the nature and extent of any deficiencies and our size and resources. The Company will consider the following actions:

A. Explaining to all employees the Company's obligation to provide equal employment opportunity, without regard to religion or national origin, in such a manner as to foster understanding, acceptance and support among other executives, management staff, supervisors and all other employees and encouraging such persons to take all actions necessary to aid the Company in meeting our obligation;

B. Developing reasonable monitoring procedures to insure that our obligation to provide equal employment opportunity, without regard to religion or national origin, is being fully implemented;

C. Informing periodically all employees of our commitment to equal employment opportunity for all persons, without regard to religion or national origin and

D. Enlisting the assistance and support of recruitment sources (including employment agencies, college placement directors and business associates) in referring applicants without regard to religion or national origin.

III. ACCOMMODATIONS TO RELIGIOUS OBSERVANCE AND PRACTICE

The Company will endeavor to make a reasonable accommodation to the religious observances and practices of any employee or prospective employee, unless such an accommodation will impose an undue hardship on the conduct of our business. Generally, we will try to make reasonable accommodations to the religious observances and practices of any employee or prospective employee who regularly observes Friday evening and Saturday, or some other day of the week, as the Sabbath and/or who observes certain religious holidays during the year and is conscientiously opposed to performing work or engaging in similar activity on such days, when such accommodations can be made without undue hardship on the conduct of our business. In determining the extent of the hardship imposed, we may consider: (a) business necessity; (b) financial costs and expenses and (c) resulting personnel problems.

DESIGNATION OF RESPONSIBILITY FOR IMPLEMENTATION

I. EXECUTIVE MANAGEMENT RESPONSIBILITY

As the representative of executive management, the EEO Coordinator has primary responsibility and accountability for implementing, directing and monitoring this Affirmative Action Plan. The EEO Coordinator's responsibilities may include:

A. Implementing the affirmative action programs set forth in this Plan, including the development of policy statements and related internal and external communication procedures to disseminate those policy statements.

B. Developing and supervising the presentation of our equal employment opportunity policy during the supervisory training and new employee orientation programs, which may include question-and-answer sessions for supervisors and employees answering their questions about this Affirmative Action Plan.

C. Designing and implementing an audit and reporting system that will accomplish the following:

1. Measure the effectiveness of our affirmative action programs.

2. Indicate when remedial action is needed.

3. Determine the degree to which our goals and objectives have been attained.

D. Advising management and supervisory personnel on developments in the laws and regulations governing equal employment opportunity.

E. Serving as liaison between the Company and all enforcement agencies.

F. Identifying problem areas and establishing goals and objectives to remedy underutilization in major job groups, if any underutilization exists.

G. Conferring with community organizations representing women, minorities, veterans, the disabled and older workers.

H. Auditing periodically our on-the-job training, hiring and promotion patterns to remove impediments to attainment of the Company's goals and objectives.

I. Rating supervisory employees based, in part, upon their efforts and success in furthering the goal of equal employment opportunity and informing supervisory employees of this evaluation practice.

J. Discussing periodically the Company's commitment to equal employment opportunity with managers, supervisors and employees. During these discussions, the EEO Coordinator will stress the importance of affirmative action, as well as nondiscrimination.

K. Reviewing the qualifications of all employees to insure that minorities and women are given full opportunities for transfers, promotions and training.

L. Providing access to career counseling for all employees.

M. Conducting periodic audits to ensure that the Company is in compliance with federal and state laws and regulations requiring:

1. Proper display of posters explaining the Company's obligation to engage in nondiscriminatory employment practices.

2. Integration of all facilities which we maintain for the use and benefit of our employees.

3. Maintenance of comparable facilities, including locker rooms and rest rooms, for employees of both sexes.

4. Providing full opportunity for advancement and encouraging minority and female employees to participate in educational, training, recreational and social activities sponsored by the Company.

N. Counseling supervisors and managers to take actions necessary to prevent harassment of employees placed through affirmative action efforts and to eliminate the cause of such complaints. Further, the EEO Coordinator will counsel supervisors and managers not to tolerate discriminatory treatment of any employee by another employee or supervisor and to report all complaints or incidents to him.

O. Establishing an internal complaint system that will enable employees to discuss complaints with the EEO Coordinator whenever they feel that they are being discriminated against on the basis of race, color, religion, sex, national origin, disability or veterans' status.

P. Serving as liaison between the Company and community organizations representing minorities, women, veterans, the disabled and older workers.

Q. Developing expertise and knowledge of equal employment opportunity guidelines and regulations in order to advise and update top management and supervisory personnel concerning developments affecting our equal employment opportunity program.

II. THE RESPONSIBILITIES OF SUPERVISORS AND MANAGERS

All supervisors and managers have the obligation as part of their general management objectives to support our equal employment opportunity policy and affirmative action program on a day to day basis. Specifically, they must endeavor to:

A. Respond to inquiries about our Affirmative Action and Equal Employment Opportunity Policy, after consulting with our EEO Coordinator.

B. Assist our EEO Coordinator during the investigation of allegations of discrimination.

C. Participate in recruitment and accommodation efforts designed to enable disabled individuals, disabled veterans and others to secure employment and to advance to positions for which they are qualified.

D. Ensure that all federal and state posters explaining the laws prohibiting discrimination are properly displayed.

E. Participate in the development and implementation of affirmative action programs.

IDENTIFICATION OF PROBLEM AREAS

I. UNDERUTILIZATION

The EEO Coordinator conducted a Utilization Analysis for the 2005 Plan Year comparing the workforce representation of minorities and females to their statistical availability by job group. The Utilization Analysis led the Company to identify underutilization and set goals as follows:

Females in job groups: Craft Workers I (6A), Craft Workers III (6C), Operatives (7), Service Workers (9)

Minorities in job groups: Executive Management (1B), Professional (2), Craft Workers I (6A)

The Company is addressing these potential problem areas by establishing goals which we will attempt to achieve through specific action oriented programs, which are described in the section of this plan entitled "Action Oriented Programs." Our Utilization Analysis and Goals are contained behind the tabs, so named, in this affirmative action plan.

II. ADVERSE IMPACT

To determine if our selection procedures have an adverse impact upon minorities and females, we conducted an adverse impact analysis upon our selection decisions. We compared the selection ratios of minorities and females to those of non-minorities and males, respectively, in the areas of hiring, promotion and termination.

As a result of our adverse impact analysis, we examined each of the selection decisions that occurred in job groups where adverse impact was discovered as described in the Action Oriented Programs section of our plan.

III. COMPENSATION

The Company analyzed compensation to determine whether there are any gender-, race-, or ethnic-based disparities. Where the analysis identified such disparities, the Company examined each area pursuant to our Action Oriented Programs.

IV. IN GENERAL

In addition to the above, the EEO Coordinator will, on an annual basis, as applicable, identify potential problem areas in the total employment process, which may include review of the following areas:

A. Composition of the workforce by minority group status and sex.

B. Composition of applicant flow by minority group status and sex.

C. Overall employee selection process including position specifications, application forms, interviewing procedures, test administration, test

validity, referral procedures, final selection process and other employee selection procedures.

D. New hires, promotions, terminations, etc.

E. Utilization of training, recreation and social events and other programs that are sponsored by the Company.

F. Technical phases of compliance with laws prohibiting discrimination in employment and promoting affirmative action programs, e.g., retention of applications, notifications to subcontractors, etc.

G. "Underutilization" of minorities or women in specific job groups.

H. "Under-representation" or "Concentration" of minorities or women in specific departments. Attached at the end of this section is the Company's JAAR Analysis identifying departments in which minorities or women are statistically under-represented or concentrated.

I. Lateral or vertical movement of minority or female employees occurring at a lesser rate than that of non-minority or male employees.

J. The selection process eliminating a significantly higher percentage of minorities or women than non-minorities or men.

K. Application and other preemployment evaluation forms or procedures not in compliance with federal or state law.

L. Position descriptions inaccurate in relation to actual functions and duties of that particular job.

M. De facto segregation, by race or sex, existing in job titles or job groups.

N. Seniority provisions contributing to overt or inadvertent discrimination by minority group status or sex.

O. Non-support of our affirmative action and equal employment programs and policies by managers, supervisors or employees.

P. Minorities or women significantly underrepresented in training or career improvement programs.

Q. Lack of formal techniques for evaluating effectiveness of the programs set forth in this Plan.

R. Subcontractors and vendors not notified of their responsibility to assist the Company in attaining the goals and objectives set forth in this Plan.

S. Equal Employment Opportunity clause not included in leases, purchase orders or other contracts covered by Executive Order 11246.

T. Equal employment posters not on display.

If the EEO Coordinator's review indicates that the above-listed problems exist or that other impediments are blocking the entry of minority groups or women into our workforce or into specific jobs or job groups, the Company will consider corrective action, as outlined in the Action-Oriented Programs section.

ACTION-ORIENTED PROGRAMS

The Company intends to meet the goals set forth in this plan and to continue implementation of its equal employment opportunity policies through action-oriented programs. Described below are the types of actions the Company may consider:

I. DISSEMINATION OF EQUAL EMPLOYMENT OPPORTUNITY POLICY

A. INTERNAL DISSEMINATION

The Company will take the following actions to disseminate its Affirmative Action and Equal Employment Opportunity Policy, as appropriate, on a regular and continuing basis.

1. Including the Affirmative Action and Equal Employment Opportunity Policy statement in its policy manual and employee handbook, as published. A copy of our EEO Policy, which is contained in our Employee Handbook, is attached under the AA/EEO Policy section tab.

2. Meeting with supervisory personnel to explain the intent of the Affirmative Action and Equal Employment Opportunity Policy and their individual responsibilities for its implementation. We conducted supervisory training for all management about equal employment opportunity, affirmative action and sexual harassment during Plan Year 2004 and have continued the training into Plan Year 2005.

3. Scheduling special meetings with employees or using Company newsletters to discuss and explain individual employee responsibilities or opportunities under the affirmation action program. During the current plan year we will be conducting training for all employees about our affirmative action program and equal employment opportunity in the workplace.

4. Discussing our equal employment policy during any orientation programs we hold, at which time all new employees (and if applicable, transferred and promoted employees) will be advised of our commitment to affirmative action and equal employment opportunity. Our Affirmative Action and Equal Employment Opportunity Policy statement and policy statements affirmatively supporting the employment of minorities, veterans, the disabled and women will be explained during these sessions. During these orientation sessions a management representative from every area of the Company, including Human Resources explains the function of that department. Our Affirmative Action and Equal Employment Opportunity Policy statement and policy statements affirmatively supporting the employment of minorities, veterans, the disabled and women are explained during these sessions. A copy of our "New Employee Checklist," which is distributed as part of the orientation process and addresses equal employment opportunity and affirmative action in the workplace, is attached at the end of this section.

5. Posting the Affirmative Action and Equal Employment Opportunity Policy, along with all required State and federal informational posters on our bulletin boards and updating such posters as required. Our "Affirmative Action and Equal Employment

Opportunity Policy Statement," "Invitation To Covered Veterans To Self Identify," "Invitation to Individuals with Disabilities to Self Identify" and all required federal and state posters are posted in each worksite.

6. Including pictures of both minority and non-minority men and women in all employment and consumer advertising.

B. EXTERNAL DISSEMINATION

Our equal employment opportunity policy will be disseminated externally, as considered appropriate, as follows:

1. All recruiting sources, when utilized, will be advised of the Company's policy. The Company will ask for written acknowledgment by each such recruiting source that it will comply with our policy. Thereafter, on a regular basis, such recruiting sources will be notified of our continuing commitment to equal employment opportunity.

2. The equal opportunity clause will be included in all purchase orders, leases, contracts, etc., covered by Executive Order 11246, as amended. **A copy of our purchase order, which contains language that incorporates by reference the equal employment opportunity clause, is included at the end of this section.**

3. When we advertise in newspapers for prospective employees, the advertisement will include language that communicates that we are an Equal Employment Opportunity Employer, such as "We are an Equal Employment Opportunity Employer M/F/D/V." We also will direct all newspapers not to place help-wanted advertisements in race or sex-segregated columns.

4. Prospective employees are informed that the Company is an equal opportunity employer which maintains an affirmative action program through **the notices we post in areas accessible to applicants and employees and our application for employment. Moreover our affirmative action program is addressed during new hire orientation. A copy of our Employment Application is attached at the end of this section.**

5. Our primary subcontractors, vendors and suppliers will be sent written notification of our Affirmative Action and Equal Employment Policy. Implementation will require assurances of compliance with, inter alia, Executive Order 11246, the Vietnam Era Veterans' Readjustment Assistance Act of 1974 and the Vocational Rehabilitation Act of 1973. Similar assurances will be required from new subcontractors, vendors and suppliers as such relationships are established. **A copy of our Vendor Certification package is attached at the end of this section.**

6. In the event that employees are featured in help-wanted, product or consumer advertising, employee handbooks or manuals or similar publications, both minority and non-minority men and women will be pictured and included.

II. RECRUITMENT AND HIRING

A. Contacting community agencies and educational institutions and seeking referrals of qualified individuals to increase the flow of minority and female applicants. We have contacted and seek referrals from the following affirmative action recruitment sources and educational institutions: America's Job Bank.

B. Contacting the State Division of Employment Security and notifying area and regional employment agencies of our hiring needs and equal employment opportunity policies or post employment openings with America's Job Bank. During Plan Year 2004, the Company regularly listed jobs with the following State Offices of Employment Security:

Office of Employment Security in CT, DE, MA, NH, NY, RI and VT via America's Job Bank

C. Including presentations by minority, female, disabled, older or veteran employees; explanations about the job duties and responsibilities of current and future job openings; explanations of our employee selection process; and distribution of recruiting literature when meetings are held with representatives of recruiting sources.

D. Featuring minorities and women when recruiting or consumer advertising includes pictures of employees or work situations, as appropriate.

E. Placing a reasonable proportion of our help-wanted advertising in media directed to minorities and/or women.

F. Evaluating and analyzing job requirements using job-performance criteria. Special attention will be given to academic, experience and skill requirements to insure that such specification are consistent and are free from bias on account of race, color, religion, age, disability, veteran's status, sex or national origin. Where requirements screen out a disproportionate number of candidates from protected groups, the continued use thereof will be evaluated and "validation" will be considered. We have conducted an impact ratio analysis upon all selection procedures. See the "Impact Ratio Analysis" divider tab, discussed above.

G. Selecting and training personnel involved in recruiting, screening, selection, promotion, disciplinary and related processes to eliminate bias in all personnel actions.

H. Avoiding interviewing or recruiting techniques, such as unscored interviews, consideration of arrest records or credit references, which are not reasonably related to the job in question and disparately affect a group protected by law or Executive Order 11246.

III. ADVANCEMENT IN EMPLOYMENT

With regard to our promotion and transfer procedures, we will consider the following:

A. Posting or otherwise announcing appropriate promotion and transfer opportunities. **Copies of our Job Announcements are attached at the end of this section.**

B. Compiling an inventory of academic, skill and experience levels of individual employees, including minorities and women, which are relevant to performance of jobs within each job group.

C. Initiating necessary remedial job training and work-study programs, if possible.

D. Developing and implementing formal employee evaluation programs. **Copies of our performance evaluation forms are attached at the end of this section.**

E. Assuring that job descriptions are based on job-related criteria.

F. Requiring managers and supervisors to submit written justification for their decision when apparently qualified minority or female employees are passed over for advancement, transfer or training.

G. Establishing formal career counseling programs, including attitude development, educational aid, job rotation and similar programs.

IV. SEPARATION FROM EMPLOYMENT

When minorities, women or other persons placed through affirmative action efforts or protected by law have experienced adverse personnel decisions, such as termination we will consider:

A. Sending an exit interview form to or conducting exit interviews with employees who resign to ascertain the reasons for their voluntary termination and to try and identify "voluntary resignations" that have been caused by unlawful conduct by employees or supervisors. **A copy of our Exit Interview form is attached at the end of this section.**

B. Determining reasons for such adverse decisions, including involuntary terminations, and establishing whether persons not in the protected group with similar work histories and violations of work rules have also been terminated.

C. Attempting to counsel employees about unsatisfactory job performance at least 90 days prior to involuntary termination to provide an opportunity to

correct their performance, as practicable. **A copy of our "Performance Appraisal Guidelines," which provides for a 90 day remedial period following an unsatisfactory performance review, is attached at the end of this section.**

V. COMPANY SUPPORT OF COMMUNITY ACTION PROGRAMS

The Company notifies appropriate public and private organizations, as noted throughout this Plan, of its commitment to equal employment opportunity and affirmative action and will seek referrals of minorities, women, the disabled, veterans and older workers from those sources.

A. IN GENERAL

The Company will continue to make good faith efforts to work with and support community action programs and will consider such diverse activities as:

1. Encouraging minority and female employees to participate actively in National Alliance of Businessmen programs for youth motivation.

2. Supporting vocational guidance institutes, vestibule training programs and similar activities.

3. Assisting secondary schools and colleges in programs designed to enable minority and female graduates of these institutions to compete in the open employment market on a more equitable basis.

4. Supporting programs developed by such organizations as National Alliance of Businessmen, the Urban Coalition and other organizations concerned with employment opportunities for minorities or women.

B. SPECIFIC ACTIONS

A full explanation of our support of community action programs is attached at the end of this section.

INTERNAL AUDIT AND REPORT SYSTEMS

I. DATA TO BE SUMMARIZED BY JOB GROUP AND JOB TITLE

Depending upon occurrence and frequency, summary reports will be prepared for the following actions:

A. Applicants - A record of applicant flow will be maintained showing each applicant's name, race and sex, referral source, job and job group applied for and disposition of the application (hired or rejected).

B. New Hires - Date of hire, name, race, sex, age, disability and veteran's status of the hired applicant, as well as the salary rate and position will be noted.

C. Promotions/Transfers - Date of promotion/transfer, the employee's name, race, sex, age, disability, veteran's status, as well as that employee's old and new departments, job groups, rates of pay and job titles will be recorded.

D. Terminations - (voluntary, involuntary) - Date of termination, name, race, age, veteran's status, disability, sex, position, job title, job group and salary of the terminated employee will be recorded.

II. AUDITS TO BE PERFORMED

A. This Plan will be reviewed and updated at least annually with new goals to be established after each update and review, as needed. Our plan last was updated January 1, 2004.

B. All hiring, promotion, placement, etc., will be compared with established goals to measure progress toward attainment thereof. A copy of our Placement Analysis is in the section entitled "Placement Analysis."

C. The EEO Coordinator will review progress toward meeting the goals and objectives set forth herein on a periodic basis. Following such review and discussion sessions, recommendations to remedy any unsatisfactory aspects of the Company's employment practices will be made and incorporated into the Plan. The supporting data for the audit and recommendations may be attached to the Plan.

AFFIRMATIVE ACTION PLAN FOR INDIVIDUALS WITH DISABILITIES

I. REASONABLE ACCOMMODATION

The Company endeavors to reasonably accommodate qualified disabled applicants and employees so that they can perform the essential functions of jobs at the Company. **A list of accommodations made during the current and prior plan year are included at the end of this section.**

II. REVIEW OF JOB QUALIFICATIONS

During Plan Years 2004 and 2005, the Company reviewed its job qualifications according to the following schedule: Project level positions were reviewed and updated 1/05.

III. STATEMENT OF POLICY

A. Policy

It is the policy of the Company to take affirmative action to ensure equal employment opportunity for disabled persons. This policy covers all aspects of employment including, but not limited to, hiring, assignment, promotion, demotion, transfer, termination, wage and benefit administration, and selection for training.

In order to implement this policy, the Company will make good faith efforts to accommodate the physical and mental limitations of qualified disabled employees or applicants unless such an accommodation would impose undue hardship on the Company's business, require substantial financial cost and expense, or place in jeopardy the safety of the disabled individuals, his or her co-workers, the Company's security, customers of this Company or the general public.

B. Limitations

Individuals who meet the following criteria will be considered for employment or promotion, if otherwise qualified:

1. The employee or applicant is qualified to perform the essential functions of the job or could be qualified to perform the essential functions if the Company made a reasonable accommodation.

2. The employee or applicant can perform the essential functions of the job without unreasonable risks to the safety of the individual, his or her co-workers, the Company's security or the general public.

C. Interpretation

Each disabled employee or applicant will be evaluated on an individual basis with respect to his or her ability to perform a particular job. Disabilities which interfere with the performance of a specific job shall not disqualify a person from employment in another job if the criteria for that job are satisfied.

IV. DEFINITION OF DISABLED PERSON

Federal regulations define a "disabled individual" as any person who:

A. has a physical or mental impairment which substantially limits one or more of such person's major life activities; or

B. has a record of such impairment; or

C. is regarded as having such an impairment.

V. AFFIRMATIVE ACTION MEASURES

The Company will consider the following affirmative action measures:

A. Posting, in appropriate places, informational posters or notices required by federal and state laws and regulations pertaining to the employment of disabled persons.

B. Documenting accommodations made to assist disabled applicants or employees. Such records will be supplied to and maintained by the EEO Coordinator. Department Managers and supervisors will assist the EEO Coordinator in the documentation of accommodation efforts.

C. Placing special emphasis, insofar as it is economically feasible and practical, upon the removal of architectural barriers to the disabled when designing new construction or remodeling old facilities.

D. Taking affirmative action to employ and advance in employment qualified disabled individuals at all levels of employment, including the executive level. Such action will apply to all employment practices including, but not limited to, the following: hiring; upgrading; demotion or transfer; recruitment or recruitment advertising; layoff; termination; rates of pay or other forms of compensation; and, selection for training, including apprenticeship.

1. Proper Consideration of Qualifications

To the extent possible, the Company will review its personnel procedures to determine whether such procedures assure careful, thorough and systematic consideration of the job qualifications of known disabled applicants and employees for vacancies filled either by hiring or promotion, and for all training opportunities offered or available. To the extent that it is necessary to modify personnel procedures, the Company will develop new procedures for this purpose and will incorporate them in our affirmative action program. These procedures will be designed to facilitate review by the EEO Coordinator and/or representatives of federal or state compliance agencies.

2. Physical and Mental Qualifications.

(a) The Company regularly, and at least annually, will review all physical or mental job qualification requirements to insure that, to the extent qualification requirements tend to screen out qualified disabled individuals, they are job-related, and consistent with business necessity, and/or required for the safe performance of the subject job. See Section II, above.

(b) Whenever the Company utilizes physical or mental job qualification requirements in the selection of applicants or employees for employment or any change in employment status, such as promotion, demotion or training, to the extent that qualification requirements tend to screen out qualified disabled individuals, the requirements should be related to the specific job or jobs for which the individual is being considered, consistent with business necessity and necessary for the safe performance of the job.

(c) Whenever an applicant or employee provides information about a physical or mental impairment that substantially limits a major life activity or such information is revealed through a post-offer medical examination, such information shall be kept confidential, except that:

(i) Supervisors and managers may be informed regarding restrictions on the work or duties of disabled individuals and appropriate accommoda tions;

(ii) First aid and safety personnel may be informed, when and to the extent appropriate, of conditions that might require emergency treatment; and,

(iii) Government officials investigating compliance with the Vocational Rehabilitation Act shall be informed as appropriate.

(d) Such a medical examination shall consider only job-related characteristics in a fair and consistent manner.

3. Accommodations to Physical and Mental Limitations of Employees.

The Company will endeavor to reasonably accommodate the physical or mental impairment that substantially limit major life activities for employees and applicants, unless such an accommodation would impose an undue hardship on the conduct of the Company's business. In determining the extent of our ability to reasonably offer an accommodation, the following factors, among others, will be considered: (1) business necessity; (2) financial cost; and, (3) resulting benefit to the Company and the disabled individual. See Section I, above.

4. Compensation.

In offering employment or promotions to disabled individuals, the Company will not reduce the amount of compensation offered because of an individual's receipt of disability income, pension or any other benefit from another source.

5. Outreach, Positive Recruitment and External and Internal Dissemination of Policy.

We will review our employment practices to determine whether personnel programs provide the required affirmative action for employment and advancement of qualified disabled individuals. Based upon the findings of such reviews, we will, as is appropriate, undertake outreach and positive recruitment activities, such as those listed below. It is not contemplated that we will necessarily undertake all of the listed activities or that our activities will be limited to those listed. The scope of our efforts clearly will depend upon the relevant circumstances, including our size, resources and the extent to which existing employment practices are adequate. Thus, we will consider the following:

(a) Sending written notification of the Company's EEO/AA policy commitments to vocational rehabilitation agencies for the disabled.

(b) Developing internal communication procedures to disseminate our obligation to engage in affirmative action efforts to employ qualified disabled individuals, to foster understanding, acceptance and support among our executives, management staff, supervisors and all other employees and encouraging such persons to take the necessary action to aid in meeting this obligation.

(c) Developing reasonable internal procedures to ensure that our obligation to engage in affirmative action to employ and promote qualified disabled individuals is fully implemented.

(d) Informing employees and prospective employees periodically about our commitment to engage in affirmative action to increase employment opportunities for qualified disabled individuals.

(e) Enlisting the assistance and support of recruitment sources of or for disabled individuals to assist us in our efforts to provide meaningful employment opportunities to qualified disabled individuals.

(f) Reviewing employment records to determine the availability of promotable and transferable qualified disabled individuals presently employed, and to determine whether their present and potential skills are being utilized or developed.

(g) Including disabled employees when employees are pictured in consumer, promotional or help-wanted advertising.

(h) Sending written notification of this policy to all subcontractors, vendors and suppliers.

(i) Taking positive steps to attract qualified disabled persons not currently in the workforce who have requisite skills and can be recruited through affirmative action measures.

6. Internal Dissemination of Policy

Our outreach program will receive strong support from supervisory and management personnel. To assure employee cooperation and participation in our efforts, we will adopt, implement and dissemi-

nate this policy internally, by considering use of the following procedures, as deemed appropriate:

(a) Including it in our policy manual;

(b) Publicizing it in the Company's annual report and other reports;

(c) Conducting special meetings with executive, management and supervisory personnel to explain the intent of the policy and individual responsibility for effective implementation, clarifying the Company's Policy;

(d) Scheduling special meetings with all employees to discuss the Policy and explain individual employee responsibility.

(e) Discussing the Policy thoroughly in both employee orientation and management training programs;

(f) Including articles on accomplishments of disabled workers in the Company's publications;

(g) Posting the Policy on the Company's bulletin boards, including a statement that employees and applicants are protected from coercion, intimidation, interference or discrimination for filing a complaint or assisting in any investigation of discrimination against any disabled person; and,

(h) Including disabled employees when employees are featured in employee handbooks or similar publications for employees.

7. Responsibility for Implementation.

Our EEO Coordinator will implement this affirmative action program, and will consider:

(a) Developing policy statements, affirmative action programs, and internal and external communication procedures. The procedures may include regular discussions with managers, supervisors and employees to ensure that this policy is followed. In addition, managers and supervisors may be advised that:

(i) As a general management objective, their work performance is being evaluated on the basis of their

affirmative action efforts and results, as well as other criteria.

(ii) The Company is obligated to prevent harassment of employees placed through affirmative action efforts.

(b) Identifying problem areas through discussions with management and known disabled employees, assist in the implementation of our affirmative action programs, and develop solutions to problems.

(c) Designing and implementing audit and reporting systems that will:

(i) Measure effectiveness of our programs;

(ii) Indicate the need for remedial action;

(iii) Determine the degree to which our objectives have been attained;

(iv) Determine whether known disabled employees have had the opportunity to participate in educational, training, recreational and social activities provided by the Company; and,

(v) Ensure that the Company is in compliance with applicable state law and all implementing regula tions.

(d) Serving as liaison between the Company and federal and state compliance agencies.

(e) Serving as liaison between the Company and organizations of and for disabled persons, and arrange for the active involvement by Company representatives in the community service programs of local organizations of and for the disabled.

(f) Keeping management informed of the latest developments in the entire affirmative action area.

(g) Arranging for career counseling for known disabled employees.

E. Development and Execution of Affirmative Action Programs.

The Company will consider the development and execution of the following programs:

1. Making job qualification requirements available to all members of management involved in the recruitment, screening, selection, and promotion process.

2. Evaluating the total selection process including training and promotion to ensure freedom from the stereotyping of disabled persons in a manner which limits their access to jobs for which they are qualified.

3. Selecting and training all personnel involved in recruitment, screening, selection, promotion, disciplinary, and related processes to ensure that the commitments in this Affirmative Action Plan are implemented.

4. Holding formal briefing sessions with representatives from recruiting sources, during which the Company may provide, inter alia, explanations of current and anticipated future job openings, position descriptions, worker specifications, explanations of the selection process and recruiting literature. Making arrangements for referral of applicants, follow-up with sources and feed-back about the disposition of referred applicants.

5. Including qualified disabled persons on the personnel relations staff.

6. Having employees with disabilities available for participation in career days, youth motivation programs, and related activities in their communities.

7. Incorporating special recruiting efforts at schools or other institutions to reach disabled students.

8. Participating in work study programs with rehabilitation facilities and schools which specialize in training or educating disabled individuals.

9. Using available resources to continue or establish on the job training programs.

* * * *

Although the Company does not use sheltered workshops, it realizes that contracts with sheltered workshops do not constitute affirmative action in lieu of employment and advancement of qualified disabled individuals in the contractor's own workforce. Contracts with sheltered workshops may be included within our affirmative action program, if the sheltered workshop trains employees for the Company and the Company is obligated to hire trainees at full compensation when such trainees become qualified as a "qualified disabled individual" as defined in 41 CFR §60-741.2.

F. The EEO Coordinator will post the following notice to disabled individuals:

Invitation To Disabled Individuals To Self Identify

The Company is committed to taking affirmative action to employ and advance in employment qualified disabled individuals. If you have a physical or mental impairment that substantially limits a major life activity, and would like to be considered under our affirmative action program, please tell us. You may inform us of your desire to benefit under the program after a job offer has been made and/or at any time thereafter. Submission of this information is voluntary and refusal to provide it will not affect the Company's decision whether to offer you employment or subject you to discharge or disciplinary treatment. Information obtained will be kept confidential, except that (1) supervisors and managers may be informed regarding restrictions on the work or duties of disabled individuals and necessary accommodations; (ii) first-aid and safety personnel will be informed, to the extent appropriate, of conditions that might require emergency treatment; and (iii) representatives of federal and state agencies may review such records, as required.

If you are disabled, we would like to include you under our Affirmative Action Plan. It would assist us if you tell us about (1) any special methods, skills and procedures which qualify you for jobs that you might not otherwise be able to perform because of your disability, so that you will be considered for any position of that kind, and (2) the accommodations which we could make which would enable you to perform the essential functions of the job properly and safely, including special equipment, changes in the physical layout of the job, elimination of certain duties relating to the job, or other accommodations. To participate, please see Michael Schnack, HR Manager, the EEO Coordinator.

Employees may request to see copies of the affirmative action plan during regular hours from our EEO Coordinator.

G. The Company will consider maintaining the following records concerning disabled employees covered by this policy:

(1) Annotating appropriate personnel form(s) of each known disabled individual to identify each vacancy for which that disabled individual has been considered and making such records available for review by the Company's personnel officials for use in investigations and internal compliance reviews.

(2) Placing notations on the personnel record of each known disabled employee of each training promotion for which the disabled employee has been considered, and the result of that consideration, including the reasons for any decision.

(3) Appending to the personnel file or application form a statement of reasons for rejection each time that a known disabled employee or applicant is rejected for employment, promotions or training. This statement will include a comparison of the qualifications of the disabled applicant or employee and the person(s) selected, as well as a description of the accommodations considered. This statement will be made available to the applicant or employee concerned as appropriate.

(4) Including with the application form or personnel record a description of any accommodation which makes it possible for a disabled individual to perform a job.

AFFIRMATIVE ACTION PLAN FOR COVERED VETERANS

I. REVIEW OF JOB QUALIFICATIONS

During Plan Years 2004 and 2005, the Company reviewed its job qualifications according to the following schedule: project level positions were reviewed in 1/05

II. STATE JOB SERVICES

To focus our efforts to recruit qualified covered veterans, we will also contact the State Division of Employment Security and notify area and regional employment agencies of our hiring needs and equal employment opportunity policies. **During Plan Year 2004, the Company regularly listed jobs with the following State Offices of Employment Security:**

A. America's Job Bank
http://www.ajb.dni.us/
Affiliated with:

B. POSTS on all State Job Banks via America's Job Bank

III. STATEMENT OF POLICY

A. Policy

It is the policy of the Company to ensure equal employment opportunities for covered veterans. This policy covers all aspects of employment including, but not limited to, hiring, assignment, promotion, demotion, transfer, lay off or termination, administration of wage and benefit programs and selection for training.

In order to implement this policy, the Company will make reasonable good faith efforts to accommodate the physical or mental limitations of qualified disabled veterans, unless such an accommodation would impose an undue hardship on the Company, e.g., requiring substantial cost or expense, or placing in jeopardy the safety of the individual employee, his or her co-workers, the Company's security, its customers or the general public.

B. Limitations

Individuals who meet the following criteria will be considered for employment or promotion, if otherwise qualified:

1. The employee or applicant is qualified to perform the basic requirement of the job in question or could be qualified to perform those basic job requirements if the Company were able to make a reasonable accommodation.

2. The employee or applicant can perform the requirements of the job without unreasonable risks to the safety of the individual, his or her co-workers, the Company's security, its customers or the general public.

C. Interpretation

Each veteran will be evaluated on an individual basis with respect to his or her ability to perform a particular job. Disabilities which interfere with the performance of a specific job will not disqualify a veteran from employment in another job for which the applicant or employee may be qualified.

IV. IMPLEMENTATION RESPONSIBILITY

A. Our EEO Coordinator, Michael Schnack, is responsible for the development and implementation of the Company's policy regarding the employment of veterans in compliance with the Vietnam Era Veterans' Readjustment Assistance Act.

B. In addition, all managers and supervisors are responsible for the continued implementation of the provisions of this affirmative action program in their work areas and as part of their general management objectives will be evaluated, in part, based upon their implementation efforts.

V. DISSEMINATION OF THE POLICY

A. Internal Dissemination

The Company will consider taking the following actions to internally disseminate its policy:

1. Distributing copies of this policy setting forth our affirmative action efforts to enhance the employment and advancement opportunities of covered veterans and discussing it with managers and supervisors to make certain that they are aware of our commitment to the

employment and advancement of qualified covered veterans and to elicit their understanding and support of this program.

2. Having the Company's employment and accommodation policy statement concerning covered veterans available for inspection by all employees or applicants in the EEO Coordinator's office during normal business hours.

3. Discussing our commitment to employ and promote covered veterans in appropriate management, supervisory and employee meetings.

B. External Dissemination

To the extent that it is consistent with the size of the facility and the number of job vacancies available thereat, we will consider developing contacts with appropriate local and state agencies and community service organizations which maintain programs for covered veterans. Such sources may include, but are not limited to, the Veterans Employment Representatives at the applicable state Department of Labor, Regional Veterans Administration Office and veterans' counselors on college campuses, as available and appropriate.

VI. DEFINITION

A. Disabled Veteran

"Disabled veteran" means a person entitled to disability compensation under laws administered by the Veterans Administration for disabilities rated at 30% or more or a person who is discharged for a disability incurred or aggravated in the line of duty.

B. Veterans of the Vietnam Era

Veterans of the Vietnam era are persons who:

1. Served on active duty for a period of more than 180 days, any part of which occurred between August 5, 1964 and May 7, 1975, and were discharged or released therefrom with other than a dishonorable discharge, or

2. Were discharged or released from active duty for a service-connected disability if any part of such active duty was performed between August 5, 1964 and May 7, 1975.

C. Veteran of Other Military Actions

Veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

VII. ADDITIONAL AFFIRMATIVE ACTION MEASURES

The Company will consider the following affirmative action measures:

A. Endeavoring to make reasonable accommodations for the limitations of disabled veterans in those jobs where the safety of the employee, his or her co-worker, or the general public will not be jeopardized.

B. Informing employees of our commitment to the employment and advancement of qualified covered veterans and obtaining their cooperation in achieving the objectives set forth in this policy statement.

C. Posting, in appropriate places, such posters and notices as are required under the federal and state laws and regulations pertaining to the employment of veterans.

D. Documenting accommodations made to assist disabled veterans, including having the EEO Coordinator maintain such records and having department managers assist the EEO Coordinator by making and maintaining such records and documenting all accommodation efforts.

E. Endeavoring to undertake, as appropriate, affirmative actions to employ and advance in employment qualified covered veterans at all levels of employment. Our actions will apply to all employment practices, including, but not limited to, the following: hiring; upgrading; demotion; transfer; recruitment or recruitment advertising; layoff; termination; rates of pay or other forms of compensation; and, selection for training, including apprenticeship and on-the-job training programs. Thus, the Company will consider:

1. Reviewing its personnel processes to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of known covered veteran applicants who apply for job vacancies filled either by hiring, transfer, or promotion, and for all training opportunities offered or available. In determining the qualifications of a covered veteran, the Company will consider only that portion of the individual's military record, including discharge papers, relevant to the specific job qualifications for which the veteran is being considered. To the extent that it is necessary to modify any personnel procedure, to avoid adversely affecting covered veterans, the Company will endeavor to develop such new procedures as are required to fulfill our objective. These

procedures will also be designed to facilitate review of our implementation of these requirements by compliance agencies as well as our EEO Coordinator.

2. Physical and Mental Qualifications.

(a) The Company regularly, and at least annually, will review all physical or mental job qualification requirements to insure that they are job-related, consistent with business necessity and necessary for safe performance of the job. See Section I, above.

(b) Whenever the Company applies physical or mental job qualification requirements in the selection of applicants for employment or any employee's change in employment status, such as promotion, demotion, or training, such qualification requirements will be related to the specific job or jobs for which the individual is being considered, consistent with business necessity and necessary for the safe performance of the job.

(c) Any comprehensive medical examination will be used only in accordance with the requirements of this policy. Whenever the Company inquires into an applicant's or employee's physical or mental condition or conducts a medical examination, information obtained in response to such inquiry or examination shall be kept confidential except that:

(i) Supervisors and managers may be informed regarding restrictions on the work or duties of disabled veterans and appropriate accommodations;

(ii) First-aid and safety personnel may be informed, when and to the extent appropriate, of any condition that might require emergency treatment; and,

(iii) Government officials investigating compliance with the Vietnam Era Veterans' Readjustment Assistance Act, or state law, shall be informed of data necessary to investigate compliance with said law(s).

3. Accommodation to Physical and Mental Limitations of Employees.

The Company will endeavor to make a reasonable accommodation to the physical and mental limitations of disabled veterans unless such accommodation would impose undue hardship on the conduct of the Company's business. In determining whether an accommodation will impose an undue hardship, we will consider:

(a) Business necessity;

(b) Financial costs and expenses required for or incurred as a result of the subject accommodation; and/or

(c) The impact of such accommodation on the nature of the job or the Company's practices.

4. Compensation.

In offering employment or promotions to covered veterans, we will not reduce the amount of compensation offered because of any disability income, pension or other benefit the applicant or employee receives from another source.

5. Outreach, Positive Recruitment and External Dissemination of Policy.

The Company may review its employment practices to determine whether personnel programs properly provide affirmative action for the employment and advancement of qualified covered veterans. Based upon the findings of any such reviews, the Company will consider undertaking appropriate outreach and positive recruitment activities, such as those listed below.

(a) Developing internal communication procedures to disseminate our commitment to engage in affirmative action efforts to employ and advance qualified covered veterans in such a manner as to foster understanding, acceptance and support among our executives, managers, supervisors and employees and to encourage such persons to take actions necessary to aid the Company in meeting this obligation.

(b) Developing reasonable internal procedures to ensure that our obligation to engage in affirmative action to employ and promote qualified covered veterans fully implemented.

(c) Informing all employees and prospective employees periodically about our commitment to engage in affirmative action to increase employment opportunities for qualified covered veterans.

(d) We also will consider utilizing recruiting sources such as:

(i) Local Veterans Employment Representatives at the applicable state Department of Labor nearest each establishment where hiring takes place to recruit qualified veterans;

(ii) Regional Veterans Administration representatives at the office nearest each establishment;

(iii) The Office of the National Alliance of Businessmen nearest each establishment where hiring takes place in order to participate in the Jobs for Veterans' Program.

(iv) Veterans counselors and coordinators ("Vet-Reps" and "VCIPS") on college campuses for the recruitment of covered veterans; and,

(v) Local or national veterans groups active in the area surrounding establishment where hiring and recruitment takes place.

(e) Reviewing employment records to determine the availability of promotable and transferable qualified covered veterans presently employed, and to determine whether their present and potential skills are being fully utilized or developed.

(f) Sending written notification of our affirmative action policies to all subcontractors, vendors and suppliers.

(g) Considering programs to recruit qualified covered veterans who are not currently in the workforce, have requisite skills and can be recruited through affirmative action measures. The scope of any efforts will depend upon many circumstances including our size, resources and the extent to which existing employment practices are adequate.

6. Internal Dissemination of Policy.

To make our outreach program effective, we will develop adequate internal support from supervisory and management personnel and our employees. To assure employee cooperation and participation in our efforts, we will consider implementing and disseminating our policy internally as follows:

(a) Including it in our policy manual and employee handbook, as published or revised;

(b) Publicizing it in employee publications;

(c) Conducting special meetings with executive, management and supervisory personnel to explain the intent of the policy and individual implementation responsibility;

(d) Scheduling special meetings with all employees to discuss the policy and explain individual employee responsibilities;

(e) Discussing the policy thoroughly during employee orientation and management training programs;

(f) Including articles on accomplishments of covered veterans in Company publications;

(g) Posting the policy on our bulletin boards, including a statement that employees and applicants are protected from coercion, intimidation, interference or discrimination for filing a complaint or assisting in an investigation under the Vietnam Era Veterans' Readjustment Assistance Act;

(h) Keeping management informed of the latest developments in the entire affirmative action area; and

(i) Participating in veterans "job fairs" whenever possible.

1. Recruiting efforts at all educational institutions should incorporate special efforts to reach covered veterans.

2. An effort should be made to participate in work-study programs with Veterans' Administration rehabilitation facilities which specialize in training or educating disabled veterans.

3. The contractor should use all available resources to continue or establish federally-assisted apprenticeship and on-the-job training programs under 38 U.S.C. 1787.

7. Responsibility for Implementation.

Our EEO Coordinator, Michael Schnack, will implement this affirmative action program, and will consider participating in the following:

(a) Developing policy statements, affirmative action programs, and internal and external communication procedures. The procedures will include regular discussions with managers, supervisors and employees to ensure that the Company's policies are being followed. In addition, supervisors will be advised that:

(i) As a general management objective, their work performance is being evaluated on the basis of their affirmative action efforts and results, as well as other criteria.

(ii) The Company is obligated to prevent harassment of employees placed through affirmative action efforts.

(b) Identifying problem areas, in conjunction with line management and known disabled veterans, in the implementation of our affirmative action programs.

(c) Designing and implementing an audit and reporting system that will:

(i) Measure effectiveness of our affirmative action programs;

(ii) Indicate need for remedial action;

(iii) Determine the degree to which the Company's objectives have been attained;

(iv) Determine whether known covered veterans have had the opportunity to participate in all educational, training, recreational and social activities provided by the Company; and,

(v) Ensure that the Company is in compliance with the Vietnam Era Veterans' Readjustment Assistance Act and the applicable state's Department of Labor's implementing regulations.

(d) Establishing a liaison between the Company and enforcement agencies.

(e) Arranging for career counseling for known covered veterans.

8. Development and Execution of Affirmative Action Program.

The Company will consider the development and execution of the following:

(a) Making available to all members of management involved in the recruitment, screening, selection and promotion process job qualification requirements reviewed pursuant to this policy.

(b) Evaluating the total selection process, including training and promotion, to insure freedom from the stereotyping of covered veterans in a manner which limits their access to any jobs for which they are qualified.

(c) Selecting and training all personnel involved in the recruitment, screening, selection, promotion, disciplinary and related processes to insure that the commitments expressed in this affirmative action program are implemented.

(d) Holding briefing sessions with representatives from recruiting sources, during which the Company will provide explanations of current and anticipated future job openings, position descriptions, and recruiting literature to consider arrangements will be made for referral of applicants, follow up with sources, and feedback on disposition of applicants.

(e) Including qualified disabled veterans or veterans of the covered veterans on the personnel relations staff.

F. The EEO Coordinator will post the following:

Invitation To Covered Veterans To Self Identify

The Company is committed to taking affirmative action to employ and advance in employment qualified covered veterans. If you are a

veteran and would like to be considered under this Affirmative Action Plan, please advise Michael Schnack, the EEO Coordinator. You may advise us of your desire to benefit under the program after a conditional offer of employment has been made and/or at any time in the future. This information is voluntary and refusal to provide it will not adversely affect the Company's decision whether to offer you employment or subject you to discharge or disciplinary treatment. Information obtained concerning individuals will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of disabled veterans and necessary job accommodations; (ii) first-aid personnel will be informed, to the extent appropriate, of conditions that might require emergency treatment; and, (iii) representatives of federal and state agencies may review such records, as required.

In order to assure proper placement of all employees, we request that you answer the following questions: If you have a disability which might affect your performance or create a hazard to yourself or others in connection with the job for which you are applying, please state the following: (1) the skills and procedures you use or intend to use to perform the job notwithstanding the disability, and (2) accommodations which we could make to enable you to perform the job properly and safely, including the provision of special equipment, changes in the physical layout of the job, elimination of certain duties relating to the job or other accommodations.

Employees may request to see copies of the Affirmative Action Plan during regular hours from our EEO Coordinator.

G. Our EEO Coordinator will consider maintaining the following employment records concerning veterans covered by this policy:

(1) Annotating the application form and other personnel forms of each known veteran, covered by this policy to identify all vacancies for which he or she has been considered and making such forms available for review by federal and state agencies, as required, and the Company's personnel officials for use in investigations and internal compliance reviews.

(2) Annotating the personnel records or application form of each known covered veteran to: (i) identify each job, promotion or training program for which a covered veteran was considered; and, (ii) the result of that consideration.

(3) Placing a statement in the personnel or interview file in each case where a veteran is rejected for employment, transfer, promotion or training, setting forth the reasons therefor. Any such statement will include a comparison of the qualifications of that veteran and the

person(s) selected, as well as a description of the accommodations considered if the covered veteran was disabled.

(4) Describing in the personnel record any accommodations the Company undertakes which makes it possible to hire, advance, transfer or train a qualified veteran.

Appendix F

VEOLIA Water

Appendix F

APPENDIX F
Price Proposal – Supporting Information

In this Appendix, **Veolia Water North America – Northeast, LLC (Veolia Water)** provides information that supplements that presented in our Price Proposal for the Base and Innovative (Alternative) Proposals. This includes a discussion of Performance Incentives, as well as the Maintenance and Capital Program and Supplemental Engineering Services.

Annual Performance Incentive Fee – Base Proposal

In this discussion, Veolia Water outlines our proposed Annual Performance Incentive Fee Program, an important feature of both the Base and Innovative (Alternative) Proposals. This Appendix section provides explanatory information so that performance incentives being offered as a part of our Base Proposal may easily be understood. Section Two of our Price Proposal (Volume II) provides a discussion of the performance incentives for the Alternative Proposal.

Performance Incentives are an important tool to help the **City of Nashua's** stakeholders and regulators, as well as Veolia Water and its soon-to-be-employees, focus on the **most important key drivers of the business**. Performance Incentives financially reward Veolia Water for significantly improving performance. They also provide the City of Nashua and the community a vital tool to objectively judge our firm's project performance. Public openness about performance appears to be a particularly important issue to Nashua stakeholders.

The incentives presented in this section are specific to Veolia Water's Base Proposal, which offers customer services related to utility operations, except items related to customer billing and collections and the supporting activities.

Under the project approach defined in the Base Proposal, the City of Nashua will provide all of the administrative support required for handling customer inquiries, bill generation, payment processing and collection. Veolia Water assumes that the City will also maintain the accounting systems to track billing, payment and collection activities.

As an introduction to performance incentives, here is an example of an incentive currently in use at a Veolia Water customer service contract, one that includes billing and payment processing:

- The basis of this incentive involves: answering incoming calls within 30 seconds – increase success rate by 3% per year to 88% by 2006.
- This is an excellent call center response rate, and Veolia Water earned this incentive in 2004 by answering 82.7% of customer calls at this project within 30 seconds.

Like many other successful organizations, Veolia Water requires its managers to set performance goals, and these managers and their staff are subsequently rewarded for accomplishing those goals. Veolia Water has applied this same concept of setting goals and rewarding performance to its customer service, operations and maintenance contracts with municipal utilities with much success. For example, Veolia Water successfully utilized this leading-edge methodology in its customer service, operations and maintenance contract with the City of Indianapolis Department of Waterworks. In this contract, challenging improvement goals were mutually established, and Veolia Water may earn an incentive fee annually for meeting each incentive goal.

Use of this methodology enabled Veolia Water to **significantly improve performance during a three-year period, resulting in improved customer service, water quality, maintenance and compliance**. Overall customer satisfaction among Indianapolis water customers in 2004 was above the national average for utilities (70%) with more than 8 of 10 customers saying that Veolia Water is doing an "excellent" or "good" job. Customer satisfaction has improved each year since Veolia Water began managing the waterworks in Indianapolis, demonstrating that performance incentives and good management are highly effective.

Veolia Water is "the contractor" with significant experience in managing to performance incentives. Competitors typically have contracts that penalize them for bad performance, but **Veolia Water's performance incentive methodology rewards significant and objective performance improvements**. There is a big difference in these two approaches and the outcomes. Veolia Water's experience shows that rewarding performance improvements results in higher customer, and therefore client, satisfaction and a higher level of overall performance, compared to the penalty-fee methodology most of its competitors use.

Benefits of Performance Incentives to Nashua

Under the Base Proposal approach, Veolia Water is proposing a set of performance incentives that will deliver the following benefits for the City of Nashua:

- Performance incentives establish an **objective methodology** for the City of Nashua and its citizens to evaluate Veolia Water's true performance, especially in the areas of water quality, watershed management, compliance and responsiveness to customers.
- There are many firms qualified to run water treatment and distribution operations, but **there are few firms that are willing to place themselves under open scrutiny and to hold themselves to high performance improvement goals.** We welcome communication about our performance to the citizens of Nashua. Veolia Water typically posts this performance data on its Web site for public review. Veolia Water's openness to public review and scrutiny is likely to be appreciated by Nashua's citizens.
- Based on our past experience, use of performance incentives in Veolia Water's contract with the City of Nashua will result in **improved customer satisfaction and increased overall performance**, and this marked improvement will be easy to demonstrate to the citizens of Nashua.

Objectives

Veolia Water will provide Nashua a set of quantifiable measures against which:

- Over the term of the contract, serves to reward Veolia Water for providing an ever-increasing standard of performance to Nashua.
- Can objectively determine the allocation of the Incentive Fee .
- Offers stakeholders an objective method to measure and evaluate performance.

Methodology

The ways in which the performance incentive approach for Nashua will be implemented under the Base Proposal include:

- The performance incentives, year-to-year improvement goals, incentive dollar values, and the methodology for measurement will be mutually agreed upon prior to the contract onset. The performance incentives will be challenging and provide Veolia Water with stretch goals to improve performance and maintain accountability to the City of Nashua.
- Veolia Water will thoroughly document incentive performance. On an annual basis, performance will be evaluated by the City of Nashua.
- Upon completion of the City's evaluation at yearend, Veolia Water will be awarded an incentive fee from the City of Nashua for each performance incentive earned.

Veolia Water is committed to continually improving the level of service provided to the City of Nashua's customers while increasing overall customer satisfaction, stewardship of the watershed, and openness to public review. Performance incentives are an important tool that Veolia Water has used very successfully to accomplish these important goals for other clients, and Veolia Water welcomes the opportunity to use similar performance incentives in its proposed contract with the City of Nashua. Based on our past experience, Veolia Water believes that the use of performance incentives will result in increased customer satisfaction and positive recognition for the City of Nashua for selecting this innovative and effective approach to contract performance.

Maintenance and Capital Project Definitions

Veolia Water offers the following definition for a City Capital Project:

- City Capital Project means:
  - (i) item(s) that will be of a long-term nature having a useful life in excess of three years, as defined by manufacturers' specifications
  - (ii) those items that require a modification, alteration, addition to, and/or improvement to an existing facility with a construction, installation (including materials) or purchase value in excess of $5,000
  - (iii) repair or replacement of equipment that has met or exceeded its useful life with a construction, installation (including materials) or purchase value in excess of $5,000
  - (iv) items for construction, placement of new facilities (e.g., piping, hydrants, valves, equipment, wells, etc., including material costs) and capital purchases that significantly improve operations and or maintenance, aesthetics, long-term capital conditions or other aspects not generally associated with ongoing operations and maintenance.

Capital project costs will include field work, engineering, and inspection services.

Capital Replacement Projects

A Capital Replacement Project, for the purposes of this proposed O&M (operations, maintenance and management) services contract with the City of Nashua, can be defined as one that does not include preventive, predictive, routine and or periodic maintenance activities. Listed below are examples of City Capital Projects:

- Growth projects, including the addition of new customers. The addition of new customers, including, but not limited to, the tap, service line, meters and other appurtenances to support the growth, with any required engineering, review and inspection included. The addition of new customers will not be subject to the $5,000 rule.
- New and replacement vehicles and heavy equipment.
- Individual painting of facilities, equipment, tanks, etc., with a value of over $5,000.
- Pump and/or motor repair or replacement repair, with a projected cost of over $5,000.
- Well and well pump maintenance, with a projected cost in excess of $5,000.
- New or replacement wells and abandonment of old wells.
- Driveway and parking lot replacement or resurfacing, with a projected cost in excess of $5,000.
- Vehicle repair or replacement, with a cost estimate of over $5,000.
- Installation of new water main and appurtenances.
- Replacement or rehabilitation of existing water mains, service lines and associated appurtenances.
- Modifications, replacements and relocations to facilitate public works projects.
- Valve replacements and new installations, all of which are not subject to the $5,000 rule.
- Hydrant replacements and new installations, all of which are not subject to the $5,000 rule.
- Repair or replacement to any facility, with a projected cost of over $5,000.
- New fencing identified as a result of security and safety audits or associated with a Capital Project.
- Tank installations.
- Chemical conversion projects.
- Telecommunications, computer and software systems
- Meter replacements, which are not subject to the $5,000 rule.
- Any structural failures to fixed assets, such as treatment facilities, dams, etc.
- Clean out of sludge storage lagoons, if over $5000.

Planned Maintenance Definition

The Planned Maintenance to the Water Works system that will be provided by Veolia Water under this proposed O&M contract with the City of Nashua will be as follows:

1. Inspect and exercise all system valves annually. Valves will be located, boxes cleaned out, raised or lowered if required and the valve will be turned to ensure proper operation. Measurements will be verified (if available) or created and recorded on valve records. The City will be furnished with a copy of the updated valve records annually. Valve replacements will be either Unplanned Maintenance or City Capital.

2. Inspect and operate all City-owned fire hydrants once each year. Locate and inspect each hydrant to ensure proper operation, paint and make sure each hydrant barrel is properly drained. Hydrant records will be updated, if available, or a hydrant record system will be created to provide proper record keeping. Hydrant replacements will be either Unplanned Maintenance or City Capital.

3. Conduct an annual flushing program. Schedule an annual main flushing program to flush sediment and corrosion particles from the distribution mains. Provide the City with advance notice of the planned flushing dates, advertise the program in a newspaper having general circulation in the City to alert customers and conduct the program at a time of minimal disruption to customers.

4. Collect and analyze water samples from the system in accordance with State of New Hampshire Department of Environmental Services (NHDES) regulations, NHDES Env-Ws 325.

5. Use reading devices provided by the City, read meters of system customers and meters for non-system sewer customers on a monthly basis. Readings will be turned over to the designated agent in the City when the routes are completed. The City will provide Veolia Water with pre-programmed devices with routes preloaded and ready to read.

6. Test meters in accordance with the regulations of the State of New Hampshire's Public Utilities Commission (NHPUC), NHPUC Rule 605. Meters, which register outside a range of 97-103%, will be removed and replaced with an accurate meter from stock or from the new-meter inventory. All replaced meters will be sealed to prevent tampering. Meters that fail the test will be repaired and/or replaced. For meters that are impractical to repair, the meter will be scrapped. Veolia Water will update a meter record if available for the City, or establish a meter record maintenance system. Meters that have been damaged due to abuse tampering or neglect will be repaired at the City's expense as part of Unplanned Maintenance, pursuant to the fee schedule that is defined in the O&M Services Agreement with the City.

7. Locate and mark out all Water Works system water mains and mark water services in the right of way when requested by City, contractors or when required by Dig-Safe. Upon receipt of notices of planned construction in City service areas, respond within a defined time period to locate and mark the street where the system is located.

8. Implement a backflow prevention and cross-connection program in accordance with the requirements of the NHDES. The cross-connection backflow prevention program for communities serving more than 1,000 persons must be approved by the NHDES. The backflow prevention devices are owned and maintained by the customers. Veolia Water's backflow prevention program is outlined in our Technical Approach (see Volume I, Section One).

9. Perform service disconnects (shutoffs) and reconnects for enforcement of payment of accounts or for other violations of the City's rules pertaining to water service. The City will prepare a list of services to be shutoff for non-payment or other reasons and forward to Veolia Water. The shutoffs and reconnects shall be scheduled and conducted during normal business hours, Monday through Friday, excluding holidays. After-hours calls will be billed under Unplanned Maintenance.

10. Respond to customer requests for service in a timely, courteous manner. These requests will include turning services on or off at the curb box, checking for leaks, re-reading meters, checking water quality and generally communicating with customers and responding to their concerns.

11. Make visits to each of the booster pumping stations and well fields on a scheduled basis. Inspect the equipment, make necessary adjustments, provide routine lubrication, provide corrosion control, inspect controls and instrumentation, change record charts and perform other appropriate routine tasks. Any abnormalities will be identified and reported to the City for further direction. The City will pay all utility bills associated with the booster facilities.

12. Perform preventive and predictive maintenance of all water treatment equipment. This includes all equipment for the collection of, treatment of and distribution of water. Any abnormalities or corrective action required will be identified and reported to the City for further direction.

13. Perform preventive and predictive maintenance on all pond system equipment. Structural failures would be considered City Capital by definition, as would major maintenance activities.

14. Meet formally with the City on a monthly basis during the term of the Agreement to coordinate and review the actions of the Veolia Water and the City in terms of implementing the Planned Maintenance, Unplanned Maintenance, and Engineering Services contemplated in the Agreement.

Unplanned Maintenance Definition

Planned Maintenance is defined and measurable and generally allows for reasonably accurate budgeting. Unplanned Maintenance is very difficult to predict. The Water Works system is susceptible to breakage from age, freezing, defective material, improper installation, shifting of soils due to movement created by frost or ice, damage by contractors or others excavating near mains and services. Due to the difficulty in forecasting the occurrences of Unplanned Maintenance, Veolia Water recommends that the City of Nashua establish a Maintenance Fund for Unplanned Maintenance expenditures.

Veolia Water will provide Unplanned Maintenance for the Water Works system, for which our firm will be compensated, pursuant to the fee schedule provided in our Price Proposal (Volume II).

Under our proposed Innovative (Alternative) Approach, Volume II – Section Two of our Price Proposal, Veolia Water has proposed a cost-sharing approach to control and share the risks associated with Unplanned Maintenance expenditures. Unplanned Maintenance typically includes the following:

1. Responding to and repairing emergency leaks on mains, valves, hydrants, services and meters.
2. Replacing main sections, valves, hydrants, services and meters that are impractical to repair.
3. Replacing valves or hydrants, which are found to be defective during inspection and maintenance activities.
4. Thawing and/or repairing frozen mains, services, hydrants and meters.
5. Responding to emergencies created by fires, floods or other natural disasters.
6. Installing flushing valves on dead end mains to clear lines.
7. Adding water treatment plant equipment such as pumps and motors.

Supplemental Services

Water systems are constantly expanded and affected by changing conditions and customer demands. As requested in the RFP, Veolia Water has proposed a list of Supplemental Services that can be requested by the City of Nashua.

As discussed in our Technical Proposal (Volume I), Veolia Water will, using our in-house resources as well as those of our proposed engineering/construction services subcontractor, Dufrense-Henry, provide engineering and construction management services required for meeting the Supplemental Service requirements for the Water Works system, for which we will be compensated as Supplemental Services, pursuant to the fee schedule defined at the end of this Appendix.

Scope of Work

Supplemental services under this proposed O&M services contract with the City of Nashua will be considered as engineering and construction services that will be defined as including the following:

1. **Reviewing new construction in the City.** This will include meeting with developers and other City customers who request main extensions or new service installations. Review plans, establish appropriate sizing of facilities (may require additional services under item 6 below) and provide standards and specifications.
    - **Item 1.a & 1.b: Review of an individual Residential service assumes a maximum of a two-hour effort, for Commercial or Industrial services assumes a maximum of four hours; any complications or extenuating circumstances that require significantly more time will be billed at the Project Engineer hourly rate.**

- Item 1.c: Main extension can vary significantly in terms of the complexity and time required to perform an adequate review and to meet with the customer's engineer; therefore, these services will be provided on an hourly rate basis for a Project Engineer. Customers will be given a Review Fee estimate based on the size and complexity of project prior to beginning review.
- Item 1.d: Customers will be provided a hard copy of the Standard Water Main, Services and Appurtenances Specification upon request for a fixed fee.

2. **Inspecting new construction.** Provide on-site inspection of new installations to ensure compliance with City standards and specifications.

   - Item 2.a: This item does not include full-time inspection, but only the time required to make one inspection prior to backfilling a service, observe pressure testing, verifying that the as-built drawing provided by the customer are correct, and inputting the as-built record into the City system. Complications or extenuating circumstances that require significantly more time will be billed at the Project Engineer hourly rate.
   - Item 2.b: This item does not include full-time inspection, but only time required to make inspection during critical times prior to backfilling to verify compliance with stand specifications, observe pressure testing, verifying that the as-built drawing provided by the customer is correct, and observing disinfection of new facilities and appropriate follow-up bacteriological sampling before activation of lines. Complications or extenuating circumstances that require significantly more time will be billed at the Project Engineer hourly rate.

3. **Creating as-built records.** Create an as-built record of new installations on an AutoCad file. Copies of all such files would be provided to the City. For individual services, the customer will be responsible for supplying the as-built AutoCad file and Veolia Water will only enter the file into the City's system per item 2.a above.

   - Item 3.b: For Developer Projects, the customer will be responsible for supplying as-built records in an acceptable digital format and Veolia Water will enter this information into the City system on a rate per drawing.
   - Item 3.c: In cases where a Customer or the City requires Veolia Water to create an as-built AutoCad file, the work will be performed on an hourly rate basis for an AutoCad Technician.

4. Veolia Water assumes that the City **will provide a reasonably accurate GIS map** of the water system; however, there may be needs to provide updates on mains, hydrants and gate valve records. The updates to the City's distribution mapping will be provided on an hourly rate basis for an AutoCad Technician. Any required field location or verification will be provided on an hourly basis by a Field Engineer.

5. **Assessing "unaccounted for" water (system tightness assessment).** At least once each year, summarize and compare water production records with total system consumption as measured through customer meters. If the unaccounted for amount is in excess of 10%, Veolia Water will conduct a leak detection program to identify lost water and implement action to mitigate water lost in the system due to leakage.

6. **Preparing hydraulic modeling and analysis.** Veolia Water assumes that the City will provide a working hydraulic model containing detailed computer files on the

primary pipes, nodes, booster pumps (etc.) and storage of the distribution system.

- Item 6.a: Veolia Water will become familiar with the hydraulic model and distribution system, and we will be prepared to run specific queries for system improvements, fire flow determination or analysis of developer projects for a lump sum price.
- Item 6.b: Veolia Water will provide system analysis to identify hydraulic bottlenecks, and low pressure areas, and also develop recommendations for additions and improvements on an hourly rate basis for a Senior Project engineer and Staff Engineer.
- Item 6.c: Assess the impact of future growth on the system for Developer projects; man-hours required to perform this analysis will be based on complexity of project, location within the system and number of iteration required. The cost will be based on hourly rates for a Senior Project Engineer and Staff Engineer, and an estimate will be provided to the Customer prior to commencement of work.

7. **Performing annual pump efficiency checks.** Conduct an annual pump efficiency check for each booster-pumping unit and make recommendations to the City for maintenance, repair or replacement required to maintain pumping capacity at optimum efficiency levels.

8. **Preparing the Fire Flow test and report.** Provide a Field Technician to perform fire hydrant flow tests, which includes operating the hydrant, the flow meter and the pressure gauge during hydrant test, taking readings and providing a summary report to the City and the customer requesting the test.

9. **Performing specialized watershed engineering studies.** Veolia Water will provide watershed management centered on the goals of protecting and improving the source water quality of the Water Works, developing water withdrawal protocols that ensure optimal source water quality and source water management, developing and implementing best management practices, and watershed water quality research and analysis to further understanding of the watershed and its long-term health. Veolia Water will work with the City of Nashua and environmental groups such as the Pennichuck Watershed Council to develop long-term strategies for the watershed. These services will be provided on an hourly rate basis for a Senior Project Engineer. Or, if the scope of services warrants, these services will be provided by a third-party under contract with Veolia Water and billed at cost plus Administrative Fee to the City.

10. **Implementing Capital Planning for water system improvements.** Veolia Water will meet with the City to review priorities and set goals for the overall Water System Capital Program. In our role as the O&M services provider to the City, Veolia Water will not only prepare the appropriate draft plans for City's review, but more importantly, we will bring to this project: creativity and innovation in the assessment of situations; the ability to effectively address cost and water quality needs; the capability to conceptualize alternatives; as well as the capability to develop recommendations that integrate with overall water quality and service goals. The planning function will be an ongoing activity that will provide a five-year plan with annual updates and recommended capital for the upcoming fiscal year. These services will be provided at no additional cost. Detailed plans, engineering and construction cost estimating will be provided as an additional services as outlined in

item 11 below.

11. **Providing other engineering services, as required by the City.** Veolia Water will supply other engineering services for: capital planning; capital execution; detailed engineering studies; and GIS projects, on hourly rates based on the following rate schedule or will negotiate lump sum priced proposals on specific scopes of work as requested.

Service Fee Schedule for Supplemental Services

As requested in the RFP, Veolia Water has proposed a list of Supplemental Services that can be requested by the City of Nashua.

Our firm, using our in-house resources and those of Dufrense-Henry, proposes to perform these services in addition to the Services provided as part of our fixed fee for the O&M contract.

Two tables are presented below, with Table III.F-1 outlining those services that Veolia Water felt would best serve the City of Nashua and this partnership, and Table III.F-2 provides an hourly rate schedule for the classifications of staff that would be involved in the delivery of these supplemental services.

Table III.F-1. Veolia Water – Proposed Service Fee – Supplemental Services

	Service	Price
1	New construction plan review	
	a. New services: Residential	$200 per service
	b. New Service: Commercial or Industrial	$400 per service
	c. Main extensions (varies with extent of each project)	$106/hour
	c. Provide standard specifications	$50 per set
2	Inspect new construction	
	a. Domestic services, including as-built	$160 per service
	b. Mains and fire services	
	First 100 ft.	$400
	Plus next 400 ft.	$3 per foot
	Plus over 500 ft.	$2.50 per foot
3	As-built records	
	a. Services –	See 2 a. above
	b. Mains – assumes all plans provided to City in acceptable digital format	$400 per sheet
	c. Create Digital as-built Records	$62/hour (AutoCad Technician)
4	Updates to GIS mapping	
	a. Pipe records from as-built	$62/hour (AutoCad Technician)
	b. Service records from as-built	$62/hour (AutoCad Technician)
	c. Gate valve and hydrant records	$62/hour (AutoCad Technician)
	d. Field location of service, valves or gates	$75/hour (Field Engineer)
5	Unaccounted for water audit	Cost included in Base Fee

Table III.F-1. Veolia Water – Proposed Service Fee – Supplemental Services		
	Service	**Price**
6	Hydraulic modeling and analysis	
	a. Base Modeling – assumes the City provides working model and data.	$5,000/lump sum
	b. System improvement analysis	$90/hour (Staff Eng.) & $106/hr (Project Engineer) as required
	c. Model run for developers	$90/hour (Staff Eng.) & $106/hr (Project Engineer) as required
7	Pump efficiency tests – annual, all 4 stations Assumes all pumps are metered, pressure taps are installed and pump curves are available	Cost included in Base Fee
8	Fire flow tests, includes report to City	$300 per test
9	Watershed engineering studies	$125/hour (Senior Project Engineer)
10	Capital planning	Cost included in Base Fee
11	Billing and collection – charged in $/ customer/month. For the 24,500 PWW Customers.	$1.47/customer/month
12	Billing and collection – charged in $/ customer/month. For the next 20,000 customers added to the System.	$1.82/Customer/month
13	Customer surveys – fixed price	$22,000
14	Other services	See attached Rate Schedule
	Contractor will charge the City for Engineering Services on a time and materials basis. For each task to be performed, Contractor will submit an estimate to the City. At the completion of the project, Contractor will submit an invoice to the City for the work performed.	
	Annual Adjustment to Fee Schedule – The fee schedule for engineering services shall be adjusted on each anniversary date of the Agreement, same adjustment factor applied to the Fixed Fee.	

Table III.F-2. Hourly Rate Billing Schedule		
Position	**Tasks/Responsibilities**	**Billing Rate**
1- Senior Project Manager	Client relationship, coordinates & oversees work	$156/hr
2- Project Manager	Schedules, budgets, procurement, project coordination.	$135/hr
3- Senior Project Engineer	Studies/planning/engineering	$125/hr
4- Project Engineer	Plan review, GIS & hydraulic modeling	$106/hr
5- Field Engineer	Construction observation, field measurements, data collection	$78/hr
6- Staff Engineer	Support Studies/eng/modeling tasks	$90/hr
7- AutoCad Technician	Preparation of drawings & as-builts, GIS updates	$62/hr
8- Senior Resident Inspector	Inspects construction, field reports	$95/hr
9- Resident Inspector	Inspects construction, field reports	$84/hr
10- Administrative support	Administrative functions	$60/hr

Appendix G

VEOLIA Water

Appendix G

APPENDIX G
Capital Program Management – Value Engineering

Veolia Water North America – Northeast, LLC (Veolia Water) provides the additional information presented in this Appendix to document the opportunities for process improvements, reduced chemical costs, and reduced Capital Expenditures over the next five years of this operations, maintenance and management (O&M) services contract with the City of Nashua, New Hampshire.

Surface Water Treatment Plant

The "*Water Treatment Plant Evaluation and Capital Improvement Plan*" prepared by Fay, Spofford & Thorndike (FST) dated May 7, 2004, recommended the implementation of Alternative I at an estimated cost of $31.5 million.

Alternative I is presented as a cost-effective alternative that includes implementation of a number of source-water management strategies as well as key improvements at the water treatment plant, such as increasing the filter media depth and adding approximately 6.5 million gallons of finished water storage.

Veolia Water believes that several modifications could be made to the suggested alternatives that would result in better water quality, savings in chemicals, equipment and efficient plant operations. We have addressed these modifications in the paragraphs that follow.

G.1 - Raw Water Quality Management

The FST report recommended hypolimnetic aeration for the Pennichuck Brook Pond system (Bowers, Harris and Supply in-pond improvements) as one of the source-water management methods. However, hypolimnetic aeration is normally recommended for deeper lakes and reservoirs (depth greater than33 feet), needs a large hypolimnion to work properly and its use in shallow lakes and reservoirs should be viewed with caution.

The effectiveness of this approach depends on the proper design and sizing in relation to oxygen demand and may increase eddy diffusion of nutrients to epilimnion even if stratification is maintained. As the depth of the ponds varies between 18-25 feet, Veolia Water proposes artificial circulation/mixing to maintain a uniform temperature and DO throughout the water column, reduce algal proliferation and the formation of taste and odor compounds. This will also alleviate the formation of anoxic zones and the release of iron and manganese from the sediments. The raw water with a uniform temperature will result in improving the performance of the Pulsator® process (in the water treatment plant) as well.

The objective of circulation/mixing is to prevent or reverse the anoxic conditions that can develop in the deeper water of a lake or reservoir in the summer. Proper mixing will also lead to an isotherm and a uniform dissolved oxygen condition in the lake or reservoir.

Veolia Water proposes the SolarBee® artificial circulation systems (manufactured by Pump Systems, Inc., Dicknison, ND) for use in the Pennichuck Brook Pond system to improve overall water quality (uniform temperature, enhanced dissolved oxygen, reduced iron, manganese, phosphorus, ammonia, etc.) and reduce algal proliferation.

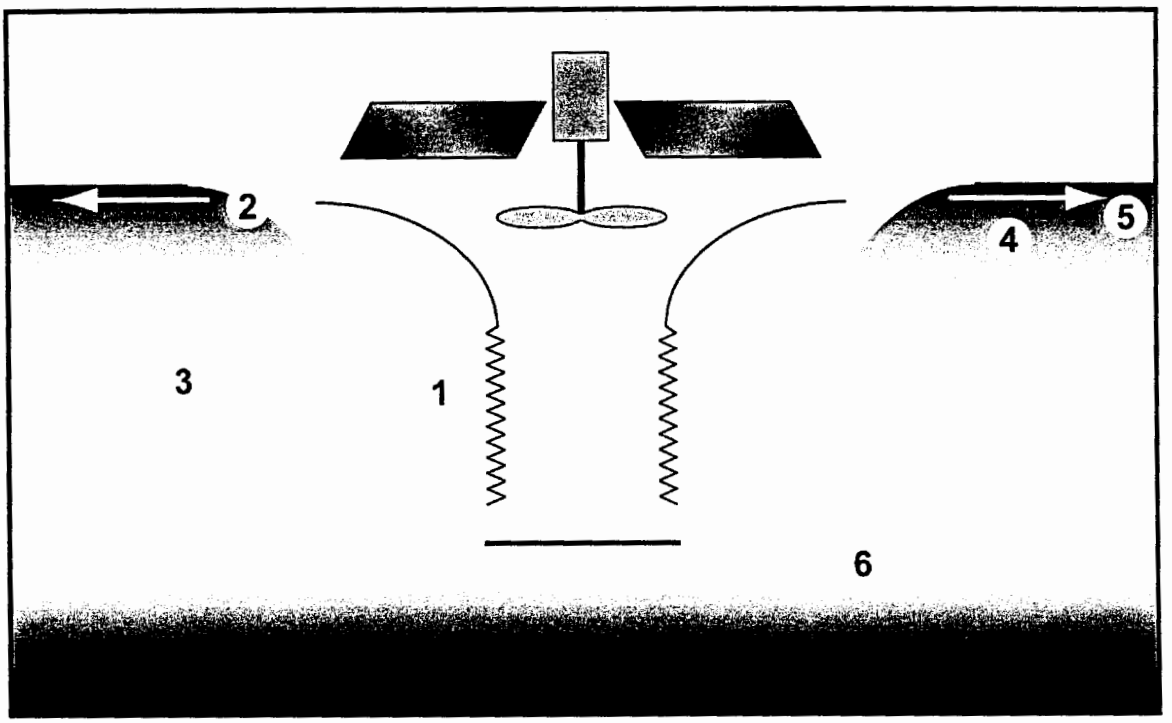


Figure III.G-1: Schematic of SolarBee: Solar Powered Reservoir Circulator

The SolarBee circulation system reveals a new paradigm for eutrophication control. Rather than trying to limit overall algal growth through reductions in nutrient (primarily phosphorus) availability, the SolarBee circulation prevents blooms of blue-green algae (cyanobacteria) through habitat disturbance. This form of bio-manipulation selects against bloom-forming blue-green algae while favoring non-blue-green algae. A brief description of the SolarBee equipment and its operation is presented in the paragraphs that follow.

The SolarBee aeration systems are powered by solar energy and can operate 365 days per year (see Figure III.G-1, above). The SolarBee is a floating solar-powered pond and reservoir circulator constructed of stainless steel and corrosion-resistant polymers. This 16-foot diameter machine draws up to 10,000 gallons per minute from a specific depth and spreads it gently across the top of the reservoir for continuous surface removal, effectively creating a continuous circulation pattern in the waters above the intake depth. As blue-green algae require quiescent waters for optimal growth, they do not thrive well when the reservoir's surface is continually disturbed (Pearl, 1995). This SolarBee-induced water movement has shown to be consistently effective at preventing blue-green algae blooms in more than 80 fresh and salt water bodies throughout North America, since first introduced for this application in 2002. The ability of the SolarBee system to effectively eliminate blue-green blooms by maintaining surface water turbulence has been well-documented in other lakes where they have been installed (Pontius, 2003).

The intake hose of this system is up to 36 inches in diameter, depending on the model, and the intake depth can be configured for 3-100 feet deep, with 16 feet of adjustment. The SolarBee's mixing action greatly accelerates the biological and solar processes that aerate and clean up the water, resulting in an environment that is more uniform in dissolved oxygen and temperature throughout the water column and less conducive for algal proliferation.

Table III.G-1, below, shows the estimated cost of artificial circulation utilizing the SolarBee systems. The cost of the hypolimnetic aeration system recommended by FST is also presented for comparison. By adopting the SolarBee system a net savings (NPV) of $571,300 can be realized.

Table III.G-1. Estimated Cost of Artificial Circulation (SolarBee System)

Pond	SolarBee System		Hypolimnetic Aeration (Recommended by FST)	
	Capital Cost ($)	Annual O&M Cost ($)	Capital Cost ($)	O&M Cost ($)
Bowers	78,000	600		
Harris	78,000	600		
Supply	38,000	300		
Total	194,000	1500	633,000	15,000
NPV (20 years, i=8%)	208,700		780,000	
Net Savings	571,300			

G.2 - Optimizing Coagulation

FST recommends that jet pump mixers be used to improve chemical dispersion for optimizing coagulation. However, jet pump mixers are not efficient in terms of producing a homogeneous suspension of the coagulant, and the O&M costs of these units are significant. Efficient mixing of the coagulant and coagulant aid is critical for efficient operation of the downstream Pulsator.

Veolia Water recommends installing static mixers in the raw water lines (42- and 48-inch diameter), as they offer the following advantages: 1) they are very efficient in terms of producing a homogeneous suspension in a vessel of much smaller size, shorter hydraulic retention time, and have good mixing efficiency; 2) near plug flow with a high degree of radial mixing promoting micromixing; 3) low maintenance, reliability and retrofitability with low headloss; 4) chemical saving (10-20%), compared to conventional rapid mixing; and 5) low capital and O&M costs.

If site conditions permit, open channel mixers can also be considered for efficient mixing of the chemicals, and these types of units provide a low capital and O&M costs, compared to jet pump mixers.

Table III.G-2, which follows, shows the options for chemical mixing as compared to the jet pump mixers recommended by FST. As seen from this Table, by selecting open channel mixers or static mixers the net savings can be as much as $1,504,240.

Table III.G-2. Headworks Evaluation and Options for Mixing Chemicals				
Options for Mixing	Capital Cost ($)	Annual O&M Cost ($)	NPV (20 Years, i = 8%)	Net Savings ($)
Jet Pump Mixers (FST)	1,355,000	24,000	1,586,000	
Static Mixers*	96,000	2,000	115,600	1,470,400
Open Channel Mixers*	70,000	1,200	81,760	1,504,240
* Does not include the cost savings realized in chemical usage (10-20%)				

G.3- Alkalinity Supplementation, pH = 7.5

FST recommended caustic soda and carbon dioxide over hydrated lime and carbon dioxide. The LCC of hydrated lime ($2.14 million) is higher than the LCC of caustic soda ($1.62 million) which is puzzling (lime is almost 1/6 the cost of sodium hydroxide).

Assuming capital costs are similar for both systems, the operational savings by continuing to use hydrated lime could be as much as $117,000 per year, or on an NPV (20 years, i=8%) basis, $1,146,600. Some changes will be needed on site to produce a better gradation of lime (e.g., using high quality make-up water) to minimize the operational issues associated with its use.

Total CIP Savings: $571,300 + $1,504,240 + $1,146,600 = $3,222,140.

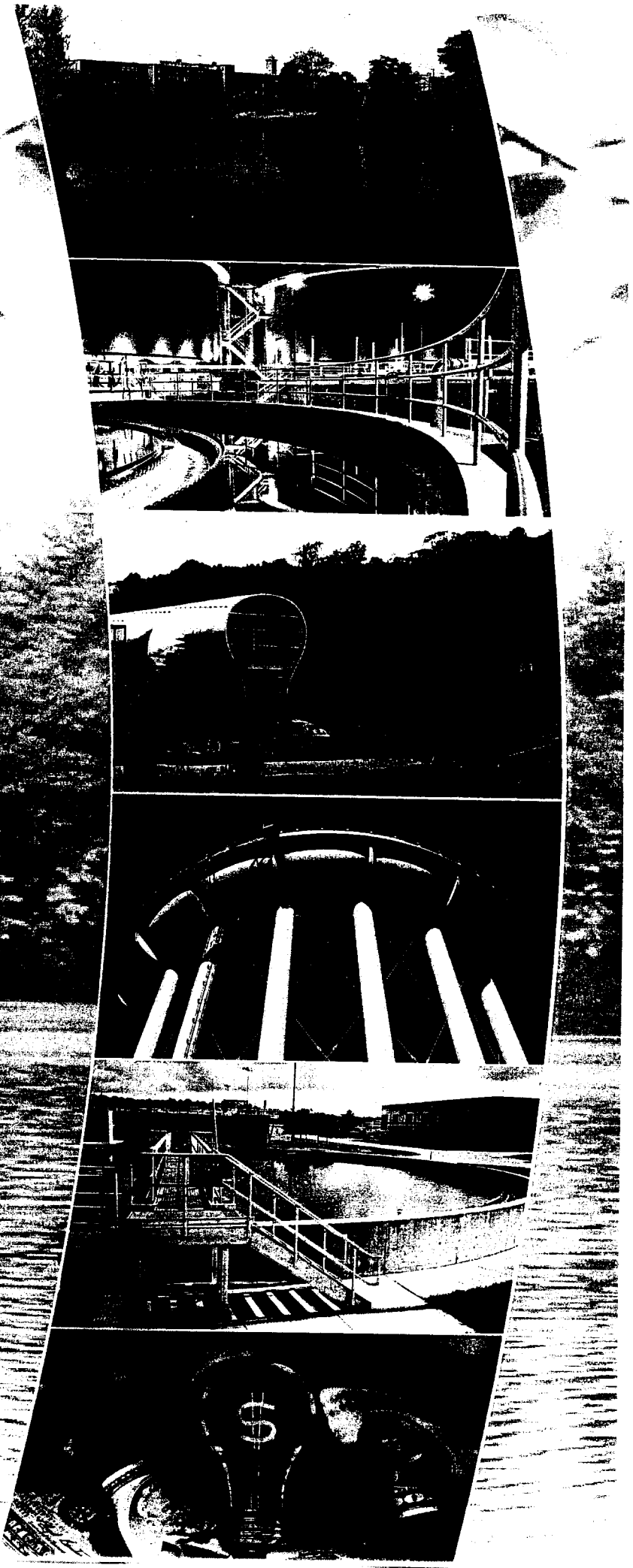
Exh 1.06

TECHNICAL PROPOSAL

WATER UTILITIES OVERSIGHT SERVICES

RFP505

NASHUA



R·W·BECK

July 14, 2005

R·W·BECK

City of Nashua
Central Purchasing Office
229 Main Street
Nashua, NH 03061

Dear Community Leaders,

Subject: **RFP1306-061505 - Water Utility Oversight Services**

The City of Nashua (City) and the Merrimack Valley Regional Water District (MVRWD) have undertaken a prudent but locally uncommon process of acquiring the assets of the private water company that has been the local utility for generations. Customers have important concerns about the cost of service and whether an adequate supply of safe drinking water is assured by the long-range plans of the private company. There are also important concerns about the need to be better stewards of the watershed.

Since 1942, R. W. Beck has specialized in engineering-based management consulting services associated with municipal utility creation and operations. More important to Nashua and MVRWD, contract development, negotiations and oversight of water utility operations are our signature strength. We are broadly recognized in the water industry for our expertise advising owners on procurement, contract development, negotiations and contractor oversight, for a wide variety of services related to utility operations, maintenance and management.

R. W. Beck is renowned as an Independent Engineering advocate for municipalities, and has been consistently recognized nationwide for saving utilities money through innovative funding, contracting, operating, and business process strategies. By company mission, we are committed to objective, third-party independent engineering reviews. Therefore, we do not perform contract operations or complete design/build projects for clients. This standing is unique, and others cannot make such definitive 'no conflicts' declarations to the City and MVRWD. Owners and the financial community trust R. W. Beck to do the right thing, because of our status as an Independent Engineer. Our approach provides you the highest value because we expertly leverage the power of the free market to find the best, most valuable ideas and services for our clients through effective procurement, contracting and oversight. Our customers say it best. Please refer to Appendix A for several letters of reference. One example:

> *"Over the years, the Authority has come to know R. W. Beck as a trusted business partner. As an Independent Engineer, it is clear that they always endeavor to put the needs of the Authority first. R. W. Beck's reputation in the bond market is excellent. Their advice is sound, straightforward and timely."*
> ***Ms. Claire Bennitt, Chairperson, South Central Connecticut Regional Water Authority***

Qualifications and Experience. Our qualifications and experience are detailed in Section 1 of our proposal. We offer this proposal in association with Tetra Tech, Inc. to gain their considerable water systems engineering, watershed management, and utility security planning expertise. Tetra Tech is one of the largest water engineering companies in America. Tetra Tech completed the comprehensive evaluation of the Pennichuck Water System for the City, in support of the utility taking, so they are very familiar with the issues associated with creating a community-owned utility for greater Nashua. We have preserved Nashua's investment in this evaluation by subcontracting with Tetra Tech.

Personnel Plan. Section 2 presents our Personnel Plan. Our project manager is a committed and concerned neighbor. Paul Doran, P.E., a long-time resident of Hollis, New Hampshire, raised his family locally and ran an engineering business in Nashua for many years. So Paul is very familiar with the institutional, political, and regulatory aspects of managing utilities in New Hampshire. More important to the City and the MVRWD, Mr. Doran is a recognized industry leader in contract oversight, having

The Corporate Center, East Wing 550 Cochituate Road P.O. Box 9344 Framingham, MA 01701
Phone (508) 935-1600 Fax (508) 935-1888 Fax (508) 935-1666

spent much of his 30+ year career overseeing operations contractors and managing oversight contracts for major water utilities around the country. In fact, he has been involved in this line of work since the earliest privatized municipal operations contracts. As you will read in letters of reference included in Appendix A of our proposal, Mr. Doran is highly commended by his past contract oversight clients. Furthermore, backed by the extensive resources of R. W. Beck and Tetra Tech, Mr. Doran can provide your new utility extensive expertise in our specialties: start-up and operation of new municipal utilities, and contractor oversight. We provide you a seasoned group of professionals that are highly regarded for fair negotiation and oversight of tightly-framed operation and maintenance contracts that provide affordable service.

Sensitive to the critical importance of effective intergovernmental relations to the creation and commissioning of the community-owned utility, our project team includes important New Hampshire thought leaders. These leaders have many years of experience as public servants in local, state and federal government: John Clements, former New Hampshire Commissioner of Public Works and Highways; and Jeffrey Taylor, former Director, New Hampshire Office of State Planning. Their knowledge, insight, integrity and effective working relationships at all levels of government could be invaluable to the utility, particularly for regulatory compliance and grant-funding.

Technical Approach. Section 3 describes our Technical Approach. Priority challenges for the new utility early-on are likely to include: implementing effective watershed management; obtaining debt financing to pay for the acquisition and asset renewal resulting from deferred maintenance; fostering public support for the new utility; implementing effective management policies and procedures; recruiting and training leadership staff; and maintaining affordable rates to adequately cover the true cost of expected service levels, now and in the future. The new community-owned utility must build a strong foundation to successfully manage these challenges. We believe that effective long-range planning will be critical to the utility's success and we feature it in our Technical Approach.

Our proposed work plan is comprehensive in this context and describes how early planning should focus on the fundamentals – preserving acquired assets. The O&M contractor's condition plan we recommend will provide the current condition of all equipment and structures, their remaining useful life, and prioritize what must be replaced or upgraded. A relative ranking of mission-critical equipment will be identified so that the utility knows where to spend its limited capital most effectively to manage operations risks. The suggested work plan is a practical approach to managing the water system assets, and it provides a powerful long-range planning tool.

Thank you for the opportunity to propose on this important and exciting project. We hope that you consider our proposal favorably. Please call Paul Doran directly with any questions you might have. He can be reached during the day at (603) 493-2419 / pdoran@rwbeck.com. Paul's home phone number is (603) 465-7082.

Very truly yours,

R. W. BECK, INC.

Stephen R. Gates, P.E., DEE
Client Services Director

Paul B. Doran, P.E.
Senior Associate

TABLE OF CONTENTS

R·W·BECK

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SECTION 1

FIRM QUALIFICATIONS AND EXPERIENCE

R. W. Beck is a highly specialized, engineering-based management consulting firm. Employee-owned since its founding in 1942, R. W. Beck's 500+ professionals are clear industry leaders in providing the unique management consulting associated with the creation of new utilities, regional authorities, and joint-action agencies such as the Merrimack Valley Regional Water District (MVRWD). From its traditional base of providing professional consulting and engineering services in the public utility industry, R. W. Beck has become known as an Independent Engineering advocate for municipalities, and has consistently been recognized nationwide for saving utilities money through innovative funding, contracting, operating, and business process strategies.

R. W. Beck has maintained offices in New England to serve the management consulting needs of utilities throughout the region continuously for forty years. Today, the firm offers a complete range of consulting and engineering services related to the operation, planning, organization, financial analysis, administration and design of water, wastewater, electric, gas and solid waste utilities. Our experience includes planning, technical and economic feasibility, management and finance-related services; economic, rate and environmental impact studies; water resources management; solid waste management; electric power supply planning and marketing; computer systems applications; and expert witness testimony. R. W. Beck provides engineering-based consulting – we integrate our engineering talent with managerial, financial, training, organizational, and operational expertise to find the best solutions to the challenges of utility operations and management.

This multi-faceted organization allows us to provide the resources of a large interdisciplinary pool of engineering, economic, sociological, and environmental talent and still retain personal and individual relationships with clients. We emphasize a close working relationship with our clients to ensure that the client is continually aware of the progress and status of the project and that the clients' requirements are being met.

For the City of Nashua's (the City) Water Utility Oversight Contract, R. W. Beck has chosen to complement its engineering-based management consulting expertise by engaging Tetra Tech, Inc. as a subcontractor. Tetra Tech completed the "Comprehensive Review of Pennichuck Water System" report for the City and has provided additional support during initial feasibility analyses associated with plans to create the community-owned water utility to serve greater Nashua.

The following pages detail the directly related experience of R. W. Beck and Tetra Tech concerning the planned Water Utility Oversight Contract.

What Makes R. W. Beck Valuable to Nashua and MVRWD

- Engineering-based management consultant
- Specialize in contractor oversight
- In-depth experience with utility regionalization and municipalization
- Independent – no conflicts
- Serving New England utilities for over 30 years

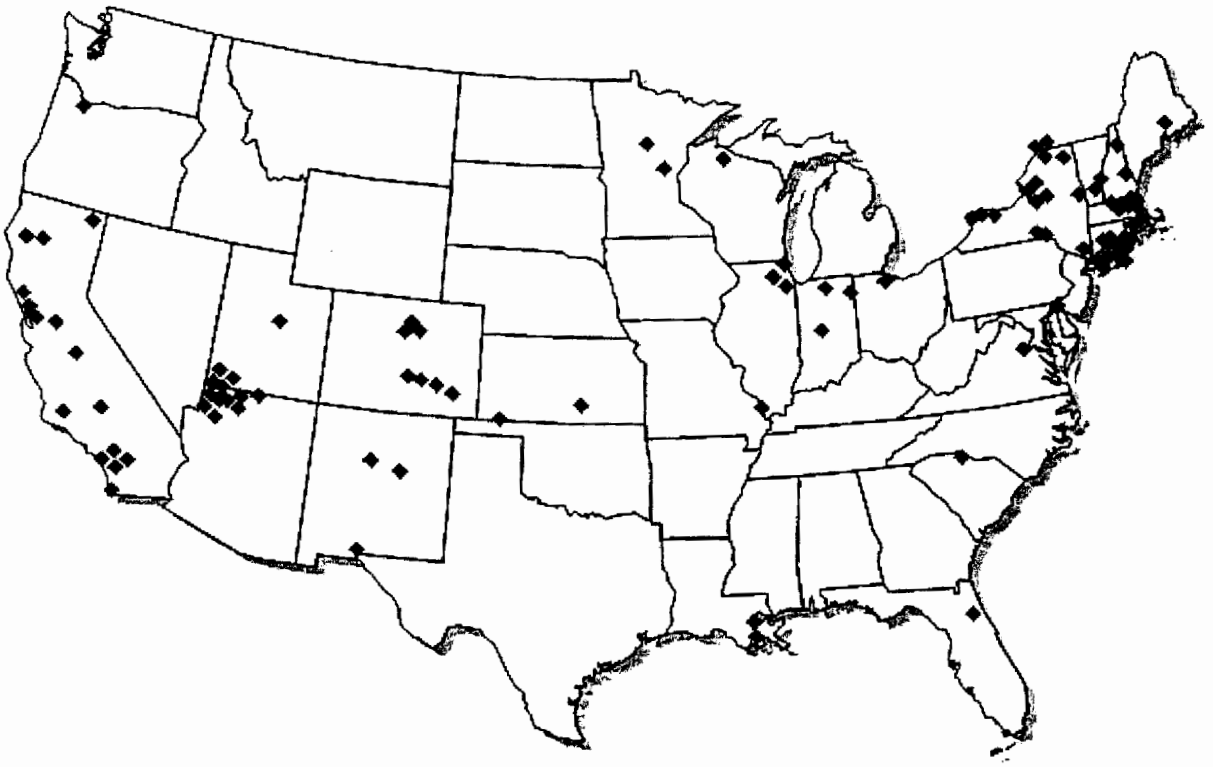
R. W Beck team experience is highlighted as follows:

R·W·BECK

R. W. BECK SPECIALIZES IN THE MUNICIPALIZATION AND REGIONALIZATION OF UTILITIES

Nationwide, R. W. Beck is recognized as the leader in establishing new utilities and joint-action agencies. Pictured below, are the locations of R. W. Beck's work in assessing the feasibility of and helping to establish new municipal and regional utilities.

R. W. Beck will provide consulting expertise and advice to the City of Nashua and the MVRWD, which is well grounded with extensive experience in all of the engineering and financial implications of starting a new municipal utility by taking over the assets and liabilities of a private enterprise. Providing engineering-based management consulting advice to emerging community-owned utilities is R. W. Beck's specialty.



R. W. Beck has specialized in helping create municipal utilities across the country since 1942.

R. W. Beck has extensive in-depth experience with Utility Regionalization and Municipalization. The following project descriptions are representative of R. W. Beck's regionalization experience.

Municipalization of New Haven Water Company, Connecticut

Owner: South Central Connecticut Regional Water Authority (SCCRWA)

R. W. Beck was retained by SCCRWA to perform a feasibility study of SCCRWA's acquisition of a major investor-owned water utility, the New Haven Water Company in 1977 and has provided engineering-based management consulting continuously, ever since. The original study included a technical review of all of the Company's major water system facilities; a survey of their operations and maintenance to ascertain the value and condition of each asset; the ability to finance the acquisition; and the impact on ratepayers. R. W. Beck prepared the Consulting Engineer's Report used for financing SCCRWA's purchase of the Company, and for initial capital improvements.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

R. W. Beck's examinations included the technical investigation and evaluation of all facilities owned and operated by the Company, a review of the company's 10-year capital budget, technical review of the company's books of account and other records, as well as evaluation of operations and system management.

The firm also reviewed operating and repair records as well as preventive maintenance programs. In addition, water use records were examined, and customer usage was compared with SCCRWA's water supply for various portions of the system as an indication of system condition. SCCRWA's facilities are located in New Haven, Connecticut and supply water services to approximately 104,220 customers in Bethany, Branford, Cheshire, East Haven, Hamden, Milford, New Haven,. North Branford, North Haven Orange, West Haven, and Woodbridge. Water supplied is equal to approximately 73.4 million gallons per day.

R. W. Beck has also served SCCRWA as its Independent Engineer for each of its subsequent financings. In total, R. W. Beck has assisted SCCRWA in the issuance of approximately $500,000,000 of revenue bonds since its inception.

Municipalization of Jamaica Water Supply Company

Owner: City of New York

The Jamaica Water Supply Company (JWSC) served a population of approximately 500,000 in the Borough of Queens, New York City and was the only private water company providing service within City limits. The rates charged by the private utility were considerably higher than those in the rest of the City. Over drafting of the groundwater table by the wells that serve the JWSC system was a concern, and the system began to experience problems with groundwater quality, particularly due to industrial chemicals.

These concerns prompted New York City to retain R. W. Beck to evaluate the feasibility of the City taking over the portion of the JWSC system within the City limits. The scope of the services was comprehensive and included engineering, operational, financial, and legal evaluations.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party of utility management in support of funding
- ☐ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

At the time of the study, the City's water supply system was incapable of delivering the JWSC requirements without reducing the pressure in the City's system to unacceptably low levels. The existing City distribution system was capable of supplying only one-half of the JWSC system demands. Part of R. W. Beck's analysis, therefore, evaluated an interim solution whereby the City would supply part of the JWSC water system demands and a number of the system's wells would remain in service to deliver the balance.

Since the City would be assuming the responsibility for the JWSC system and would use its reservoirs, pumping stations and many of the wells for some period of time, R. W. Beck conducted an evaluation of the condition and operation of the existing system facilities. The firm reviewed the operating staff and operating procedures to identify the staffing requirements and costs that the City would likely experience if it assumed responsibility for the operations.

Another key aspect of system takeover by New York City was the price that the City would need to pay the water company for its facilities. R. W. Beck estimated the system value using several different measures, including original cost less depreciation, replacement cost new less depreciation, and earnings value, to provide the City with an estimate of fair purchase price for the system.

Through a subconsultant, Morgan Guarantee Trust, R. W. Beck also evaluated the legal prerogatives of the City for the takeover and the methods available for financing the purchase of the system.

Municipalization of Florida Water Services, Inc.

Owner: Florida Water Services Authority

R. W. Beck served as Independent Engineer for the feasibility of the possible sale of the largest privately held water utility in Florida, Florida Water Services (FWS), to the Florida Water Services Authority (comprised of the cities of Gulf Breeze and Milton, Florida). FWS serves over 800,000 accounts in 26 Florida counties. R. W. Beck's services included the preparation of an Independent Engineers (IE) Report that was used in the sale of $500 million in municipal utility bonds. Due to time constraints associated with the planned sale closing date and financing the bonds, R. W. Beck's review was completed in approximately six weeks.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer –provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

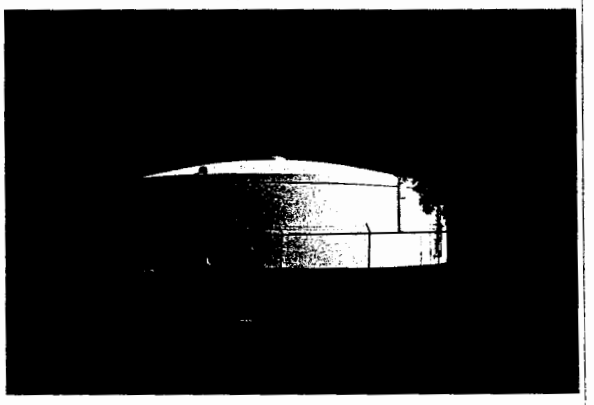
R. W. Beck's principal responsibilities included:

- Developing a detailed accounting of all FWS assets;
- Permit reviews to ensure that all facilities were in compliance;
- Inspections of above ground assets at all 156 FWS systems;
- Conducting a depreciation analysis of all below grade assets (pipes) to ensure that adequate funding had been allocated for system repairs and replacements;

- Reviewing water and wastewater plant capacity data as well as community growth projections in order to determine when additional plant facilities would be required;
- Developing a revised repair and replacement capital budget;
- Developing a revised "growth" capital budget;
- Conducting a organizational and management review;
- Beach scene from Pensacola, Florida; and
- Reviewing operations and maintenance budgets for each utility.

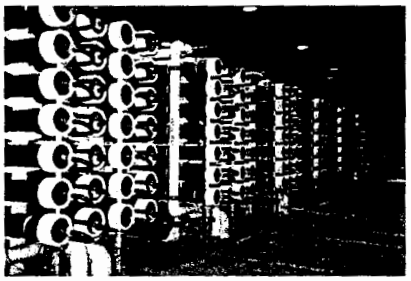
In order to complete the review within the time period allotted, ten teams of two professionals each were utilized to inspect facilities.

Based on R. W. Beck's review, the 5-year CIP for FWS was increased from $150 million – to just under $177 million. R. W. Beck determined that additional capital was needed to account for inflation as well as additional repair and replacement at a number of existing facilities that R. W. Beck determined to be in poor condition.



Utility Regionalization

Owner: San Diego County Water Authority, California



R. W. Beck has worked with the San Diego County Water Authority for over 10 years, beginning with serving as project manager on the feasibility study of whether to acquire the San Diego Gas and Electric Company system as an option to their merger with the Southern California Edison Company. Since then, R. W. Beck has:

Relevance to Your Project

- ☑ Creation of a new municipal
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

- Performed a financial review of debt structure, operating reserves, and risk management.
- Evaluated funding sources for their 10-year Capital Improvement Program.
- Recommended revenue plan restructuring to stabilize income by shifting partially from commodity- to facility-based rates and charges.
- Assisted with development of a major revision to the methodology for calculating and recovering demand charges.
- Assisted in litigation support.

Municipalization of Consumer's Ohio Water Company

Owner: City of Geneva, Ohio

The City of Geneva, Ohio retained R. W. Beck to review the feasibility of municipalizing the existing water distribution assets located within the city, which were owned and operated by Consumer's Ohio Water Company. R. W. Beck also reviewed the physical condition of the Consumer's Ohio water distribution assets located within the City and conducted an appraisal of those assets.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer –provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

The scope of R. W. Beck's feasibility study included estimating the annual operating results of the proposed Water System over the study period (20 years) under a set of reasonable assumptions regarding such factors as the purchase price of the system, start-up costs, water rates, customer growth, and operation and maintenance expenses, among others. Additionally, R. W. Beck was retained by the City to provide an opinion of value, using the Income, Cost, and Marketing approaches to value, of the water distribution facilities located within the City. The results of the study are to be used by the City to determine appropriate sales price for an anticipated condemnation proceeding.

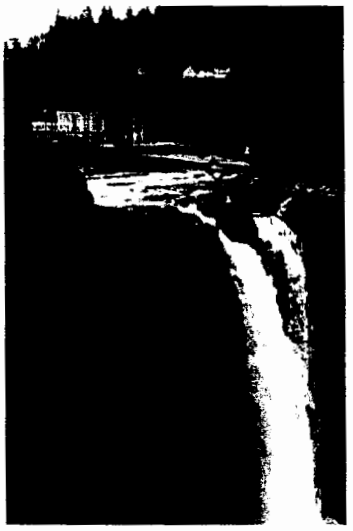
Evaluation of Lake Tapps Municipal Water Rights

Owner: Cascade Water Alliance, Bellevue, Washington

R. W. Beck is working with the Cascade Water Alliance (CWA) to evaluate issues regarding CWA's potential purchase of the retired White River Hydroelectric Project and associated water rights from Puget Sound Energy (PSE). CWA is comprised of eight municipalities and districts that joined together to provide water supply for their current and future water demands. Collectively, the membership of CWA serves approximately 300,000 retail water customers in the region outside Seattle, Washington.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.



The White River Project was built by PSE in 1911. Water is diverted from the White River and transported to the Lake Tapps Reservoir. Lake Tapps is popular for recreational use during the summer months and Pierce County maintains several parks and boat ramp facilities on the lake.

In January 2004, PSE retired the hydroelectric project. R. W. Beck assisted CWA in negotiations with PSE to purchase 61,400 acre feet of water from Lake Tapps for municipal water use. In May 2005, CWA and PSE announced that an agreement had been reached to purchase the water rights and associated land and facilities for $37 million, which was close to the value estimated by R. W. Beck.

R. W. Beck assisted CWA in the following areas:

- Determine the fair market value of the Lake Tapps municipal water right
- Identify the costs and risks to CWA of acquiring the Lake Tapps facilities:
  - Annual cost to operate and maintain the reservoir and diversion structures
  - Future capital expenditures
  - Costs and liabilities associated with owning a recreational lake
  - Compliance with Endangered Species Act and future regulations
  - Water quality issues
  - Site contamination costs
  - Dike safety and retirement costs
- Identify the value of Lake Tapps to other parties:
  - Homeowners – value of lake front property
  - County – property tax revenues; recreational resource
  - Corps of Engineers – needs to operate fish trap facilities
  - PSE – avoid Project dismantlement and remediation costs
- Examine alternative cost sharing agreements between CWA and other beneficiaries of the lake to help pay for lake management costs.
- Work with the CWA Executive Board to develop acquisition strategy and assist in negotiations with PSE and other parties.

CONTRACTOR OVERSIGHT SERVICES

R. W. Beck has extensive experience in contractor oversight services for water and wastewater utilities, including oversight of contracts for concessions, contract operations, design-build (DB), design-build-operate (DBO) and build-own-operate-transfer (BOOT). R. W. Beck's participation in these projects dates back more than 20 years for both our public sector and private sector clients. The projects include water, wastewater, power plant, and solid waste management facilities and they range in capital project cost form approximately $10 million to $300 million. The following project descriptions are representative of R. W. Beck's extensive contractor oversight experience.

Seymour Water Treatment Plant Contract Operations Oversight

Owner: Greater Vancouver Regional District (GVRD)

R. W. Beck is assisting GVRD with using a design-build-operate (DBO) project delivery approach for a new 265-MGD ozonation and filtration plant for its Seymour water source-one of three major sources serving the region around Vancouver. R. W. Beck's role in the project is to provide assistance and guidance to GVRD related to the design/build and contract operations process. Services include refining the project concept, developing performance specifications, developing procurement documents, assisting with the selection of a shortlist of qualified proposers, reviewing proposals, assisting with contract negotiations and overseeing design, construction, commissioning, and operations.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☑ Contractor Oversight
- ☐ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

The Seymour Project is a cornerstone of the GVRD's program to provide high-quality water to the greater Vancouver area and is the largest water treatment plant in North America being developed using the DBO process. The decision to use the DBO is based on careful consideration of water quality, cost, and schedule requirements.

Program Management and Operations Contract Oversight

Owner: Tampa Bay Water, Florida

The Tampa Bay Water Authority (TBW) is a regional wholesale water agency created to develop and operate the water supply for the Tampa Bay region. TBW was created as a regional water authority in 1998 to address pressing regional water supply issues for the 2,000,000 citizens in the greater Tampa area. With limited water supply in the area, and a rapidly growing population, it was critical for the local communities to come together to collaborate – rather than compete – to assure safe and adequate water for everyone in the region.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☑ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support funding
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

R. W. Beck was engaged by TBW shortly after its inception. TBW hired R. W. Beck to perform a comprehensive review of its planned $900 million CIP needed to create an additional 90 MGD of potable water by 2007. The goal of the review was to determine the fastest, least costly means to complete the projects. R. W. Beck's recommendations for how to implement the CIP were approved unanimously by TBW's Board of Directors.

R. W. Beck is now assisting TBW with the procurement and implementation of several projects through public/private partnerships, including a 66 MGD surface water treatment facility and a 25 MGD seawater desalination water treatment facility. We prepared the design-build-operate (DBO) terms and conditions and procurement documents for the surface and groundwater treatment projects. We also assisted with development of terms and conditions and documents for BOOT procurement. Firm responsibilities include the development of risk allocation methodology; risk-based cost impact analysis for DBO procurement; development and assistance with the pre-qualification, evaluation of contractors, and proposals for DBO; and assistance with the negotiations of the DBO procurement. R.W. Beck has full contractor oversight responsibility, including the contractors responsible for contact operations of facilities valued at $250,000,000 and annual operating budgets of $25,000,000. Both of these facilities began commercial operation in 2003 and R. W. Beck maintains responsibility for oversight of the operations contractors.

As part of each OM&M agreement, R. W. Beck and the OM&M contractors are required to perform certain periodic tasks that ensure the proper administration of the contract. These tasks include a semi-annual facility inspection, annual plant survey and report, annual review meetings, independent review of monthly service fee billings, review of annual settlement statement, annual review of revised record drawings, review use of reserve funds, assisting in the reapplication of regulatory permits as well as assisting legal, financial and risk managers with their reviews of annual insurance renewals, financial credit ratings and potential uncontrollable circumstances.

Water Treatment Facilities Contract Operations Oversight

Owner: Seattle Public Utilities (SPU)

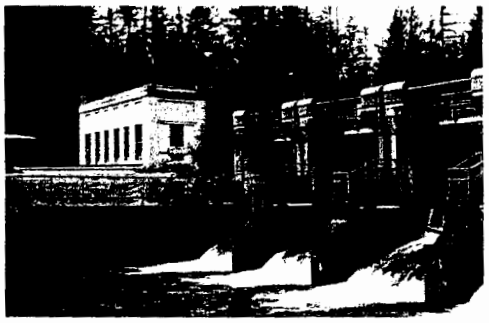
Facing the challenges of complying with more stringent drinking water standards, increasing its water system's flexibility, and minimizing rate increases, SPU elected to develop two water treatment projects — the Tolt Treatment Facilities and Cedar River Facilities — using an innovative design/build/operate (DBO) contracting approach. The DBO approach combines design, construction, and long-term operation of the facility into one contractual agreement. The 120 MGD Tolt Project, which provides roughly one-third of the drinking water for 1.25 million people in the Seattle metropolitan area, is one of the largest water treatment plants in the United States to be developed using this type of contracting. R. W. Beck led a team of consultants supporting SPU with implementing the DBO process and overseeing the operations contractor.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☑ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding.
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

Tolt DBO Procurement and Oversight - SPU entered into a DBO agreement which saved nearly $70 million when compared with a similar project developed using a conventional design/bid/build, City-operated approach. This confirmed SPU's expectations of the potential benefits of DBO contracting — benefits that arise from synergistic thinking between designers, constructors, and operators and from placing long-term responsibility for the facility under a single contract guarantor. The DBO process was initiated in an effort to reduce capital and operating costs, after SPU completed the project's design concept.

The R. W. Beck team conducted intensive workshops with SPU and its legal and financial advisors to develop an overall strategy and approach for the DBO procurement. During the solicitation process, R.W. Beck prepared the RFQ documents, reviewed Statements of Qualifications, and recommended four teams for short-listing. We prepared performance specifications for the facility and established the characteristics and cost of the benchmark facility. We also helped evaluate proposals and provided SPU with support throughout the DBO contract negotiations process. Subsequently, R. W. Beck provided contractor oversight during design, construction, commissioning and operations project phases.



Cedar River DBO Procurement and Oversight - Approximately two-thirds of the drinking water for 1.25 million people in the Seattle metropolitan area originates in Seattle's Cedar River water supply system. SPU retained R. W. Beck to lead a multidisciplinary team to develop and implement the Cedar Treatment Facility at Lake Youngs using an overall DBO approach, with certain DB elements being turned over to SPU for operation. The R. W. Beck team assisted with procurement strategy development, preparation of procurement documents (RFQ, RFP, and technical and performance specifications), the evaluation of proposers, negotiations, and oversight of design, construction, commissioning, and operations.

INDEPENDENT ENGINEERING

Perhaps more than anything else, clients value R. W. Beck's independence. R. W. Beck is an engineering-based management consultant that does not perform major design work; does not provide contract operations services and does not complete design/build projects. Rather, by strategic intent, we are always on the side of the Owner as an advisor and advocate in an oversight role. R. W. Beck's status of Independent Engineer provides the highest value to Nashua and MVRWD because:

- R. W. Beck will **not** compete for design work for Nashua or MVRWD because it is a conflict of interest.
- R. W. Beck **will** provide procurement and contracting expertise to help Nashua and the MVRWD go to the marketplace and find the best value for all the services it might need, including O&M, engineering, and water resource planning.
- R. W. Beck provides high creditability on Wall Street for debt financing for Nashua and the MVRWD.
- R. W. Beck has no contracts with contract operation companies, so it has no conflicts of interest.
- R. W Beck's standing in the marketplace is unique in this regard and is highly valued by our clients.

The following several project descriptions summarize some of R. W. Beck's experience as an Independent Engineer.

Independent Engineering for Financing

Owner: Rhode Island Clean Water Finance Agency

R. W. Beck prepared an Independent Engineer's Report which was included as part of the Official Statement prepared by the Rhode Island Clean Water Finance Agency (the "Agency") and issued as part of the sale by the Agency of $30,000,000 of revenue bonds. The Agency will use the proceeds of the bonds to provide a loan to the City of Cranston, Rhode Island (the "City") which in turn will fund a loan to Triton Ocean State LLC (Triton). The City will lease its wastewater treatment system (the "System") to Triton for a 25-year period and Triton will lease, operate, and maintain the System and design and finance certain improvements (the "Capital Improvements") to the System.

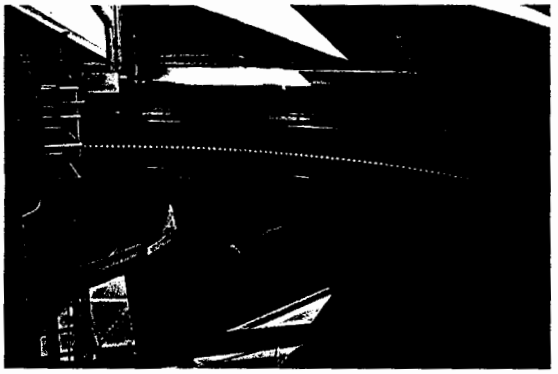
Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support funding
- ☐ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

R. W. Beck's report addressed technical, environmental, and economic matters of interest and concern to prospective bond purchasers including the following matters: the capabilities of the various project participants including the operation and the EPC contractor; the current condition of the existing System; the status of the existing operations and identification of areas of where the System is out of compliance; the terms and conditions included in the operating and construction agreements; the ability of the proposed Capital Improvements to bring the System back into compliance; and the development of projected operating results for the term of the bonds. Following financing, R. W. Beck provided construction monitoring services.

Independent Engineering for Public/Private Partnership

Owner: Camden Water Department, New Jersey



R. W. Beck was retained to serve as independent engineer related to the financing for a 20-year concession granted to a private operator of the Camden, New Jersey water system. The project included a detailed review of the projected operations and maintenance expenses, maintenance and capital funding reserves, staffing, as well as a review of the services agreement. In addition, sensitivity analyses were conducted to address potential fluctuations inherent in long-term services agreements of this type to determine the potential effect on debt service coverage. The firm also performed management and staff interviews of the private operator and prepared a comparative rate analysis of regional utilities with similar characteristics.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

Consulting for Bond Financing

Owner: Guam Waterworks Authority (GWA)

UBS Financial Services, Inc. is R. W. Beck's client during preparation of a Consulting Engineer's Report for GWA. This is the first bond financing project that GWA has undertaken. The proceeds are to be used for capital improvement projects, which are largely required to meet the requirements of a Stipulated Order from the Environmental Protections Agency. This project is ongoing and the size of the bond issue has yet to be determined, but is expected to be approximately in the range of $100 million. Money will be used for a number of activities including improving the water transmission facilities, providing for changes to the chlorination systems, water storage facilities as well as wastewater treatment facilities.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

Independent Engineering for Revenue Bond Financing

Owner: Virgin Islands Water and Power Public

Recognizing the financial, management and other benefits of having a Independent Engineer's report, Virgin Islands Water and Power urged Public Resources Management Group, Inc, to retain R. W. Beck, Inc. The report was prepared to assist in refunding all or a portion of its existing indebtedness. Topics included in the report were: (1) discussion of existing water production and distribution facilities; (2) discussion of the management of the system; (3) projected sales, customers, revenues and expenditures; (4) projecting capital needs; (5) regulatory requirements.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

Independent Engineering in Support of Revenue Bond Financing

Owner: Northeast Maryland Waste Disposal Authority

R. W. Beck was retained to prepare an Independent Engineer's Report for this project, located on an 8-acre site in the City of Baltimore, Maryland, and designed to process approximately 200 wet tons per day of sludge from Baltimore's Back River Wastewater Treatment Plant. Its annual design capacity is approximately 55,000 tons. The facility incorporates sludge composting technology which produces a marketable compost material used as a soil conditioner.

R. W. Beck was retained by the Northeast Maryland Waste Disposal Authority to provide Independent Engineering Services in support of revenue bond financing for proposed capital improvements to the facility. Specific services included review of:

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☐ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

- Contracts between the City, the Authority, the Company, and other participants.
- City's estimates of historical and projected quantities of sludge generated by the Wastewater Treatment Plants.
- Company's Capital Improvement Program (CIP).
- Status of operating permits and approvals.
- Actual and projected levels of facility production and operation.
- Historical operational and maintenance expenses and the method used to develop future expenses.
- Regional market for compost sales.
- Review of project confirming that the CIP was completed.

CAPITAL IMPROVEMENT PLAN MANAGEMENT

Often, major utilities require an independent review of their capital improvement planning in order to maximize the leverage of the limited availability of capital; prioritize needs to assure adequate service levels; and to stabilize rates. R. W. Beck is regularly engaged by utility clients to provide an Independent Engineer's view of planned capital improvements. R. W. Beck views a utility's CIP as a business system, which combines important organizational, financial, and political issues together into an integrated action plan. Clients find high value in R. W. Beck's independent reviews, because of our ability to prioritize their needs and define ways to save them money.

The following project descriptions are representative of R. W. Beck's experience in capital improvement plan management.

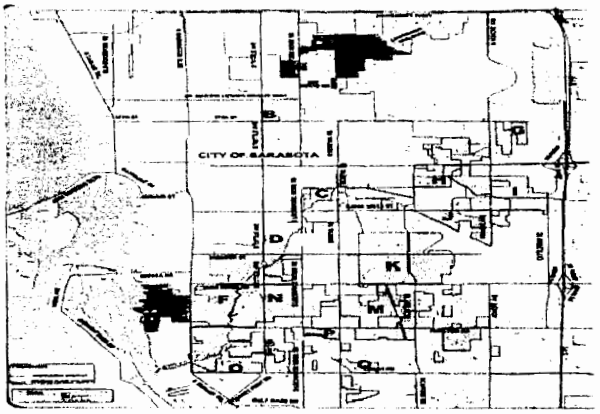
Review and Recommendations of Five-Year Capital Improvements Plan (CIP)

Owner: Sarasota County Utilities, Florida

As a result of significant growth in the Sarasota County Utilities (SCU) customer base, the acquisition of several private water company assets, and requests for the development of various specific projects by the Sarasota Board of County Commissioners (BCC), SCU found itself in the midst of having to critically evaluate its 5-year CIP. Due to limited financial resources, SCU performed a critical evaluation of which projects currently included in their CIP must be developed as planned, deferred or put on hold indefinitely, as well as determine the appropriate funding level for these various projects.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.



"R. W. Beck Conducted an Independent Analysis of Our CIP That I Use As A Bible".

Rick Howell, Utilities Director.
Sarasota County, Florida

R. W. Beck was retained by SCU to work with County staff to prioritize the various projects currently included in SCU's 5-year CIP and recommend appropriate funding levels for those projects that must be developed to meet the needs of the community. R. W. Beck staff worked with a broad internal stakeholder group including staff from various County departments/business units (utilities, stormwater, public works, real estate and finance) to determine the appropriate CIP funding level going forward. As part of the project, R. W. Beck staff reviewed County data and information supporting the various proposed projects, holding one-on-one meetings with staff from the various business units, and worked to develop consensus as to the appropriate funding level and set of projects to be included in SCU's 5-year CIP.

R. W. Beck provided the following services: CIP review; funding recommendations; and project evaluation.

Water Plan 2020

Owner: County of Kauai Department of Water, Hawaii

R. W. Beck is working with the Department of Water on the development of a 20-year comprehensive water plan to establish a viable long-range integrated capital improvement plan for the Department's service area on Kauai. The primary focus of this effort is balancing future water needs with water affordability on the island. Components of the study include projected population growth on the island, assessing water system vulnerability and appropriate service levels, balancing financial planning requirements with rate adjustments, and addressing a number of policy-related elements. The project includes development and use of 13 hydraulic analysis models ranging in size from several hundred to several thousand pipes. These models all include multiple sources, reservoirs and pressure zones. An important part of the project centers on public involvement and the development of a strategy that will enhance the public's understanding of the Department's goals, operational requirements and related costs.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☐ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

In conjunction with development of a water master plan, R. W. Beck facilitated multiple workshops with the Board, senior management, key staff, and other opinion leaders. The purpose of the workshops was to prioritize strategic objectives for the Department and identify potential organizational enhancements, performance metrics, and process improvements. Throughout these work sessions, team members learned ways of enhancing their listening, communication, and strategic skills. All-hands meetings were held during the planning process to seek input and feedback from staff and to gain endorsement of strategic issues, goals, and actions. Core planning team members also engaged board members to solicit input and feedback.

The results of the project will include a 20-year capital improvement plan and a corresponding financial model that will be a tool for the Department to evaluate future operating and capital expenditure scenarios. These scenarios will be evaluated in a rate model to determine rate level impacts. Rate options will be evaluated, including reviews of agriculture rates and facilities charges.

Capital Improvement Program Review

Owner: San Francisco Utilities Commission, California

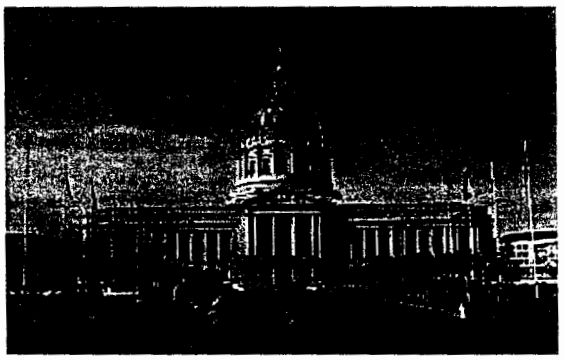
The San Francisco Public Utilities Commission (SFPUC) developed a proposed $3.6 billion Capital Improvement Program (CIP) to be implemented over the next 13 years. The proposed CIP represented a tenfold increase in the annual project delivery rate over the SFPUC's recent activity.

R. W. Beck conducted an independent engineering review to verify the validity of the proposed capital projects, assess the SFPUC's capabilities to implement the program, and review the financial assumptions regarding bond funding. Our project work was then reviewed and coordinated through a Blue Ribbon Panel appointed by the City of San Francisco.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

This review considered three aspects of the proposed CIP. The first was an independent process review of the validity of the individual projects that formed the CIP including the sizing and need for the improvements. The second aspect was the process used to select among competing alternatives. The final consideration was the scheduling and prioritization of projects. The SFPUC's implementation plan and an independent opinion of its ability to successfully implement the program in a timely and efficient manner were reviewed. The SFPUC's Long-Range Financial Plan was also reviewed.



A Blue Ribbon Panel was convened to examine the CIP review prepared by R. W. Beck. R. W. Beck's final report received a very favorable reception from the Blue Ribbon Panel and the $3.6 billion CIP was approved by the SFPUC Board of Commissioners. Approval to sell bonds to finance the CIP was received from the voters in November 2002. As a result of R. W. Beck's recommendations, a new Assistant General Manager position has been approved and hired, and organizational changes have been implemented. In a May 2002 letter to the PUC, the Blue Ribbon Panel commended R. W. Beck's analysis of the proposed CIP. The letter states, "The Blue Ribbon Panel finds that the R. W. Beck work is very competent, comprehensive, rigorous, accurate and on target for this stage in the program."

Capital Replacement Planning Study

Owner: Central Arizona Project (CAP)

CAP is a multi-county water conservation district that supplies untreated Colorado River water to the cities of Phoenix and Tucson as well as numerous other municipalities, irrigation districts, and private water companies in central Arizona. The CAP system includes 330 miles of lined canals, pumping plants, underground siphons and tunnels, and a regulatory storage dam and pump generation facility that was completed between 1975 and 1994.

Relevance to Your Project

- ☑ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

CAP retained R. W. Beck to prepare a capital replacement planning analysis to estimate the future major capital renewal and replacement costs that CAP is likely to face in the future. As a key element of this work, R. W. Beck developed an inventory database of the CAP system facilities, their original and replacement costs, condition assessment, and expected useful lives. This database was organized by type of facility according to repair requirements and expected useful lives for use with R. W. Beck's Replacement Planning Model™ to estimate annual capital replacement funding requirements for a 50-year period. The results of the study were presented to CAP's Board of Directors and were used to help evaluate the adequacy of current capital reserve funds and to assess whether related property taxes and water rates could be reduced. A final report was delivered to CAP in April 2002.

R. W. Beck was retained in 2004 to update the Replacement Planning Model with more recent data and updated assumptions, and to provide training of CAP staff in the use of the Replacement Planning Model. A key strategy of the 2004 update is an expanded role of the client in completing the update. To facilitate the client's long-term use of the replacement planning model, R. W. Beck provided model training up front, so that the client develops the ability to operate and make necessary adjustments to the model.

Infrastructure Master Plan

Owner: Portland Water Bureau, City of Portland, Oregon

R. W. Beck is managing this $1 million infrastructure master plan. The purpose of the plan is to address future Bureau issues concerning supply, conveyance and the role the Bureau will maintain or expand within the region as a major water supplier. An extensive planning process was developed to ensure Bureau consensus and involvement in the decision development and the ultimate Capital Improvement Program. We also included regional stakeholders in the planning effort to understand and incorporate their issues and concerns.

The Master Plan will be used as a tool for future contract negotiations with regional water purveyors and also to provide future scenarios to meet changes resulting from growth and regulatory impacts. The project includes development of a capital improvement program, a process for future CIP planning, a decision process for CIP prioritization, and an infrastructure resource model.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☐ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

Assessment of Water/Wastewater Infrastructure Capital Costs

Owner: Confidential Client, New Hampshire

R. W. Beck was retained by a Confidential Client to develop a capital improvement plan (CIP) for water and wastewater infrastructure improvements necessary to provide year round service to the landmark Mount Washington Hotel and Resort complex. Our efforts included evaluation of the existing infrastructure, the fast-tracked identification of the necessary improvements, development of a regulatory approval strategy and identification of the technologies that would permit cost effective year-round operation of the water and wastewater utilities in an extreme environment. Detailed estimates of costs of various remedial options were prepared for consideration.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☐ Independent Engineer – provided third party validation of utility management in support funding.
- ☑ Capital Project Implementation Support
- ☑ Project Engineering – Planning, CIP prioritization, design or construction management.

RATE STUDIES AND FINANCIAL ANALYSIS

Another important consideration for water utilities, particularly in the case of the City of Nashua and the MVRWD, is cost-of-service analyses and rate determination. Naturally, given its utility management consulting pedigree, R. W. Beck offers deep experience in all aspects of rate-making consulting. Some examples follow.

Sewer and Stormwater Rate Study Review

Owner: St. Louis Sewer Rate Commission, Missouri

Relevance to Your Project

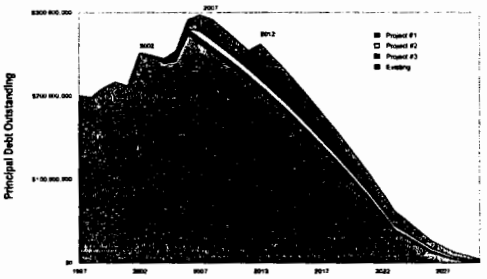
- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

In 2002, the firm was selected to represent the St. Louis Sewer Rate Commission (the Commission), a newly created Commission consisting of 15 members, to review and recommend changes in sewer rates. As a result of historical controversy and court actions regarding rate setting, among other things, the Commission was created as a result of a voter referendum to make recommendations regarding the rates, charges and fees of the St. Louis Metropolitan Sewer District (the District) and to minimize or eliminate controversy. Prior to creation of the Commission, the rates, charges and fees of the District were established by the Board of Trustees of the District. The District provides sanitary sewer service and stormwater service to approximately 425,000 residential and non-residential customer accounts within an area of approximately 524 square miles, including the City of St. Louis, Missouri and most of the County of St. Louis. The District operates 9 treatment plants that process approximately 320 MGD; maintains nearly 9,000 miles of sewers and 260 pump stations and employs over 800 people. Many of the non-residential industrial customers are large users of sewer service and are "Fortune 500" entities which include aerospace technology, automotive manufacturing and assembly, bottling and brewing, chemicals and medical supplies, to name but a few.

To meet its projected capital needs of approximately $3.5 billion, the District initiated a financing plan that calls for the issuance of large amounts of indebtedness, subject to approval of local voters, and the raising of user fees (rates). In its filing before the Commission, the District applied for user fee increases that would increase the average monthly bill for a single family residence from 67 percent to 191 percent during a three-year period, subject to the level of indebtedness authorized by the voters. R. W. Beck personnel performed a review of the District's filing to ensure that industry standards were recognized, user fees (rates) were established at reasonable levels and were established equitably among customer classes and customers within a class; and that the goals and objectives of the Commission were being achieved. As a part of the Commission's review of the District's filing, procedural schedules were established, interventions by customers and groups of customers were granted, discovery activities were conducted, testimony was heard and cross examined, and briefs and reports were filed. Unlike many governmental rate setting processes, the Commission's formalized rate setting process provided a structured forum for all parties to be heard and questioned and for a record to be created upon which findings of fact and recommendations can be made.

User Rate Impact Study

Owner: City of Woonsocket, Rhode Island



R. W. Beck personnel worked with the City to develop a public-private partnership strategy, including a long-term analysis of capital financing options and user rate impacts. R. W. Beck staff led the financial review of proposal finalists for the long-term DBO engagement and a developed a cost-risk methodology to determine the financial implications of various risk allocations. R. W. Beck personnel also determined the ability of the proposers to provide financial considerations and competitive service fees, while maintaining a stable and affordable user-rate structure.

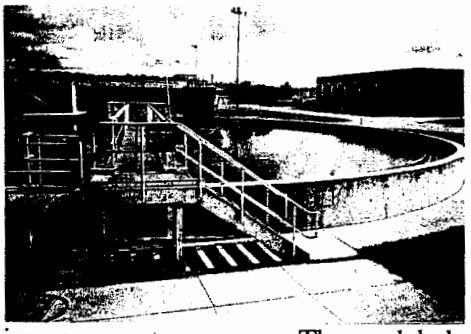
Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

Integrated Financial Planning Model

Owner: City of Tempe, Arizona

R.W. Beck personnel developed a comprehensive financial model for the City of Tempe that integrates the City's capital improvement program with its budget and revenue management systems. The spreadsheet-based model develops 20-year budget and rate projections for the City's drinking water, wastewater, and irrigation systems. The model allows the City to run an infinite number of "what if" analyses to determine the budgetary and user rate impacts associated with alternative capital improvement programs. The model also facilitates rate sensitivity analyses at the customer class level to determine appropriate rate making policy for the City.



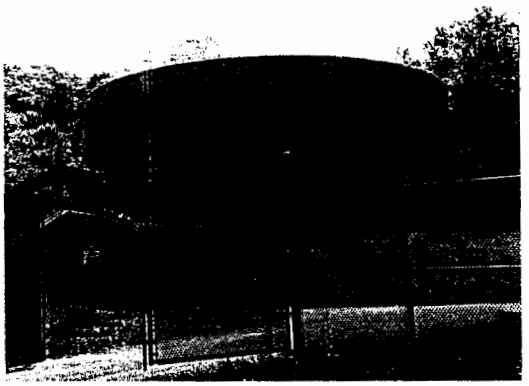
Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

Water Wheeling Rate Strategy Development

Owner: Metropolitan Water District of Southern California

R. W. Beck personnel assessed the Metropolitan Water District's proposed 'wheeling' (moving) rate methodology. Specific tasks included conducting a comprehensive review of the District's wheeling rate proposal, analyzing the utility's budget, capital improvement plans, existing rate structures, and other documentation in order to deem the rate-setting methodology appropriate and supportable. The rate methodology was analyzed and reviewed based on general terms of fairness and equity, as well as its ability to recover all fixed and variable costs associated with the wheeling of water through the District's vast distribution system.



Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

Financial Consulting to Water Utilities

Owner: U.S. Department of Agriculture

Under a contract with the Department's 'Technitrain' Program, R. W. Beck personnel oversaw and provided financial management and rate-setting assistance to more than 200 small water, wastewater, and solid waste utilities. This assistance included the analysis and modifications of user rate structures for water utilities that were either under regulatory compliance orders; applying for federal financial assistance; or both. Most of these assignments were from the ground up, requiring comprehensive cost-of-service analyses, budget development, infrastructure financing plans, and short-term/long-term rate structure development.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

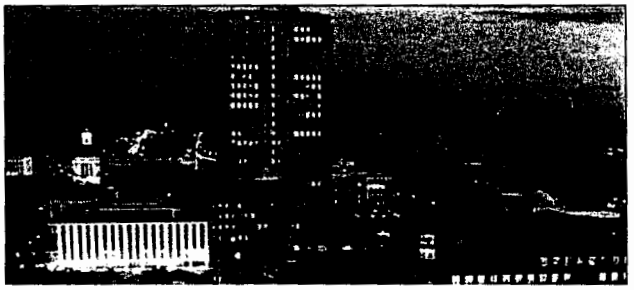
Comprehensive Review of Water and Sewer System Rate Studies

Owner: City of Tallahassee, Florida

Since 1966, the firm has provided consulting services to the state's capital City in the areas of utility rates and utility finance. The City owns and operates a municipal electric generation, transmission and distribution system; a natural gas distribution system; a potable water supply and distribution system; and a wastewater treatment, collection and disposal system. The City provides utility services to customers located inside the City limits and in the surrounding unincorporated urban fringe.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.



The firm provides consulting services which include advice, counsel, direction and training to the City for preparation of cost-of-service studies; design of cost-based rates using generally accepted rate-making practices and American Water Works Association recommendations; development of impact fees recognizing industry practices, regulatory guidelines and judicial rulings; and design of cost-based rates and charges for fire protection service and miscellaneous charges for customer requested services. Additional services performed included the attendance and participation in public hearings and meetings with developers and builders, and the preparation of necessary certificates required by the City's applicable revenue bond resolution.

Water Rate Study

Owner: Department of Water Supply, County of Maui, Hawaii

R. W. Beck is preparing a comprehensive water rate study for the Department of Water Supply. The study will determine revenue requirements for a five-year study period and will include a cost-of-service study for the test year, fiscal year 2006. In addition, several rate design options will be evaluated including a potential change to customer classes, surcharges for pumping and drought rates.
R. W. Beck will be working closely with several agencies involved in the
rate study process including the Department staff, the Board of Water Supply, the County Council, and an ad hoc stakeholders committee.

Relevance to Your Project

- ☐ Creation of a new municipal utility
- ☐ Contractor Oversight
- ☑ Independent Engineer – provided third party validation of utility management in support of funding
- ☑ Capital Project Implementation Support
- ☐ Project Engineering – Planning, CIP prioritization, design or construction management.

R. W. Beck has chosen to complement its engineering-based management consulting expertise on this project by proposing Tetra Tech as a subcontractor. Based on its considerable directly related experience, Tetra Tech will be responsible for hydraulic modeling and related engineering called for in Task 6 of your RFP and all work associated with Security Planning. Tetra Tech would also be available to assist with other water system engineering that might be required by the client as needs arise.

TETRA TECH, INC.

Tetra Tech, Inc. is a leading provider of consulting, engineering and technical services. With almost 9,000 associates located in the United States and internationally, the company supports commercial and government clients in the areas of resource management and infrastructure. Tetra Tech's services include research and development, applied science and technology, engineering design, construction management, and operations and maintenance.

Tetra Tech Company Facts

- Worldwide provider of consulting engineering and technical services
- 10th largest American engineering firm
- Employees: Almost 9,000
- Revenue: Annually $1.1 billion

Tetra Tech provides services to protect and improve the quality of life through responsible resource management and sustainable infrastructure. The company continuously adapts its service to provide for society's changing needs and to meet customer expectations.

Tetra Tech seeks clear sustainable solutions that improve the quality of life. Taking this responsibility seriously, our work often places us at the center of our clients' challenges regarding environment, safety, and sustainability. These challenges involve the opinions of many stakeholder groups from the public, industry, and government who seek our advice on complex issues. To provide solutions to these challenges, Tetra Tech believes in maintaining our technical objectivity, and as a policy, we do not own individual technologies. Tetra Tech will support R. W. Beck in the areas of the project related to facilities engineering, including hydraulic modeling and review of security plans, vulnerability analysis, and emergency response plans.

SECURITY PLANNING AND VULNERABILITY ANALYSIS

Tetra Tech is exceptionally qualified to conduct vulnerability assessments at water utility facilities because our company has expensive experience in the design of such facilities. Tetra Tech is ranked as the 10th largest design firm in the United States and 1st in Water Supply, Treatment and Desalination and Transmission Lines and Aqueducts (*Engineering News Record*, Top 500 Design Firms Sourcebook 2005). Our staff is experienced (and certified where applicable) in the use of various vulnerability and risk methodologies including: the Risk Assessment Methodology for water utilities (RAM-W) and Risk Assessment Methodology for chemical facilities (RAM-CF) developed by Sandia National Laboratories, vulnerability self assessment tool (VSAT), and other methodologies developed by industry groups, DOD, DOE, and private parties.

Since September 11, 2001, Tetra Tech has been assisting numerous water utilities evaluate the risks to the security of water supply systems from potential terrorist actions or other emergency situations, in compliance with the Public Health, Security and Bioterrorism Preparedness and Response Act. This work has been performed for clients such as Boston, Massachusetts; Worcester, Massachusetts; Brookline

Massachusetts; Shreveport, Louisiana; Little Rock, Arkansas; Westminster, Colorado; and, Flagstaff, Arizona, among others. Tetra Tech has performed security assessments following the methodology developed by Sandia National Laboratories.

The following project descriptions are representative of Tetra Tech's in-depth security planning experience with water utilities.

Water Vulnerability Assessment

Owner: Boston Water and Sewer Commission

Tetra Tech performed a water systems vulnerability assessment for the Boston Water and Sewer Commission (BWSC), a large water supplier in Massachusetts that serves a daily population of over 1 million people. The distribution system consists of over 1,000 linear miles of pipe with numerous connections to neighboring towns, all of which are serviced by the Massachusetts Water Resources Authority (MWRA), providing an average of over 80 MGD of water to BWSC's water system. Also included in the assessment were critical MWRA facilities such as pump stations, water storage tanks, numerous interconnections and master meter locations that supply the BWSC system, as well as, the inspection and assessment of a high pressure fire system pump station which serves the downtown. The vulnerability assessment resulted in a summary report documenting the susceptibility of the system to biological, chemical, physical, and "cyber" attack and recommended facilities improvements, modifications to operating and maintenance practices and additional training needs. Tetra Tech also conducted a review of the BWSC's Water Operations Emergency Response Plan resulting in numerous recommendations for additional improvements.

Water System Vulnerability Assessment

Owner: City of Worcester, Water Filtration Plant, Massachusetts

Tetra Tech performed a water systems vulnerability assessment for this large water supplier in Massachusetts. The water system serves a population of 200,000 with a 50-MGD treatment plant. The water system included thousands of linear feet of water main, several water intakes, 10 reservoirs, and several pumping stations. The vulnerability assessment process Tetra Tech followed included: meetings with key water systems staff, review and analysis of plans of the system, and inspection of the system facilities including the control systems. Based on the findings of our interviews, plan reviews, and system inspections, a summary report was prepared documenting our observations regarding the susceptibility of the system to biological, chemical, physical, and "cyber" attack. The report presented recommendations to improve certain facilities and changes in operations and maintenance.

Water System Vulnerability Assessment

Owner: Town of Brookline, Massachusetts

Tetra Tech conducted a water system vulnerability assessment and developed an emergency response plan for the Town of Brookline, which owns and manages a water distribution system that delivers potable water to a population of 60,000. The water system includes two independent distribution systems that are interconnected for emergency purposes. Tetra Tech was responsible for evaluating the Town's distribution system and key components' exposure to potential threats, as well as the infrastructure overall condition to determine the criticality and vulnerability within the system. Phase two of the project included assessing the Town's emergency response readiness and operations and developing an emergency response plan based on the recommendations from the vulnerability assessment.

WATER SYSTEMS PLANNING, DESIGN AND CONSTRUCTION

Tetra Tech completes more water system design work than anyone, according to trade journal, Engineering News Record. Tetra Tech is highly experienced in all aspects of water system engineering, including: water supply, distribution and storage; water system analysis and planning; and water system vulnerability and security assessment.

Table 1-1, at the end of this section, summarizes Tetra Tech's recent water systems experience. Brief project descriptions, which are representative of their water system engineering experience follow.

Comprehensive Review of the Pennichuck Water System

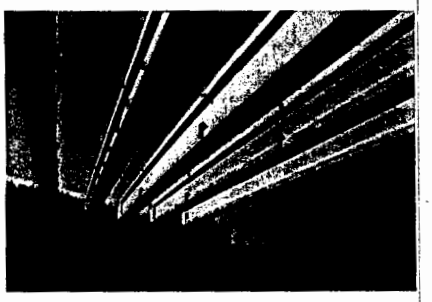
Owner: City of Nashua, New Hampshire

Tetra Tech conducted a comprehensive review of the Pennichuck Corporation, the largest investor-owned water utility holding company in New Hampshire. Pennichuck provides water to the City of Nashua and 22 other communities in southern New Hampshire and Massachusetts. This was a critical evaluation for the City of Nashua because Pennichuck had entered into an agreement to merge with Philadelphia Suburban, also an investor-owned utility company headquartered in Pennsylvania.

The City is concerned about the volume and quality of water available to its citizens and businesses. Tetra Tech is providing the overall project management and is responsible for the assessment of the water supply system, distribution system, safe yield, future supply and demand, capital improvements and watershed management components of this study. The project team is investigating Pennichuck Corporation's assets and liabilities, Philadelphia Suburban, and outlining the regulatory/legal review. Tetra Tech is provided recommendations to the City of Nashua related to possible acquisition of the water company.

Utilities Design and Engineering for the Walnut Hill Water Treatment Plant

Owner: Massachusetts Water Resources Authority



Tetra Tech is providing design and construction engineering services on several components of the 450-MGD Walnut Hill Water Treatment Plant. Services to date have included assessment and design of an alternate water distribution system that will supply potable and fire protection services to Marlborough, Southborough, Northborough and the Westborough State Hospital.

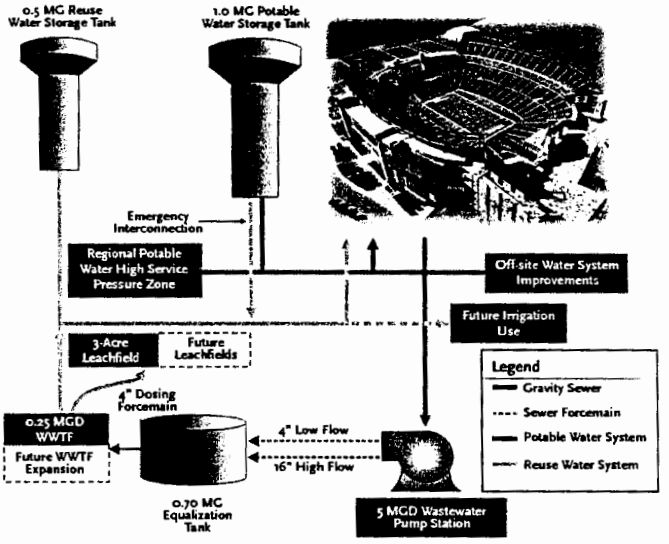
Tetra Tech's water distribution system design provided for five miles of water main ranging from 8 inches to 16 inches, including a bridge crossing. In addition, Tetra Tech conducted a feasibility assessment and designed a temporary 3,500-(gpm) water booster station to provide the sole source of supply for the Town of Northborough and the Westborough State Hospital. As part of the Walnut Hill project, Tetra Tech also designed a 1,200-gpm sanitary sewer pump station.

Final Design and Permitting, New Football Stadium and Economic Development Complex

Owner: New England Patriots, Foxborough, Massachusetts

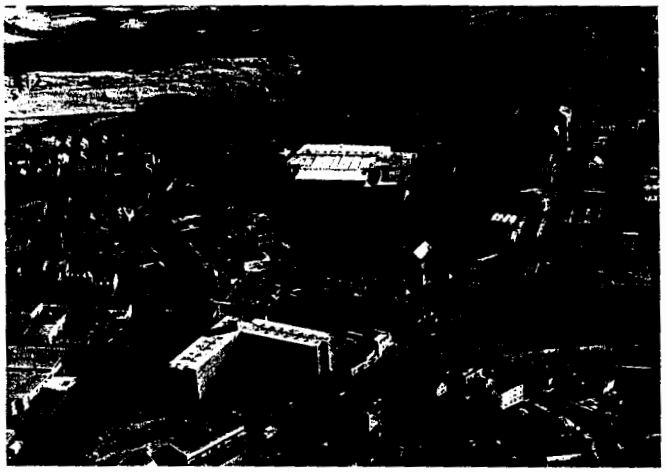
Tetra Tech was responsible for the planning and design of an innovative water supply system for the 68,000-seat Gillette Stadium. The water supply improvements include a new 1.0-MGD elevated water storage tank, a water reuse system, approximately 10,000 linear feet of 8- to 16-inch water distribution mains and a groundwater irrigation supply development.

Tetra Tech assessed the existing 0.5 MGD elevated water storage tank at the site and proposed a new 1.0-MGD elevated water storage tank, using a design-build procurement approach. This approach allowed bidders to propose alternative tank designs, which helped determine the most cost-effective solution for the client.



Blue Hills Covered Storage EIR/Conceptual Design Project

Owner: Massachusetts Water Resources Authority (MWRA), Quincy, Massachusetts



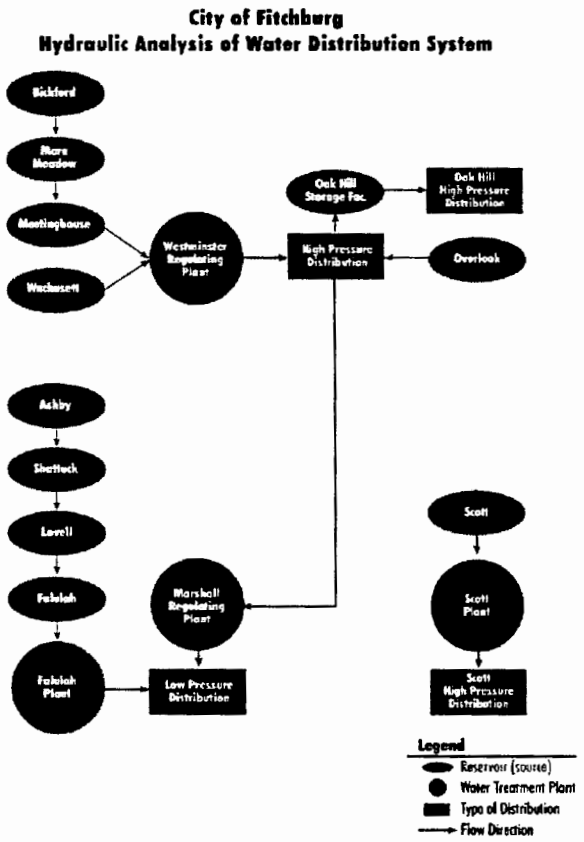
Tetra Tech is managing the evaluation of alternatives to provide 20 million gallons of storage for the Southern Low Service Area of the MWRA's Metropolitan Boston water distribution system located at the Blue Hills Reservoir in Quincy. The project includes siting of storage facilities; conceptual design of the storage facilities and three to five miles of large diameter connecting water main; preparation of an Environmental Notification Form (ENF); and Environmental Impact Report (EIR), if required. Tetra Tech's approach to this project will result in a plan that satisfies the MWRA's storage needs and also assures broad stakeholder acceptance of the project.

Tetra Tech is also providing Owner's Representative services for the proposed design-build procurement of the Blue Hills Covered Storage Project.

WATER SYSTEMS ANALYSIS AND PLANNING

Hydraulic Analysis of the Water Distribution System

Owner: Department of Public Works, City of Fitchburg, Massachusetts



Tetra Tech conducted a hydraulic analysis of the city's complex water distribution system, a multiple source, multiple pressure zone system that serves approximately 40,000 people. The project included population and water user projections for a 50-year planning period, an assessment of the existing water system, an evaluation of alternative sites for new treatment facilities, a computer analysis of the distribution network, and a determination of storage needs, as well as the preliminary siting of facilities.

Using this information, the city was able to identify short- and long-term system requirements and develop an $11-million, 5-year capital improvement program. Tetra Tech's master planning services included the identification of system modifications that would be necessary if the water supply required filtration, such as construction of a new water treatment plant, water storage tanks, booster stations; and replacement of transmission pipes, as well as pipeline cleaning and lining.

Reuse Plan for the South Weymouth Naval Air Station Base

Owner: South Shore Tri-Town Development Corporation

The South Shore Tri-Town Development Corporation is implementing a Reuse Plan for the South Weymouth Naval Air Station, which is located in the towns of Weymouth, Abington, Rockland, Massachusetts. A consultant team led by Tetra Tech was selected to implement the development program.

Water supply and wastewater infrastructure impact issues will be highlighted in the Draft Environmental Impact Report (DEIR) for the Base Master Plan. These considerations will include:

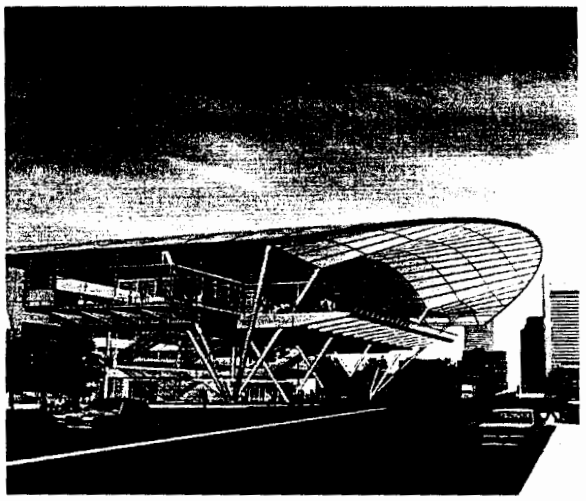
- development of an overall water budget for the site, balancing the water supply, sewage discharge and stormwater recharge of the development
- creation of measures to reduce water consumption and minimize irrigation requirements
- recycling of treated wastewater (if on-site treatment facility) for non-potable water uses, including irrigation.

Tetra Tech is committed to securing the permitting, building the infrastructure, and advancing the project on-time; in short -creating value for the property.

Work on the water system planning includes assessment of the existing system and modeling future development scenarios. WaterCad modeling software was used to assess future development scenarios based on a calibrated existing system model. The existing system model was developed from distribution system maps and pressure and flow data collected from hydrant flow data.

Infrastructure/Utilities Services for the Boston Convention and Exhibition Center

Owner: Massachusetts Convention Center Authority



Under subcontract to HNTB/Rafael Vignoly Architects, Tetra Tech provided infrastructure planning, permitting, design and construction-related services for the $700-million convention center.

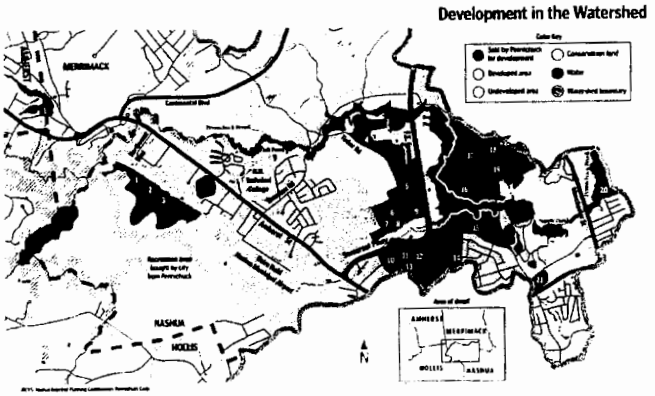
Tetra Tech designed the convention center's on-site water, stormwater and wastewater utility systems. Utilities include relocation of a large-diameter potable water transmission main, separation of combined sewer systems adjacent to the project, and construction of a 72-inch storm drain and outfall to handle drainage from the facility's 40-acre roof – the largest roof structure in New England. Tetra Tech was responsible for hydraulic modeling, detail design and preparation of construction bid packages and construction services for these improvements.

WATERSHED AND WATER RESOURCE MANAGEMENT AND PROTECTION

Tetra Tech has provided watershed resources planning support to public and private sector clients throughout the United States since 1966. Tetra Tech's reputation as national leaders in the water resources arena was solidified in the early 1980's when they established the Water Resources Center (Center) and were awarded the first in a series of national watershed assessment and management contracts with USEPA's Office of Water. For over 20 years the Center has been USEPA's prime contractor in support of their watershed and water quality programs. In addition to their national role in researching and developing watershed management tools and practices, the Center has been asked by other federal agencies (e.g., Army Corps of Engineers), more than 40 states, and numerous local and municipal to provide technical assistance in designing and implementing watershed management programs and plans for their waters. In response to these requests, Tetra Tech's Water Resource Center has grown from a core staff of 40 professionals in 1992 to more than 300 professional scientists and engineers in 2005.

Tetra Tech has been able to recruit and retain national experts in all facets of watershed and water quality studies. Their ability to encourage these experts to retain largely project-based technical roles ensures that our clients get what they pay for and that our staff is mentored by the best in the business. As an example, Dr. Leslie Shoemaker has been with Tetra Tech for 14 years. Dr. Shoemaker is a nationally recognized expert in watershed management and water resources modeling and her advice is oft-requested by public and private entities across the United States. For example, in 2002, when a large

group of academic researchers based at the University of California at Davis, along with federal and state agencies, were looking for help to identify and design an integrated approach to developing planning level models and a watershed plan for Lake Tahoe, they specifically requested Dr. Shoemaker's involvement and advice. Dr. Shoemaker is currently leading a team of modelers and scientists (including Tetra Tech staff) as they develop a highly innovative and visible watershed-planning model that will be used to plan future activities in the watershed.



Tetra Tech's Water Resources Center is the recognized leader in Watershed Protection by USEPA.

Our professional experience has resulted in an unmatched knowledge base built from our direct involvement in many related projects and key watershed management components. This comprehensive knowledge base provides the resources and technical foundation for an effective evaluation of any existing or proposed water resources protection program for the community-owned water utility in Nashua.

The following summarizes some of our key technical experience in resource management and protection planning:

- **Watershed Management.** Watershed management is the organizing framework promoted by USEPA, U.S. Army Corps of Engineers, and other federal and state agencies. We have supported USEPA 's writing and training on the guiding principles of watershed management and the technical procedures needed to implement it. Recently we wrote the new Watershed Handbook for USEPA, that provides detailed guidance on watershed management procedures, technical analysis, and implementation and tracking. In addition, the guidance explains how to comply with the nine elements of USEPA's recently released 319 guidance.
- **Forest Management**. We have evaluated the impacts of forest harvest, forest fires, and forest road management on water quality conditions for such high profile watersheds as Lake Tahoe. Though our involvement in developing the forestry guidance for the Nonpoint Source Program, we maintain an inventory of the latest research into management techniques and effectiveness.
- **BMP Tools.** We have also developed tools to assess management practices, in more detail than the traditional percentage reductions used in so many studies. The Integrated Stormwater Decision Support Framework (ISMDSF), funded by the USEPA ORD NERL Edison Laboratory, provides a new technique for predicting the impact of management on a watershed scale. This system allows us to evaluate changes in hydrology and pollutant loading by modeling the physical features of management practices. This integrated decision-support system provides the needed link between management action, source loading, stressors, and water quality endpoints. Ultimately this system will provide tools to optimize watershed management activities to meet identified water quality goals.

The following are sample watershed management planning projects for protection of water supplies. All of these projects are fundamentally based on watershed protection strategies that include protection and restoration of environmental resources.

Watershed Protection Plan

Owner: Massachusetts Water Resources Authority, Boston, Massachusetts

Tetra Tech completed watershed protection plans for the watersheds of the Wachusett and Quabbin Reservoirs, and the Ware River, which supply drinking water to more than 2.5 million people in the Boston Metropolitan Area. The goal of this project was to develop a comprehensive program to assist the MWRA and MDC in complying with the USEPA Surface Water Treatment Rule. The project characterized the watersheds and identified and prioritized existing and potential threats to water quality. It also involved an assessment of the relative severity of these threats and the development of protection plans to prevent future contamination of the water supplies. The final plans contained prioritized, comprehensive strategies to protect the watersheds, including local initiatives, increased staffing, stringent monitoring of water quality, structural controls, and the acquisition and/or further protection of sensitive watershed lands. The project required coordination with federal, state, regional and local agencies, as well as the 26 watershed communities. The plans were instrumental in USEPA's landmark decision to grant the MWRA a bare waiver from the filtration requirement of the Surface Water Treatment Rule (SWTR) under the federal Safe Drinking Water Act (SDWA).

Protection and Management of Water Supplies

Owner: Orange Water and Sewer Authority, Carrboro, North Carolina

Tetra Tech has conducted five projects for OWASA supporting protection or management of their water supplies for the Towns of Chapel Hill and Carrboro. Work has included a watershed management study for each primary drinking water supply (reservoir and watershed data analysis; linked watershed and lake response modeling; buildout analyses; evaluation of best management measures); stakeholder facilitation and outreach for the Cane Creek Reservoir planning effort; development of a targeted land acquisition model for the Cane Creek watershed; evaluation of the causes of increased treatment problems due to raw water quality and the opportunities for inlake management; and a compilation of public comment on acquisition of an active quarry for additional water supply storage.

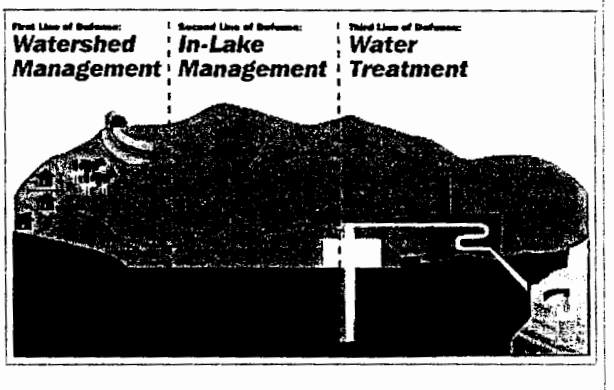
Watershed Protection

Owner: Land Use and Environmental Services Agency, Mecklenburg County, North Carolina

Tetra Tech has conducted three projects for Mecklenburg County supporting watershed protection including downstream water supplies. Work has included HSPF and SWAT watershed modeling, HEC1-HECRAS modeling, stream channel stability risk assessment, build-out analyses, evaluation of existing regulations, low impact development (LID) design examples and outreach, BMP evaluation, design performance standard evaluation, development and application of a Site Evaluation Tool (SET), cost analysis of alternative management options and scenarios, stakeholder facilitation, and ordinance and design manual consultation.

Cane Creek Reservoir Watershed Assessment and Management Planning

Owner: Orange Water and Sewer Authority (OWASA)



Tetra Tech staff conducted a comprehensive watershed and water supply protection study for the Cane Creek Reservoir, and assisted the Orange Water and Sewer Authority (OWASA) in developing a management plan for the resource. Working with a 22-member stakeholder advisory committee, Tetra Tech staff identified key indicators linked to multiple management objectives addressing public health, water quality, aesthetics, economic considerations, recreation, and community character. Existing water quality and supporting data were compiled and analyzed to characterize watershed conditions. The assessment provided a baseline for existing water quality conditions, and helped identify water quality parameters of greatest interest. Additionally, recommendations were provided to OWASA to streamline its watershed and lake water quality monitoring program.

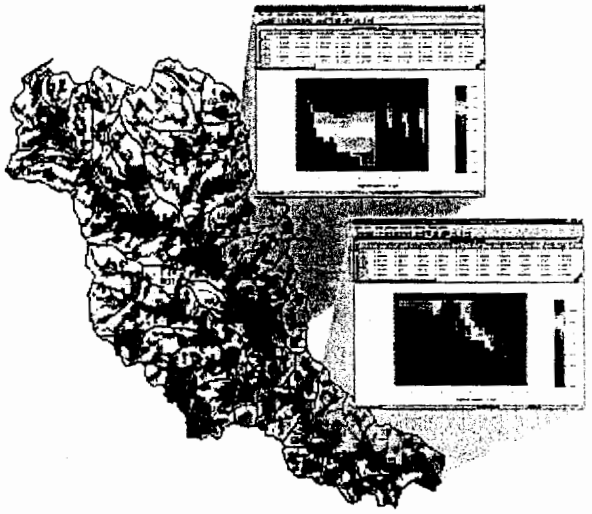
Tetra Tech developed a comprehensive linked land use - watershed loading - lake response modeling framework to assess impacts of alternative management scenarios for specified indicators. The models were applied to future land use conditions forecast for build-out and 25% of build-out under various zoning and best management practice scenarios.

A facilitated process using the modeling framework and stakeholder advisory committee input produced four viable management scenarios containing different mixes of best management practices, zoning restrictions, land purchase and protection by the utility, and engineered stormwater controls. Tetra Tech then designed and produced community outreach materials to communicate management alternatives under consideration, and encourage public response. A ballot was designed for OWASA to compile public input effectively, and help in establishing the preferred plan.

Follow-up work has included developing criteria for targeting land for acquisition by the utility, and providing additional technical support in analyzing management options.

Watershed Modeling and Management for Patuxent Reservoirs Watershed

Owner: Washington Suburban Sanitary Commission and Prince George's County, Maryland



Tetra Tech has provided comprehensive water quality assessment and modeling support for more than 5 years to aid the Washington Suburban Sanitary Commission (WSSC), Maryland Department of the Environment, and local municipalities (Prince George's, Howard, and Montgomery Counties) in watershed planning and protecting water quality in two drinking water supply reservoirs. Tetra Tech developed a watershed action plan and a monitoring database, and subsequently a dynamic, linked watershed and reservoir modeling system.

Tetra Tech's developed a comprehensive model that simulates hydrologic and water quality conditions throughout the watershed. The model represents hydrodynamic and water quality response in two reservoirs, the main stem river, and major contributing tributaries. Tetra Tech developed and calibrated reservoir models for the T. Howard Duckett (Rocky Gorge) and Triadelphia Reservoirs. Objectives of the reservoir modeling effort included: (1) simulate hydrodynamics and water quality constituents in multiple dimensions, (2) assess the potential for eutrophication, (3) estimate the reservoirs' assimilative capacities for pollutants impacting DO and eutrophication, and (4) use the linked watershed-reservoir modeling system to evaluate holistic management alternatives, including current, past, and future conditions. Results from this modeling effort and the models themselves will be used for regional water quality assessment, watershed and resource management, source water protection, and TMDL development by WSSC, the state, and municipalities.

TABLE 1-1

Tetra Tech, Inc.
Select Water Treatment
and Distribution Experience

Client	Water Distribution Modeling	Water Distribution Design	Storage and Booster Pump Stations	Water Treatment Evaluation	Water Treatment Design	Water System CIP	Economic Analysis	Permitting	Pilot Studies	Construction Administration	Operator Training
Pennichuck Water System, Nashua, NH				√		√	√				
MA DPW, Fitchburg, MA	√	√	√	√	√	√	√	√	√	√	
MWRA, Marlborough, MA	√	√		√	√	√	√	√		√	
New England Patriots Foxborough, MA	√	√	√	√	√	√	√	√		√	
MWRA Quincy, MA	√	√	√					√		√	
South Shore Tri-County Development Corp., South Weymouth, MA	√	√	√	√	√	√	√	√		√	
MA Convention Center Auth., Boston, MA	√	√			√			√		√	
Woodbridge Booster Station, Ashland, MA					√			√		√	
Boston Water and Sewer Commission, MA	√	√	√			√	√	√		√	
City of Edgewater, FL	√	√		√	√	√	√	√	√	√	√
City of Lakeland, FL	√	√	√	√	√	√	√	√	√	√	√
City of Miramar, FL	√	√	√	√	√		√	√	√	√	√
City of Naples, FL	√	√		√		√	√	√	√	√	√
City of North Miami Beach, FL	√	√	√	√	√	√	√	√	√	√	√
City of Palm Bay, FL	√	√	√	√	√	√	√	√	√	√	√
City of Port St. Lucie, FL	√	√	√	√	√	√	√	√	√	√	√
Detroit, MI	√	√	√	√	√	√	√	√	√	√	√
Milwaukee, WI	√	√	√	√	√	√	√	√	√	√	√
Ypsilanti, MI	√	√	√	√	√	√	√	√	√	√	√
Washington, D.C	√	√	√	√	√	√	√	√	√	√	√

Client	Water Distribution Modeling	Water Distribution Design	Storage and Booster Pump Stations	Water Treatment Evaluation	Water Treatment Design	Water System CIP	Economic Analysis	Permitting	Pilot Studies	Construction Administration	Operator Training
Warren County, OH	√	√	√	√	√	√	√	√		√	
Atlanta, GA	√	√	√	√	√	√	√	√	√	√	√
Lexington, KY	√	√	√	√	√	√	√	√	√	√	√
Cincinnati, OH	√	√	√	√	√	√	√	√	√	√	√
Sand Springs/Sapulpa, OK	√	√	√	√	√	√	√	√	√	√	√
City of Bartlesville, OK	√	√	√	√	√	√	√	√	√	√	√
Kent County Water Authority, RI	√	√	√					√		√	
City of Broomfield, CO	√	√	√	√	√	√	√	√	√	√	
Castle Rock, CO	√	√	√	√		√	√	√		√	
Centennial Water and Sanitation District, CO	√	√	√	√		√	√	√		√	
San Diego County Water Authority, CA	√	√	√	√	√	√	√	√	√	√	
City of Los Angeles, CA	√	√	√	√	√	√	√	√	√	√	

2

R. W. BECK PROVIDES NASHUA SPECIALIZED EXPERTISE TO FACILITATE TRANSITION TO PUBLIC OWNERSHIP AND OPERATIONS

R. W. Beck specializes in providing the enginering-based management consulting services needed to provide contractor oversight and related planning, organzational development, financial analysis, and economic feasibility consulting associated with the creation of a new community-owned water utility, such as is in process in greater Nashua.

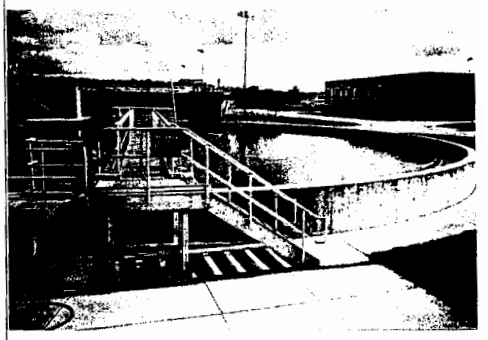
Our Team. R. W. Beck proposes on this project in association with Tetra Tech, one of the largest and most qulaified water engineering companies in the world. Key staff from Tetra Tech will support R. W. Beck in the areas of water system engineering, security, and construction mangement.

The R. W. Beck team of individuals shown in the proposed Organizational Chart on the following page, provides the City and MVRWD with the full range of skills and expertise needed to effect a smooth utility ownership transition from private to public. On average, each of these staff members brings more than 20 years of experience in the planning, design, management, operation and maintenance of water utility systems throughout the United States. The organizational structure has been crafted to address the specific requirements of the oversight services as outlined in your RFP. In addition, we have committed additional staff with expertise in areas that will add value to the City and MVRWD, as you consider expansion of the system beyond the initial acquisition of PWW.

Local Presence. Our Project Manager is a committed and concerned neighbor. Paul Doran, P.E., a long-time resident of Hollis, New Hampshire, raised his family locally and ran an enginering business in Nashua for many years, So, Paul is very familiar with the institutional, political, and regulatory aspects of managing utilities in New Hampshire. More important to the City and MVRWD, Mr. Doran is a recognized industry leader in contract oversight, having spent much of his 30+ year career overseeing operations contractors and managing oversight contracts for major water utilities around the country. In fact, he has been involved in this line of work since the earliest privatized municipal operations contracts. As you will read in the letters of reference included in Appendix A of this propsoal, Mr.Doran is highly commended by his past contract oversight clients. He will work from our office at 889 Elm Street, in Manchester and will be readily available to you at any time, day or night.

Sensitive to the critical importance of effective intergovernmental relations to the creation and commissioning of the community-owned utility, our project team includes several important New Hampshire thought leaders,

The R. W. Beck team of municipalization specialists and experienced public servants will help get the new community-owned utility broadly accepted at the least cost.



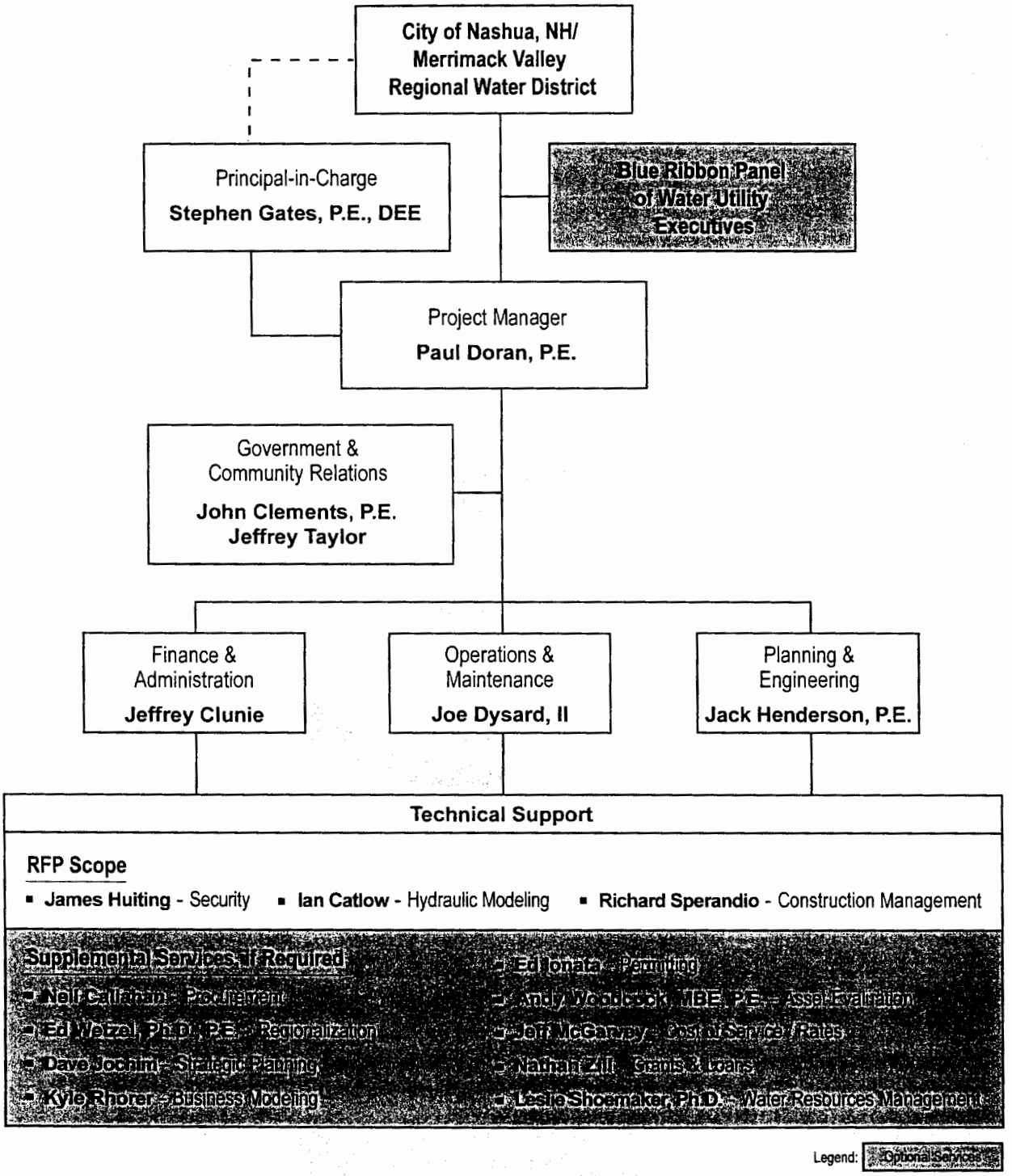
"Working with Mr. Doran, I found him to be proficient in the many complexities of private operations and maintenance services, in the technical and engineering aspects of operations and highly responsive in serving the needs of the Bureau of Water."
Kenneth R. Skov
Superintendent of Water
City of Waterbury, CT

R·W·BECK

with many years of experience as public servants in local, state and federal government: John Clements, former New Hampshire Commissioner of Public Works and Highways; and Jeffrey Taylor, former Director of the New Hampshire Office of State Planning. Their collective knowledge, insight, integrity and effective working relationships at all levels of government could be invaluable to the City and MVRWD, particularly regarding regulatory compliance and grant funding.

Blue Ribbon Panel. R. W. Beck also suggests that the City consider creating a Blue Ribbon Panel, composed of senior executives from regional water authorities around the country, who have been active participants in the creation of their regional water utilities. The Blue Ribbon Panel would meet with the City and MVRWD leaders periodically (e.g., semi-annually) to share lessons learned from their utility start-up experiences. Each meeting agenda would focus on current, pressing issues that the new utility might wish to seek advice on. Other major water utilities have used similar Blue Ribbon Panels with good success to help their leadership address a variety of priority issues; taking advantage of the experience of their peers. We have had preliminary discussions with executive level staff at the South Central Connecticut Regional Water Authority; Tampa Bay Water; and the Newport News Water Authority. All parties have expressed serious interest in assisting your new community-owned utility in greater Nashua get started. R. W. Beck could approach other utility executives, if the City and MVRWD were interested in creating a Blue Ribbon Panel for advice and support.

R.W. Beck's Independent Engineering Team Specializes in Water System Management and Contractor Oversight



Water Utility Oversight Services
Table of Organization

R·W·BECK

The following pages summarize the relevant experience of the individuals proposed for this assignment. Complete resumes can be found in Appendix B of this proposal. The project team will work under the direction of the Project Manager, who will call upon the team resources as needed throughout the course of this engagement.

Stephen Gates, P.E., DEE **Role: Principal-in-Charge**

Steve Gates, who recently joined R. W. Beck as a Client Services Director for the Boston Office Water/Waste Practice, has 29+ years of environmental engineering experience providing program management, management consulting, facilities planning, detailed design and construction management for a wide variety of environmental engineering projects throughout Northeastern United States and Canada. He has successfully managed, planned, and designed construction of environmental facilities for public and commercial clients valued well over US$2 billion. He has worked for a variety of regional authorities, including the Massachusetts Water Resources Authority; the Regional Municipality of Ottawa; the South Central Connecticut Regional Water Authority; and the South Florida Regional Water Management Authority.

Key Strengths

- Over 29 years environmental engineering experience
- Planned, designed, and managed environmental engineering projects for public and private clients valued over US$2 billion
- In-depth experience in alternative project delivery methods
- Directed a wide array of projects for federal, municipal and county governments

In his role as Principal-in-Charge, Mr. Gates is responsible for ensuring that the appropriate resources needed by the City are dedicated to you, and made available in a timely fashion. He is also responsible for assuring a high level of quality on all work products.

Paul Doran, P.E. **Role: Project Manager**

Paul Doran is a Senior Water Consultant in the National Owner Advisory Services Practice of R. W. Beck. Having over 30 years of consulting experience in sanitary, environmental and general civil engineering, Mr. Doran has managed numerous major projects in municipal water supply, treatment, storage and distribution systems. His experience covers all facets required by Nashua, including planning, design, management and operations. Mr. Doran has significant, specific oversight consulting experience with various types of public/private partnerships throughout New England. For example, after assisting the City of Taunton with the procurement of a Design/Build/Operate (DBO) contractor for their treatment plant expansion, he provided contract oversight services for the first seven years of operations following project completion. Mr. Doran has also served as project manager for operations contactor oversight in Plymouth, MA; for the Upper Blackstone Water Pollution Abatement District, Millbury, MA; Stockton, CA; Lee, MA; Waterbury, CT; and Sioux City, IA.

Key Strengths

- 30 plus years consulting experience in civil and environmental projects
- Innovative procurement/oversight of DB and DBO Alternative Project Delivery methodologies
- Extensive experience in Owner's Independent Engineering Reviews of Water/Wastewater Utilities
- Project Manager on 7 water utility operations oversight projects
- Contributing Author on 7 private operation and maintenance contracts

As Project Manager, Mr. Doran will serve as the day-to-day contact with the City for the R. W. Beck team and will perform the majority of the work associated with oversight of the water utility operations contractor. As a resident of Hollis, New Hampshire for over 20 years, he is intimately familiar with the

institutional, political, and regulatory aspects of managing public utilities in New Hampshire. In addition, the Doran Family is firmly established within the community, attending Nashua schools and working in the Nashua hospitals. His physical proximity to Nashua makes him instantly available to meet with staff, Council or board members, and attend public meetings whenever needed.

John Clements, P.E. **Role: Government and Community Relations**

John Clements is a 40-year professional, having played a significant role in several private, governmental and trade organizations in New Hampshire. He is intimately familiar with community relations issues in New Hampshire, having served as State Commissioner of Public Works and Highways; Associate Administrator of the Federal Highway Administration; Board Member for the New Hampshire Business and Industry Association; New Hampshire Business Development Corp., and the New Hampshire Industrial Development Authority.

Key Strengths

- Experienced public servant
- 35 years working with local communities throughout NH
- Credible spokesperson for government

Mr. Clements' assignment is to support the City in their efforts to gain widespread public acceptance for the acquisition and subsequent operation of the PWW system. In addition, he can assist the MVRWD in assessing public reaction and developing communications strategies surrounding future system expansion.

Jeffrey Taylor **Role: Government and Community Relations**

Jeffrey Taylor has a distinguished 31-year career. He has exceptional strong skills in: conceptual abilities, coupled with experience in practical applications; ability to lead group discussions, and to keep all focused on the task at hand; extensive experience in economic development and related land use planning issues; and able to foster inter-disciplinary communication. Mr. Taylor was the Director of the New Hampshire Office of State Planning and throughout the years has had extensive dealings with state agencies.

Key Strengths

- 31+ years in public service
- Served in New Hampshire politics for many years
- Respected consensus builder on vital public issues

Mr. Taylor's assignment is to support the City in their efforts to gain widespread public acceptance for the acquisition and subsequent operation of the PWW system. In addition, he can assist the MVRWD in assessing public reaction and developing communications strategies surrounding future system expansion.

Jeffrey Clunie **Role: Finance and Administration**

Mr. Clunie's areas of specialization include project development, vendor procurement, contract negotiations, risk assessment, and the preparation of consulting engineer's reports used in the financing of infrastructure projects. Mr. Clunie has served as the Project Manager for the preparation of more than 70 Independent Engineer's Reports used in the issuance of more than $7.0 billion of revenue bonds. The size of the financings has ranged from $7 million to $370 million. He understands potential investors' concerns regarding technology, environmental, contractual and financial issues. As part of his responsibilities during preparation of these reports, Mr. Clunie has made numerous presentations to the rating agencies and bond insurance companies.

Key Strengths

- Over 30 years of consulting experience
- Oversaw over 100 infrastructure projects for public and private clients
- Prepared over 70 Independent Engineering Reports
- Issuance of more than $7.0 billion of revenue bonds

For Nashua, Mr. Clunie is available to ensure that future capital needs can be funded through revenue bond issues, and that the rate structure is appropriate given the operating expenses and debt service.

Joe Dysard, II **Role: Operations and Maintenance**

Joe Dysard is a Senior Director in R. W. Beck's Infrastructure Practice with over 32 years of experience in the water and wastewater industry. Prior to joining the firm in 1996, he spent over 25 years with a major investor-owned water utility holding company. While with the investor-owned water utility holding company, Mr. Dysard spent seven years as President of various companies under his direction in seven states. Mr. Dysard specializes in utility operations management, strategic planning, acquisitions and mergers, organizational restructuring, public/private/partnerships, and contract management.

Key Strengths

- Over 32 years of utility management experience in the water and wastewater industry
- Liaison for over 30 infrastructure projects
- Managed operation of 81 water systems in 15 states
- Specializes in utility operations management

Mr. Dysard will assist the Project Manager with reviewing the activities of the O&M contractor, including maintenance plans, staffing, operational procedures, plant performance, vulnerability and emergency response plans, billing system and customer relations programs.

Jack Henderson, P.E. **Role: Planning and Engineering**

Jack Henderson has more than 20 years of experience in the planning, process evaluation, design, construction and start-up of water treatment and transmission facilities. He has also completed numerous water supply investigations, distribution system models, and design of storage and large diameter transmission and pumping facilities for the Massachusetts Water Resources Authority and other local agencies.

Key Strengths

- 20 years experience in water system design/evaluation and construction
- Knowledge of local/national regulatory issues
- Expertise in distribution system modeling

Mr. Henderson role will be to support the Project Manager on engineering tasks such as facilities condition assessment, hydraulic modeling, security planning, plant performance, construction coordination and CIP review.

James Huiting, P.E. **Role: Security**

Key Strengths

- 23 years experience in civil and environmental engineering
- Extensive experience in vulnerability analysis and emergency action plans
- Expertise in grant applications

Mr. Huiting has more than 23 years of experience in the civil and environmental engineering field, with a strong emphasis on hands-on water resources engineering and project management. Mr. Huiting has supplemented his engineering background with education and project experience in vulnerability analysis, emergency action plans, information technology (IT) applications, and grant applications. In addition to vulnerability and assessment projects, Mr. Huiting brings substantial experience in civil and environmental engineering: planning, design, and construction of water-resources infrastructure, regional planning, computer applications, and general project management.

Mr. Huiting will support the Project Manager on related security plan review and security planning.

Ian Catlow **Role: Hydraulic Modeling**

Key Strengths

- Civil Engineer
- Extensive experience in hydraulic modeling projects
- Expertise in both civil and environmental engineering design tasks

Mr. Catlow is responsible for civil and environmental engineering design tasks, including the design of sanitary and storm sewers, groundwater modeling, and hydraulic modeling.

He has considerable experience working with public and private entities. A reprehensive listing of projects where he has used his expertise in hydraulic modeling are as follows: Boston Water and Sewer Commission; Massachusetts Convention Center Authority; Town of Southbridge, Massachusetts; City of Waltham, Massachusetts; Boston Water and Sewer Commission; The Rivers School Weston, Massachusetts.

Mr. Catlow responsibilities will support the Project Manager on hydraulic modeling tasks.

Richard Sperandio **Role: Construction Management**

Key Strengths

- 30+ years of experience
- Extensive project experience involving construction management
- Expertise in program management and procurement

Mr. Sperandio is a Vice President with Tetra Tech, Inc. With 30 years of experience, he has been involved in a variety of program management and construction management projects, as well as numerous projects involving the planning, design and construction of commercial, municipal, and military facilities, airfields, runways, taxiways, aprons, roads, and infrastructure involving water distribution and treatment, wastewater collection, pumping and treatment, and stormwater systems.

Mr. Sperandio also has extensive experience in procurement including preparation of contract scope of work documents, management of subcontractors, and change orders.

Mr. Sperandio's responsibilities will support the Project Manager on construction administration and oversight.

ADDITIONAL TEAM MEMBERS PROVIDE TECHNICAL SUPPORT AS NEEDED

As an engineering-based management consultant with deep experience in the creation and management of utilities, R. W. Beck has a variety of subject-matter experts that the City of Nashua may wish to call upon to supplement its available resources as the community-owned utility is created. The following is representative of additional staff expertise R. W. Beck in association with Tetra Tech could make available to the City and the MVRWD should special needs arise in the future, which are beyond the oversight contractor's scope of work as currently conceived.

Neil Callahan **Role: Procurement**

- Participated as Project Manager or Senior Operations Consultant in over a dozen major Public/Private Partnership procurements in nine states, Canada, the Caribbean and Mexico.
- Project Manager for procurement and continuing oversight services on 60 MGD Surface Water Treatment Plant for Tampa Bay Water.
- Assisted Tampa Bay Water with procurement, contract negotiations, design review, construction and operations oversight on correction of 25 MGD seawater desalination facility.
- Feasibility evaluation of 50 MGD seawater desalination facility for San Diego County Water Authority, including contract evaluation, risk assessment, project costs and energy concerns.

Ed Wetzel, Ph.D., P.E. **Role: Regionalization**

- Conducted over 20 due diligence investigations and negotiations for purchase of private utilities by government. Acquisitions have involved negotiated settlements and condemnation, with settlements ranging from $3 million to $136 million.
- Assisted in the creation and implementation of the Seacoast Utility Authority and the Florida Governmental Utility Authority, supported by revenue bond issues of $65 million and $460 million, respectively. Required preparation of bond reports and presentations before bond rating agencies.
- Conducted numerous Master Plans for several large regional water systems.

David Jochim, P.E. **Role: Strategic Planning**

- Has more than 30 years of consulting experience associated with planning and implementation of large capital facilities for public water systems.
- Has developed over a dozen water system master plans, provided oversight and QA/QC to large capital improvements programs up to $3.6 billion.
- Helped develop strategic and business plans for water agencies throughout the United States.
- Adept at meeting facilitation and incorporating diverse stakeholder interests into a finished work product.

Kyle Rhorer, MBA **Role: Business Modeling**

- Over 16 years of experience, specializing in the areas of strategic planning, capital financing, financial management and controls, and the development of public-private partnerships for utility infrastructure.
- Worked with the City of Woonsocket, Rhode Island to develop a public/private partnership strategy, including long-term analysis of capital financing options and user rate impacts.
- Developed a comprehensive financial model for the City of Tempe, Arizona, integrating the capital improvement program with their budget and management systems. Resulted in a 20-year budget and rate projection for the City's water, wastewater and irrigation systems.

Edward Ionata **Role: Permitting**

- Specializes managing all facets of project management, including permitting and construction.
- Expertise includes fast-track and design-build delivery methods.
- Extensive experience directly managing multi-disciplinary public and public-private partnership projects.

Andy Woodcock, MBA, P.E. **Role: Asset Evaluation**

- Special expertise in due diligence investigations, utility valuations, financial feasibility analyses and business plans.
- Participated in over 60 water and wastewater utility system valuations and acquisitions throughout the eastern United States.

Jeff McGarney **Role: Cost of Service / Rates**

- Developed procedures and supervised the preparation of extensive computer models for utility rate studies, financial control, data retrieval and analysis, financial feasibility studies, and capital financing alternatives.
- Conducted rate and cost-of-service studies for over two dozen utilities.
- Numerous presentations of his rate investigations and financial feasibility analyses to bond insurers and rating agencies.

Nathan Zill **Role: Grants and Loans**

- Preparation of grant applications and grant amendments on behalf of municipalities for funding from State and Federal agency programs.
- Assisted with State Revolving Loan Fund submittals for two dozen clients.
- Prepared project plans for six communities regarding the new Drinking Water Revolving Fund (DWRF) Loan.

Leslie Shoemaker, Ph.D. **Role: Water Resources Management**

- Nationally recognized expert in watershed management
- Developed watershed management plan for Lake Tahoe—politically sensitive and high profile.
- Lead author of the USEPA Model Compendium for Watershed Assessment.
- Completed numerous watershed management and reservoir protection plans for water utilities nationwide.

Please refer to Appendix B for the detailed resumes of the R. W. Beck project team.

3

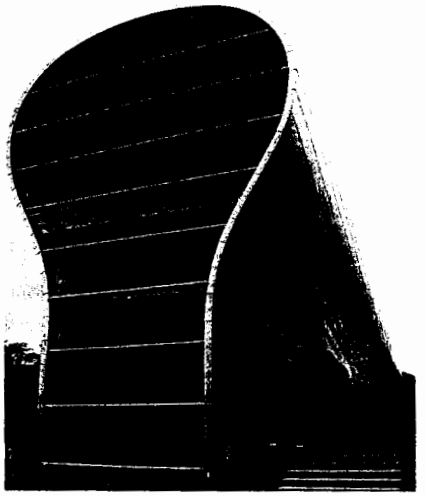
INTRODUCTION

The City and MVRWD are engaged in a lengthy and complicated process to create a Community-Owned Water Utility to provide potable water and fire safety to the people greater Nashua. For over 60 years, R. W. Beck has specialized in the engineering-based management consulting services associated with municipal utility creation. The figure on the following page summarizes the sequence of the key steps in municipal utility creation. The City and MVRWD are at least halfway along the pathway for creating the desired Community-Owned Water Utility. Yet, many critical challenges remain before the new utility becomes operational. Most notably, the City and MVRWD have yet to complete proceedings related to utility purchase, securing the water supply, detailed planning for operations and arranging needed funding.

Over the past several years, City leaders have invested a significant amount of time, money, and political capital in the municipalization program. Facing additional obstacles ahead, the City and MVRWD need an oversight contractor seasoned in the business of establishing municipally-owned, private water services. R. W. Beck is well grounded in the specialized expertise associated with Community-Owned Water Utility creation, and is fully prepared to accept the challenges facing the City and MVRWD during initial acquisition of the assets of PWW and subsequent water system operation by a contract operator.

We have assembled a highly capable project team, with a proven track record as an owner's advisor on numerous municipal water and wastewater projects in New England and nationwide. The R. W. Beck team has managed procurement, engineering, operations, financing and associated management consulting for some of the first and largest public-private contract operations projects in the country and is well suited to join the City's utility acquisition and start-up team to help assure that the governance goals of the community-owned water utility start-up are successfully achieved.

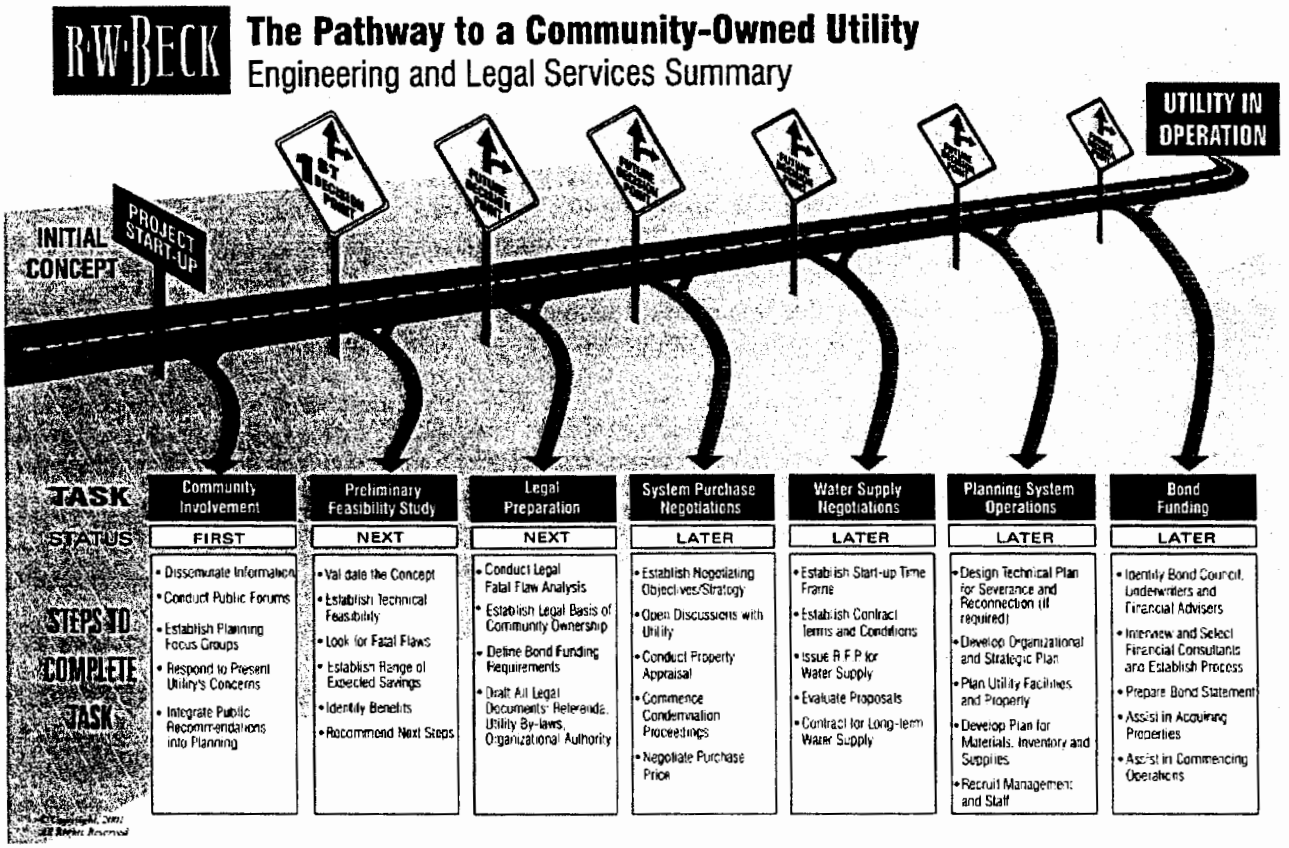
The following describes the methods and advice the R. W. Beck team suggests to help governing stakeholders achieve the success they desire.



"Over the years, the Authority has come to know R. W. Beck as a trusted business partner. As an Independent Engineer, it is clear that they always endeavor to put the needs of the Authority first."
Claire Bennitt, Chairperson
South Central Connecticut Regional Water Authority

R·W·BECK

Overview of Municipalization Process



WORK PLAN

As discussed in Sections 1 and 2 of this proposal, the R. W. Beck team has extensive experience directly related to the key issues that must be addressed to successfully initiate operations of the community-owned water utility in greater Nashua. R. W. Beck commits Paul Doran, P.E. as the Project Manager for completion of the project work plan described below. Mr. Doran is available 100 percent to the City and will remain so for the duration of the contract. He will have no other project or administrative responsibilities that will prevent his full-time attention to the priorities of the City and MVRWD under the contract, whenever needed. Mr. Doran, a long time resident of Hollis, New Hampshire, will work in Nashua City offices or at our offices in Manchester, New Hampshire at the option of the City. In either case, he is readily and immediately available to the City and MVRWD at any time, day or night, all week, every week. Mr. Doran is extremely well suited for this project, as he has spent the majority of his 30+ year career overseeing operations contractors and managing oversight contracts for major water utilities around the country. Mr. Doran is a recognized industry leader in contract oversight and he has been involved continuously in this line of work since the earliest privatized municipal operations contracts. You can be sure that your neighbor, Paul Doran, will always have the City's and MVRWD's

best interests in mind. He comes widely recommended from a number of water utility executives. Furthermore, backed by the extensive resources of R. W. Beck; and Tetra Tech, Mr. Doran can provide the new community-owned utility district in greater Nashua extensive expertise in our specialties: start-up and operation of municipal utilities and contractor oversight.

"Working with Mr. Doran, I found him to be proficient in the many complexities of private operations and maintenance services, in the technical and engineering aspects of operations and highly responsive in serving the needs of the Bureau of Water."

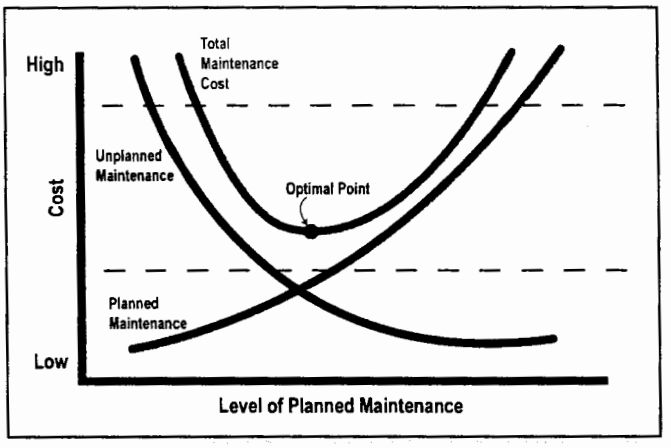
Kenneth R. Skov
Superintendent of Water
City of Waterbury, Connecticut

OUR APPROACH TO INITIAL TASKS

The first four sub-tasks described in the City's RFP Initial Tasks have the Oversight Contractor reviewing and commenting on asset inventory, asset condition, staffing and maintenance deliverables prepared by the operations and maintenance (O&M) contractor. Due to the impact of the first four initial tasks on a successful project, we are proposing to take an active role working with the O&M contractor as it develops the asset inventory, evaluates asset conditions and prepares its maintenance and staffing plans.

INITIAL TASK 1 - Evaluate Maintenance Plan

The O&M contractor, selected by the City through its proposal process, is to prepare a Maintenance Plan for the acquired assets. We will review the Maintenance Plan to determine its compliance with the terms of the O&M service contract. It should define the maintenance work, throughout the contract term, to maintain the acquired assets so that they exist at a condition that is better than, or at least equal to the condition that existed as of the O&M contractor service commencement date, less fair wear and tear, at the completion of the O&M contract term.



R. W. Beck optimizes the maintenance plan to identify the least total cost of planned maintenance and equipment renewal.

The Maintenance Plan must integrate renewal, repair and replacement decisions. From our experience with the operations, maintenance and management of dozens of water utilities, it is clear that the least cost of operation over the long-term results from properly balancing planned maintenance and asset renewal and replacement. Implementation of a good maintenance plan by the O&M contractor is critical to least cost operations. We will review the O&M contractor's Maintenance Plan to determine its compliance with the requirements of the O&M contract. It should include the following:

- Initial Asset Condition Assessment; Functional Assessment, Structural Assessment and Predictive Maintenance Report;
- risk analysis of asset failure;
- predicted rates of asset deterioration;
- the cost-effective point at which to renew, repair or replace an asset;

- the failure modes for each asset;
- conditions under which failures will most likely occur;
- consequence of reduced performance;
- planned facility changes that will eliminate the need for the asset;
- schedule of maintenance activities over the term of the O&M service contract; and
- well-defined costs of maintenance by type and year.

INITIAL TASK 2 - Evaluate Initial Inventory

Within 30 days after the Service Commencement Date, the O&M contractor is scheduled to produce an initial inventory of all transferred property including: chemicals, parts, tools and equipment noting the condition of each item on hand on the Service Commencement Date. For the purposes of this task, we define transferred equipment as follows: vehicles (other than those identified to be retained by PWW), rolling stock, spare parts, hand tools, furniture and fixtures, computers and communications equipment. In addition to the equipment, all transferred consumables in stock such as chemicals, fuel, and general supplies and materials of the operational utility will also be included in the initial inventory.

Equipment comprising the initial inventory does not include the PWW fixed assets that are included in the detailed Asset Inventory and condition assessment performed as part of Initial Task 4 - Evaluate Condition Plan.

We will review the O&M contractor's initial inventory for completeness and review the O&M contractor's proposed procurement of additional quantities of consumables and/or equipment, as defined above. In addition, we will check and verify that the final procurement quantities are appropriate for the O&M contractor to perform its services under the O&M Service Contract.

The inventory and valuation of transferred property, when completed, shall become part of the O&M Service Contract.

INITIAL TASK 3 - Evaluate Initial Staffing

To assure expected customer service levels; preserve and protect the assets; maintain safe working conditions; and to provide defined service levels at least cost, a proper staffing plan must be developed and implemented by the selected O&M contractor. To achieve these goals, we will review the O&M contractor's staffing plan for the following:

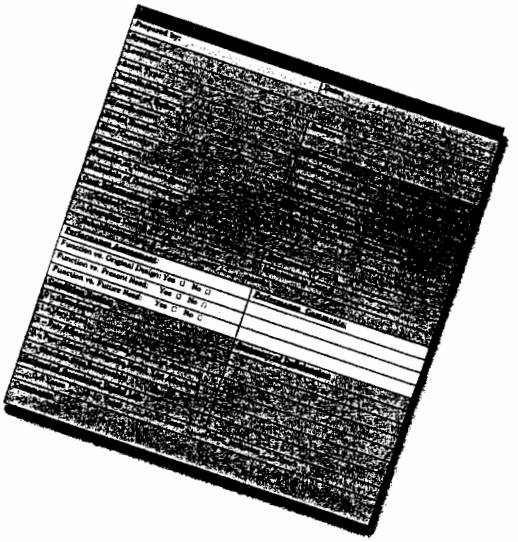
- the number and type of employees required, including third-party contractors, to operate, maintain and manage the acquired assets in accordance with the O&M service contract and the law;
- an organizational chart that lists job roles and responsibilities of proposed staff;
- adequate coverage present at the acquired facilities for each shift seven days-per-week, and, for facilities to be left unattended, how emergency coverage will be handled;
- the qualifications of management, supervisory, technical, laboratory, and operating personnel required to be licensed and/or certified by the State for O&M;

- the availability and commitment of specialists, on-site or as part of a technical support group, as necessary, in water treatment, process control, instrumentation, trouble shooting, emergency management, and other skills necessary to perform according to contract requirements;
- a technical support group that will provide on-call back-up advice, expertise and quality control, management, maintenance and facility repair to assist the operational staff and ensure performance according to contract requirements and to assist in the design and construction of any needed and authorized improvements to the acquired assets.

The contract should include provisions for owner approval of the staffing plan and a requirement to obtain owner approval for any material changes to the approved plan, particularly related to key staff.

INITIAL TASK 4 - Evaluate the Condition Plan

The Condition Plan establishes the initial condition of acquired assets. It is important to accurately and completely describe asset conditions to establish the baseline for planned maintenance, and identify asset renewal and replacement needs that must be addressed in a Capital Improvement Plan (CIP). We suggest that the O&M contractor gather comprehensive data on each individual asset, by completing an Asset Inventory Data Collection Form, shown in figure below. These data are used to develop an Asset Registry for all water facilities unit processes and sub-systems, pumping stations and equipment; water transmission and distribution system, water storage tanks and equipment; all instrumentation; existing spare parts; existing quantities of chemicals, fuel and other consumables; vehicles and other rolling stock; all general supplies, materials and equipment, hand tools, furniture and fixtures, computers, and communications equipment appurtenant to the existing acquired assets.



Maintaining a comprehensive asset register reduces the total cost of renewal and replacement.

Functional Evaluation. The O&M contract should also require an initial functionality evaluation on all items included in the Assets Registry. This evaluation would be performed, on a system and sub-system basis, when the assets are acquired. With our oversight, the O&M contractor would perform live testing, pump capacity tests for example, and other necessary investigations to determine if the assets operate properly and perform the function for which they are intended. The condition of the asset is placed into one of three functional categories: good to excellent, fair, and poor to very poor. This information sets the baseline condition of all assets and provides a foundation for subsequent Capital Improvement Planning.

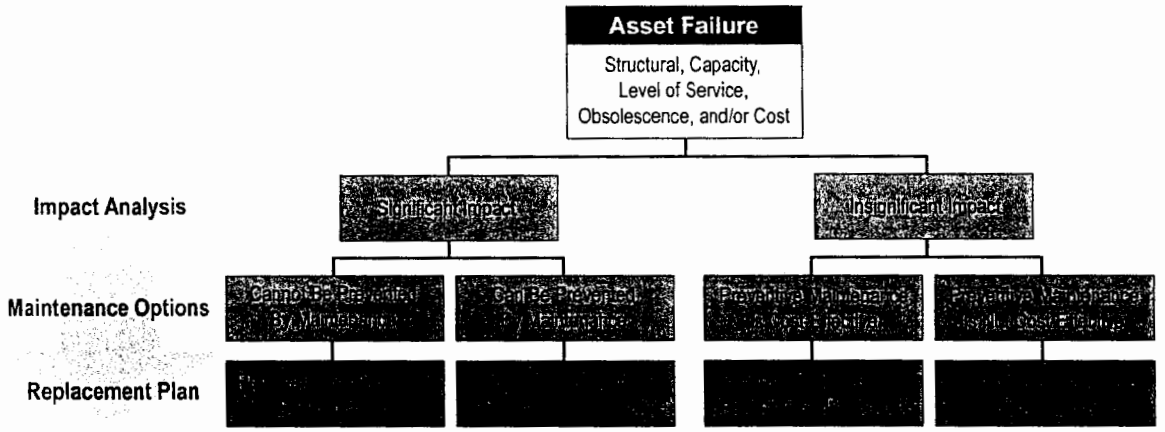
Structural Evaluation. The O&M contract should include provisions for all acquired structures to be evaluated. Observed by our team, the O&M contractor performs the investigations to determine if the structural assets are able to perform their intended function.

The structural evaluation includes visual inspections of all structures of the acquired assets, including all accessible buildings and related concrete structures, structural components associated with acquired equipment and utility structures.

Based on this condition assessment, the O&M contractor would estimate the remaining useful life of all major assets. The remaining useful life of an asset would be based upon its reliability to perform its intended function. The remaining useful life information is critical input to an effective capital improvement planning program.

Identifying Mission Critical Equipment. As important input to developing an effective maintenance plan, to guide the development of an appropriate CIP, the O&M contractor should be required to define Mission Critical Equipment. This is an important means for utilities to reduce operations risks and to reduce the overall cost of operations.

Observed by our team, the O&M contractor systematically evaluates the consequences of asset failure to meet required performance parameters. In identifying Mission Critical Equipment, the O&M Contractor would consider the following:

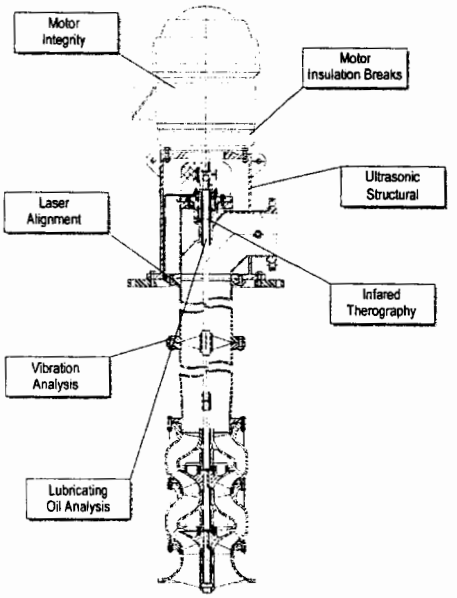


Reliable operation is assured by prioritizing planned maintenance on consequence of failure.

1. **Cost:** Will asset failure require a significant investment to repair or replace?
2. **Critical:** Will asset failure impact regulatory compliance? Will asset failure prevent receiving, treating or delivering water that meets all contract requirements?
3. **Health and Safety:** Will asset failure impact the safety of O&M personnel, the public or the environment? What physical damage may occur as a result of a failure?
4. **Hidden Failures:** Can a failure start out as a minute, hidden failure and degrade over time to become a significant failure?
5. **Regulatory Compliance:** Will asset failure result in regulatory action or violation?
6. **Public Relations:** Will asset failure create negative publicity for the water utility?

Identifying mission critical equipment helps prioritize routine maintenance and equipment replacement and renewal decisions in the context of long-range capital improvement planning.

Predictive Testing Analysis. We suggest the O&M contractor perform the Predictive Testing investigations of the Mission Critical Equipment. Predictive Testing and Analysis evaluates the performance of operating equipment against specified requirements such as: vibration, noise, temperature, oil usage, power usage, the condition and thickness of protective coatings, signs of wear or corrosion, structural integrity, infrared component alignment of moving equipment, and fluid leakage. Predictive Testing carefully monitors the performance of critical assets and provides accurate forecast of the remaining useful life of critical equipment. Predictive Testing gages the effectiveness of ongoing maintenance practices by monitoring key equipment performance indictors and aids capital improvement planning.



Predictive Testing Analysis helps reduce capital need by maximizing the useful life of mission critical equipment.

By completing the recommended Asset Inventory and Assessment, the new water utility would now have:

- a permanent and complete inventory of assets to be used for maintenance planning, balance sheet accounting and financial reporting;
- an accurate baseline assessment of asset condition to monitor the O&M contractor's performance on operations efficiency and maintenance;
- a prioritized tabulation of Mission Critical Equipment to regularly guide operations, maintenance and capital improvement planning; and
- an accurate condition assessment of all assets to guide operating and investment strategies for the regular asset renewal needed to maintain promised customer service levels.

INITIAL TASK 5 - Evaluate Billing Procedures

The O&M contractor will provide all necessary services associated with billing the community-owned utility customers. We will evaluate the O&M contractor's proposed scope of services for processing water bills from the utility metering. In addition, once the water system responsibility is transferred to MVRWD, the O&M contractor is expected to closely interface with MVRWD's Office of Consumer Affairs regarding customer billing.

A well-managed billing system includes the following:

- Receipt of computerized monthly water meter readings used to prepare bills;
- Preparation of bill distribution (e.g., providing all supplies and return envelopes, covering all mailing costs) and receipt of payments. Payments can be received in person, by mail, by telephone payment, by the Internet, and by direct debit payment;
- Operation of the pay stations and drop-off service related to Billing Services;
- Collection of overdue accounts: sending delinquent notices, providing collection agency services, and performing lock out and shut-off services. With City approval, terminating water service within a pre-determined schedule of days from the date of delinquency;

- Processing and depositing all collections within 24 hours of receipt. Providing daily reconciliation of receipts and evidence of deposits;
- Maintenance of all computer records related to utility billing;
- Ensuring proper interface and compatibility with the computer billing system with the City's Computer Information System;
- Performing public education and technical support activities related to Billing Services, such as supporting the City in notifying customers of changes in rate structure and payment procedures;
- Maintaining a log of customer inquiries and how calls were addressed. Preparing summaries of same. Responding to billing inquiries within 24 hours;
- Performing 24-hour/day, toll free telephone customer service;
- Accounting for changes in the utility's rate structures in the utility billing system; and
- Providing monthly and annual management reports and on-line, unrestricted reading access of billing system data to key utility staff. A detailed transaction report shall be prepared annually to support a year-end audit which may be performed by the City.

The Contractor must use best practices for collections to create cash for the utility operations.

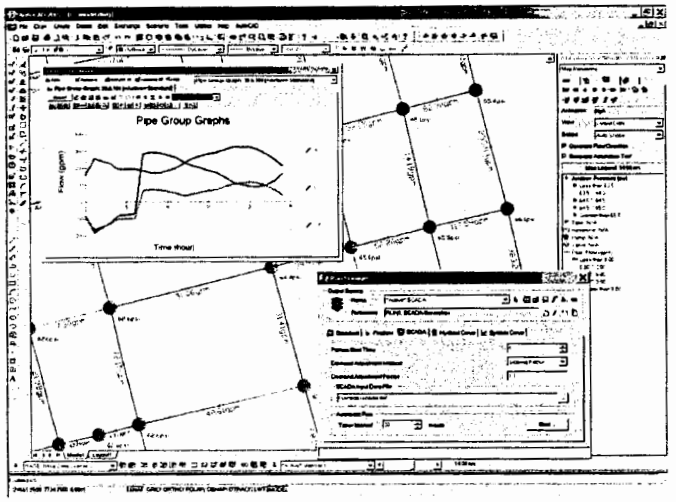
We would review the O&M contractor's billing system for contract compliance. We also recommend that it employ a Billing Service Coordinator to manage billing services, and to act as a liaison with the utility.

INITIAL TASK 6 - Evaluation of Existing Hydraulic Models

We will perform an evaluation of the utility's existing water system model. A well designed and accurate model of the utility's distribution system is an invaluable tool for evaluating current and future service levels; analyzing alternative capital improvement strategies for improving service in the existing service area or expanding the service area; evaluating water quality changes in the distribution system based on actual or projected water use; and assisting with vulnerability assessments and emergency response planning.

Revisions to the Enhanced Surface Water Treatment Rule-LT2, the Disinfection Bi-Products Rule and the Lead and Copper Rule are scheduled for implementation in early 2006 and impose new requirements for monitoring and control of distribution system water quality. Therefore, developing an appropriate model to evaluate and predict distribution system water quality performance will continue to be important to water utility managers. We will evaluate the existing models to assure that effective decision support tools are available to the utility to adequately manage operations now and in the future.

We will evaluate the existing model to determine if its level of detail is sufficient for accurate evaluations of system hydraulics and water quality under varying, existing and future operating conditions. We will determine how the existing model was calibrated and if additional calibration or field data validation is needed to produce accurate results. Our work will discuss the strengths and weaknesses of existing models and generate a list of recommended improvements for future modeling work.



Using state-of-the-art analytical tools prioritizes capital investments to achieve customer service goals.

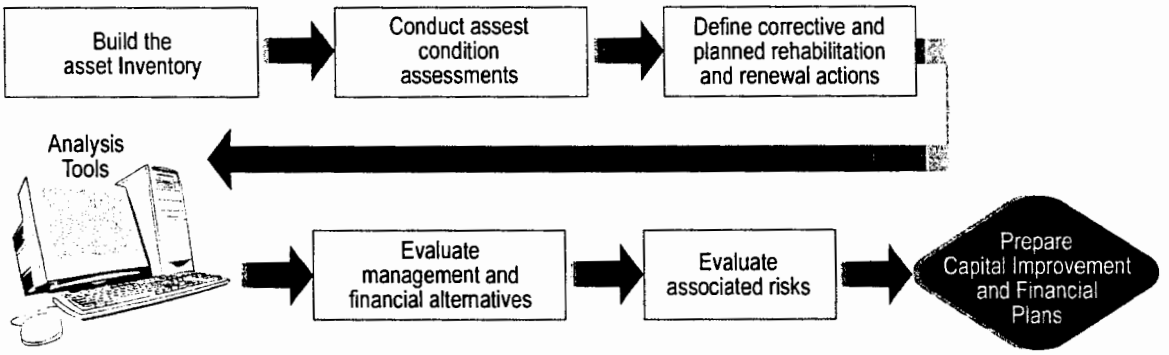
We will evaluate the existing model software in comparison to other available modeling software to determine which package best meets the utility's current and future needs. We will collaborate with the O&M contractor and utility staff to identify the appropriate modeling objectives. Our staff has experience with a number of modeling software, including Kentucky Pipe, WaterCAD, H2ONet, Haestad, and EPA Net among others.

Once the existing models have been evaluated and the modeling objectives have been determined, a report will be prepared summarizing the conclusions and recommendations of the modeling evaluation and to guide future system modeling work.

INITIAL TASK 7 - Conduct Long-Range Planning

Long-range planning is critical to utility operations for several reasons:

- Strategy and tactics are developed to assure the financial integrity of the utility
- Customer service goals are set to achieve the needs of the ratepayers and the community
- Priorities are set for investment in the utility through a multi-year CIP for the continuous renewal and replacement needed to achieve customer service goals
- Annual operating budgets are set considering the long-term plans for system renewal and growth.



Early long-range planning should focus on the fundamentals: preserve acquired assets to protect the investment.

It is important that the utility grow and develop strategically to properly serve its customers. Creating the new community-owned utility will result in many dynamic challenges for its leaders. Priority

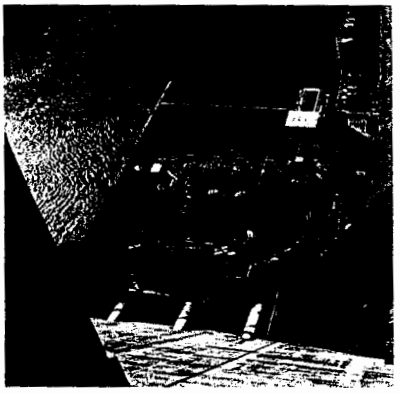
challenges for the City and MVRWD early on are likely to include: implementing effective watershed management; obtaining debt financing for the acquisition and possible system renewal resulting from deferred maintenance; fostering public acceptance and support of the new community-owned utility; implementing effective management policies and procedures, particularly fiscal controls; recruiting and training key (leadership) staff; and maintaining fair, equitable and affordable rates which adequately cover the true cost of expected service levels – now and in the future. The new community-owned utility must build a strong foundation to successfully manage these challenges. Effective long-range planning will be critical to the success of the new utility.

The utility's Long-Range Plan is an important legacy document which can provide overall, general guidance on the most pressing issues facing the new utility. Creating a good Long-Range Plan, and keeping it current from year to year, is an important priority for utility leadership. The Long-Range Plan must address many issues including those related to system growth, water resources management, regulatory compliance, maintaining appropriate customer service and asset renewal and replacement.

R.W. Beck will work closely with the O&M contractor and key staff from the City and MVRWD to create a Long-Range Plan that sets an affordable course of action. We suggest that the initial plan focus on near-term priorities over the first five years. An important feature of the Long-Term Plan is the CIP needed to renew and replace assets to maintain the established and planned levels of service. We discuss our recommendations for Capital Improvement Planning under Recurring Task 9.

INITIAL TASK 8 - Review Security Plans and Proposed Practices

R. W. Beck subcontractor Tetra Tech is the largest contractor supporting EPA's emergency preparedness, response, and counter-terrorism programs. Tetra Tech has also supported FEMA and the Department of Homeland Security in disaster planning and mitigation programs nationwide for three years. Tetra Tech has also supported many other clients with relevant work which include the Army Corps of Engineers, National Park Service, six port facilities, and many state, county, and local government agencies across the United States. Tetra Tech's direct emergency response experience allows them to develop workable solutions, plans, tools, training materials, policies, and procedures to help government agencies and communities mitigate risks and respond to events efficiently.



R. W. Beck team experience with security plant review and system design will help protect critical assets.

We will review the existing Vulnerability Assessment (VAs), Emergency Response Plan (ERP), risk assessments, and other appropriate security plans or programs required by state and federal law. These documents will be benchmarked against EPA Office of Water's *"Instructions to Assist Community Water Systems in Complying with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002"*,; *"Emergency Response Plan Guidance for Small and Medium Community Water Systems to Comply with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002"*, good Water Utility Practices and Tetra Tech's experience with VAs and ERPs across the country.

Our approach to reviewing and/or preparing VAs and ERPs entails quantitative assessments of the reduction of risk through increasing levels of protection, and the assessment of whether proposed additions to security systems would be cost-effective. We will employ a rigorous evaluation of configuration control (defining assets and threats), protective effectiveness (deterrence, detection, delay, and response techniques), and emergency management (mitigation planning) to identify recommended security enhancements to protect the utility's assets, workers and the public.

Our staff is experienced (and certified where applicable) in the use of vulnerability and risk methodologies including: the Risk Assessment Methodology for water utilities (RAM-W) developed by Sandia National Laboratories and the modified RAM-W version for medium to small water systems. Our staff is also familiar and certified to use the Risk Assessment Methodology for Dams (RAM-D); for chemical facilities (RAM-CF); and vulnerability self assessment tool (VSAT) for wastewater systems. We will review the existing VA and ERP for the water system and will prepare a memorandum detailing the completeness and practicality of the existing plans and will make recommendations to enhance, improve and strengthen the existing plans, such as:

1. The feasibility and value of real-time raw water and distributions system water quality monitoring.
2. The value and need for any security upgrades to expand detection, delay and response such as fencing and video upgrades.
3. The cost and value of baseline assessment of cyber threats.
4. The value and need for reviewing threats with local law enforcement when possible.

OUR APPROACH TO RECURRING TASKS

Recurring Task 1 - Represent the Owner in Negotiations

Contract development and negotiations are signature strengths for R .W. Beck. We are broadly recognized in the water utility industry for our expertise advocating for owners as agent for contract development and negotiations for a wide variety of services related to utility operations, maintenance and management. Owners trust R. W. Beck to do the right thing because of our status as an Independent Engineer. By company mission, we are committed to this Independence, and, therefore, we avoid conflicts of interest:

- R.W. Beck does not perform contract operations for clients,
- R. W. Beck does not complete design/build or construction projects for clients, and
- R. W. Beck does not regularly perform detailed design for clients.

This is unique, and others cannot make such definitive 'no conflicts' declarations to the City and MVRWD.

Rather, R. W. Beck is the owner's advocate to go to the marketplace and find and contract for the best services that meet the utility's needs at least cost. Procurement, contract development and negotiations are our specialty. Owners find high value in our approach, because we are expert at leveraging the power of the free market to find the best, most valuable ideas and services for our clients.

"We consider R. W. Beck to be an industry leader in procurement and contractor oversight in the water industry."
Kenneth R. Herd, P.E.,
Director of Operations and Facilities
Tampa Bay Water

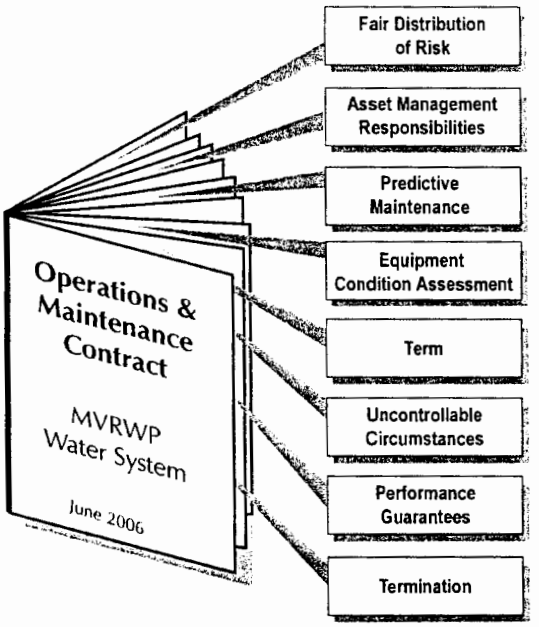
R. W. Beck's procurement and contract negotiations expertise will provide high value to the City and MVRWD for whatever assistance might be needed as the community-owned water utility becomes a reality. We can find you the best value for detailed design engineering and water resources planning as important examples, when the utility is prepared to focus on these priorities in the future.

Meanwhile, a more urgent priority for transitioning the water system to public control and private contract operations is to negotiate an O&M contract with precisely stated terms that are specific in nature and unambiguous in their intent. A clearly crafted agreement gives the utility strong control over the O&M activities of a private operator. In the early private operations contracts, terms were poorly written and, in a many cases, were unenforceable. This led to the perception that public officials lost control over private contract operators that managed public systems. Over the past decade, O&M contracts have reached a high degree of sophistication by considering past lessons learned. R. W. Beck has led the way.

The R. W. Beck Team provides the City with a seasoned group of professionals that are highly regarded in the negotiation of tightly-framed O&M contract terms and conditions that protect the municipality. This type of contract gives the utility the control it seeks, while obtaining affordable service from the contractor.

We are available to join the City's O&M contract development team, if it is viewed that we could be of assistance. We have negotiated numerous private operations contracts and have:

- experience in risk posturing, partnering approaches and scope development,
- expertise in performance security issues (parent company guarantee, letter of credit, performance bond for O&M and capital construction, appropriate insurance protection)
- detailed, first-hand knowledge of usual vendor position on the major contract terms,
- experience negotiating with engineering firms that support O&M contractors for engineering,
- extensive "at the table" negotiating experience with the larger private contractors (several of which may submit proposals to the City) namely, Veolia Water North America, American Water, Earth-Tech, Connecticut Water, and OMI, Inc.
- negotiated water quality and other private operator performance issues, and
- significant experience writing technical contract exhibits, critical to enforcing performance criterion.



Our member governments and their customers are assured an even better value than originally anticipated, as the contract provides higher guaranteed water quality and several project enhancements at a lower price than specified in the original proposal."
Charles Carden, Project Manager
Tampa Bay Water

Typically, a variety of complex issues associated with the contracted O&M of a water system are incorporated into the O&M contract. Example terms and conditions of an O&M contract that help achieve community-owned utility goals are as follows:

1. ***"Adherence to Applicable Law".*** All responsibilities of the O&M contractor, and its subcontractors, must be performed in accordance with Applicable Law.

2. ***"As-is" Equipment and Structures Risk.*** The O&M contractor assumes the "as-is" risk of the condition of the water system assets in agreeing to its obligations under the contract. In addition, the O&M contractor assumes the "as-is' condition for Capital Improvements that are made during the term of the contract, whether or not the O&M contractor was responsible for the work.

3. ***"Term of Service".*** The City has decided that the initial term of service will be for a period of six years, with three options for two-year renewals. The City may wish to consider changing the initial term to ten years with two options for five-year renewals. When negotiating this provision, consideration is given to the correlation between the length of the agreement and the contract price. From our experience, a longer term allows the O&M contractor to amortize the costs associated with the procurement of the agreement, capital investments made or to be made, and costs associated with the transition of the existing labor force over a longer period of time. This can reduce the overall cost of service. A longer term can also provide opportunities for improved operational performance and additional cost savings and efficiencies over time, particularly if financial incentives to the operator are provided.

4. ***"Contract Standards".*** The standards, terms, conditions, methods, techniques and practices imposed or required by: (1) Applicable Law; (2) the Performance Guarantees; (3) Prudent Industry Operation and Maintenance Practice; (4) the water system operation and maintenance manual and standard operating procedures; (5) applicable written equipment manufacturers' specifications and operation and maintenance standards; and (6) applicable Insurance Requirements.

5. ***"Uncontrollable Circumstances".*** Any act, event or condition that is beyond the reasonable control of the party relying on this definition as justification for not performing an obligation or condition of the contract, and materially causes an expanded scope, interferences with or delays or increases the cost of services. O&M contractors can claim excessive changes to the contract due to uncontrollable circumstances (UC) if performance criterions are loosely defined. Contract changes due to UC are mitigated by defining what constitutes an UC and, and more importantly, defining exclusions to UCs. Typical inclusions are: (1) naturally occurring events (except weather conditions normal for the area and season) and (2) changes in Applicable Law not related to the negligence or fault of the O&M contractor. Typical exclusions are: (1) an event or circumstance that would not have occurred but for the O&M contractor's failure to comply with the contract and (2) changes in general economic conditions.

6. ***"Asset Management".*** The O&M contractor provides complete asset management of the assets to include computer asset management software implementation, equipment renewal, repair or replacement decisions, integrated capital improvement and financial management decisions.

7. ***"Warranties".*** The O&M contractor maintains manufacturer's warranties on equipment installed before and at any time during the term of the contract and enforces, on behalf of the City, all warranties.

8. ***"Performance Guarantees".*** Some typical guarantees are: law compliance, finished water quality, finished water quantity, environmental guarantee, water pressure, water production efficiency, unaccounted-for water, distribution system water quality, treated water storage and, if the City desired, an electrical usage guarantee.

9. ***"Termination for Convenience" and "Cooperation Upon Termination".*** The City maintain the right, at anytime during the contract to terminate the contract after providing 30 days written notice and payment of a negotiated convenience termination fee. The termination fee can be a stipulated amount that decreases as the term progresses.

10. ***"Condition of Returned Assets".*** Upon termination or expiration of the contract, the O&M contractor returns the water system assets to the utility in an equal to or better condition as they were made available to it at the commencement of the contract.

The utility may also wish to consider certain contracting innovations which can save money by sharing risks. Examples are incentive terms for reduced fuel, chemical, and electricity use.

We have deep expertise in all facets of utility operations, maintenance and management that can be brought to bear on behalf of the utility to procure and negotiate good contacts for whatever good or service it might need to achieve its customer service objectives.

Recurring Task 2 - Audit Performance of Contractor Planned Maintenance Activities

Planned maintenance activities are proactive and performed to prevent, minimize or delay asset failures or shutdowns resulting in unplanned maintenance. We will review the O&M contractor's compliance with contract terms requiring adequate planned maintenance which usually include: preventive maintenance, predictive maintenance testing, and corrective maintenance.

In monitoring the O&M contractor's maintenance routine, we will look for an appropriate level of planned maintenance that strikes a balance between responding to unplanned maintenance--which can drive unbudgeted costs up--and routine maintenance at an appropriate level of effort to preserve the assets. To help determine an optimum balance of planned and unplanned maintenance, we would consider the following:

1. Are the planned maintenance activities appropriate considering historic failure modes, manufacturer's recommendations and experience of operating staff?
2. Are the intervals of planned maintenance appropriate in length?
3. Are the impact analyses of failure well thought out and sound? Should corrective maintenance be allowed?
4. Has a Computerized Maintenance Management System been implemented?

Annual Updates of Asset Registry. We propose that the O&M contractor update the Asset Registry once per Contract Year, including updates of any material changes in mission critical equipment status. All newly added assets would be entered in the Asset Registry together with evaluation information, installation date, and installed cost. All assets that are removed from service shall be deleted from the Registry. We would audit the contractor's compliance with this requirement to help ensure that the database is current. Maintaining the database will ensure that good information is always available for updating annual operating budgets and the CIP.

A final inspection of the acquired assets would be conducted by the O&M contractor and the City at the end of the contract term to verify compliance with the Maintenance Plan and Renewal, Repair and Replacement Plan.

Recurring Task 3 - Review O&M Contractor Unplanned Maintenance Requests

Our recommended Maintenance Management Program, described earlier in Initial Tasks 2 and 4, minimizes costly and disruptive unplanned maintenance. Therefore, unplanned maintenance activities will mostly be associated with uncontrollable circumstances, only.

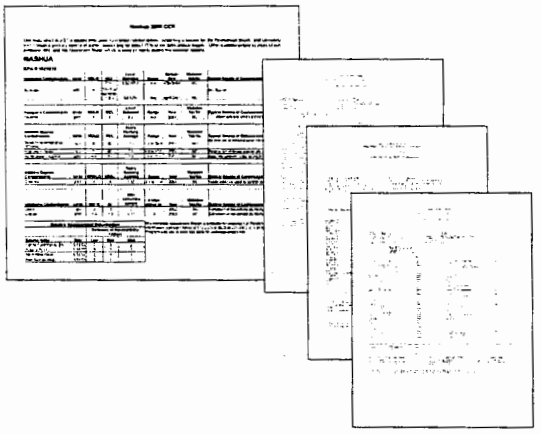
We would perform a detailed evaluation of all unplanned maintenance requests to ensure that they are reasonable and appropriate. We would evaluate the conditions leading up to the unplanned maintenance event to determine if the events are traceable to O&M contractor non-performance of its contract obligations and contract conditions, or if the contractor failed to properly and faithfully execute the approved Maintenance Plan. Unplanned maintenance would only be approved if it results from circumstances beyond the control of the O&M contractor.

The situation would also be reviewed considering the approved CIP to determine the least-cost alternative plan of action based on a life-cycle cost analysis of the asset. The contractor would be directed to proceed with the least-cost option of maintenance, asset replacement or renewal, depending on the life-cycle cost analysis.

Recurring Task 4 - Review and Evaluate Operational Data

Water Treatment Plants generate volumes of data and statistics to monitor performance and are required to regularly report to the state regulatory agency, New Hampshire Department of Environmental Services. Typical data collected includes:

- Raw Water Quality and Quantity
- Finished Water Quality and Quantity
- Chemical Use Data
- Filter Backwash Water Quality and Quantity
- Waste Backwash Water Quality and Quantity
- Recycle Water Quality and Quantity
- Residuals Production Data
- Filter Run Times and Unit Filter Run Volumes
- Other Process Performance Parameters.



We use Statistical Process Control Strategies to assure high quality water production at least cost.

We will review this data and work closely with the O&M contractor to assess its completeness and accuracy. This will include reviewing and checking the O&M contractor's QA/QC procedures for analytical tests and calibration of devises and instruments used to collect and record data. Close attention will be given to all operating data as they pertain to regulatory requirements, design limits or license to make sure that the facility is operating as required.

We will work with the O&M contractor to prepare and use Statistical Process Control (SPC) tools to optimize the treatment plant operations for the least cost of operation and consistently high quality potable water.

These analytic tools allow operators to identify significant trends much faster and direct appropriate process changes that are proactive and effective at maintaining optimum performance. These are powerful control tools used by many major industries, including the local Anheuser-Busch facility, to optimize process performance.

Recurring Task 5 - Review and Evaluate Test Results for External Reports

Every water utility is required to prepare and submit monthly and annual reports to comply with federal and state regulations. Included are monthly reports on water quality leaving the water treatment plant and in the distribution system. The reports provide the regulatory agency with verification that the water treatment system is being operated within the regulatory requirements. Monthly reports are required for each chemical used to treat the water, turbidity reports and a report showing the adequacy of disinfection. Monthly bacterial, chlorine residual, disinfection by-products and lead and copper reports are also required to demonstrate that the water produced is meeting all the drinking water quality regulations and standards throughout the distribution and storage system. In addition to the routine monthly reports, there are comprehensive annual statistical reports, which summarize operational data on every aspect of the supply, treatment, distribution and storage system within the utility.

The Enhanced Surface Water Treatment Rule – LT2, the Stage 2 Disinfection By-Products Rule (DBP) and the Lead and Copper Rule (LCR) all have different requirements for specifically designed sampling, monitoring, and reporting programs to make sure that the water quality leaving the water treatment plant remains consistent throughout the distribution and storage facilities. We will review reports prepared for submittal to the regulatory agencies, the owner and the public to be sure that appropriate data is accurately collected and reported. We will work closely with the O&M contractor to implement a QA/QC program for analytical tests and calibration of devices and instruments used to monitor and record process performance and water quality.

We will provide oversight review of the sampling and monitoring programs to make sure that they are designed to best monitor the performance of the treatment facilities and water quality within the distribution system and storage facilities. We will also monitor the data collection process to make sure that the O&M contractor is collecting all of the required data and using the proper sampling and analytical procedures. Real-time raw water and distribution system water quality monitoring will be assessed as part of the security reviews. The security needs and recommendations will be incorporated in the design of these sampling and monitoring programs.

Each water utility is also required to prepare and distribute an annual water quality report to all of their customers called a Consumers Confidence Report. This annual water quality report summarizes the overall system performance related to required drinking water quality standards. A properly designed Annual Water Quality Report can be a significant communications tool for a utility to keep the general public aware and supportive of the utility's performance. We will provide technical and public relations input to these Consumer Confidence Reports to help build public confidence in the utility.

Recurring Task 6 - Review and Test Security Plan

We will conduct continuing reviews of the O&M contractor's and the Owner's Security Plans. On an annual basis, we will review and assess the number and type of incidents and prepare a summary. We will evaluate the response to each incident to determine if it was in accordance with the Security Plan

We have considerable experience in utility asset hardening to improve security including conducting mock drills.

and if the response required by the plan was appropriate. When necessary, we will propose modifications to the Security Plan or improvements to the facilities to enhance and strengthen security and to provide appropriate responses to each incident.

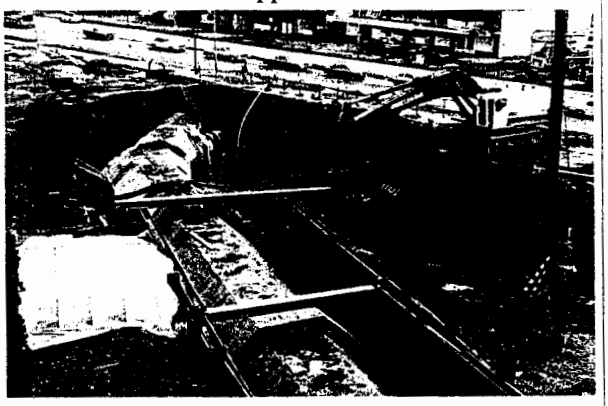
As an optional service, we could also develop and implement specific procedures that will test the O&M contractor's response to controlled but unannounced hypothetical incidents. Examples of possible incidents could include:

- Breaking and Entering (B&Es)
- Spill Response to Hazardous Materials in the Watershed
- Response to Hazardous Materials in the Raw Water
- Response to a Compromise of a Critical Asset (storage tank, service pump, chemical feed, transmission mains)
- Chemical spill or other sabotage by disgruntled employee
- Response to Regional Power Outage
- Cyber Attack.

We will assess the appropriateness and timeliness of the O&M contractor's response and provide recommendations on ways to improve the detection, delay and response to various threats.

Recurring Task 7 - Coordinate Construction

Construction coordination will be on an "as-needed" basis throughout the term of the O&M contract. We will develop, prepare and submit to the City, a Construction Administration Plan (CAP) for project organization and the performance of oversight of future construction. We would be responsible for construction administration of the capital improvements in accordance with the approved CAP. During construction, we would oversee and monitor the work for compliance with the contract documents; prepare the procedures for and oversee the start-up tests; supervise acceptance testing; and through a resident project representative, represent the utility according to industry standards for construction administration services, so that the construction work is completed in conformance with the requirements of relevant contract documents.

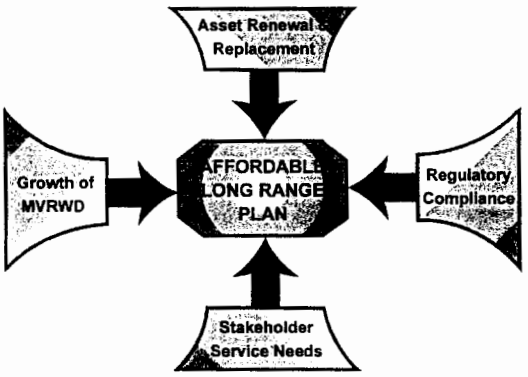


Minimizing the impact of construction on the community is a priority.

We would work with the O&M contractor to coordinate the construction work to minimize interference with normal operation of the water system. We would observe the construction work and conduct specific quality assurance testing to confirm that the

contractor is completing construction work according to specified requirements. We would perform construction oversight and coordination tasks to industry standards as defined by the National Society of Professional Engineers.

Recurring Task 8 - Long-Range Planning



The long-range plan balances many issues to set an affordable course of action.

As the new utility gets its legs after a year of operation, its long-range priorities will come into sharper focus. After the urgent needs of year one are addressed, the utility will likely begin to concentrate on longer range issues such as service area expansion; on-going watershed protection; regional water resources management; staff expansion and development; inter-governmental relations; business process enhancement such as procurement systems development; grantsmanship and external funding; and continuous customer service improvement. It might also be appropriate to complete a Strategic Plan for the utility at that time. We discuss our approach to strategic planning in the following subsection as an optional task.

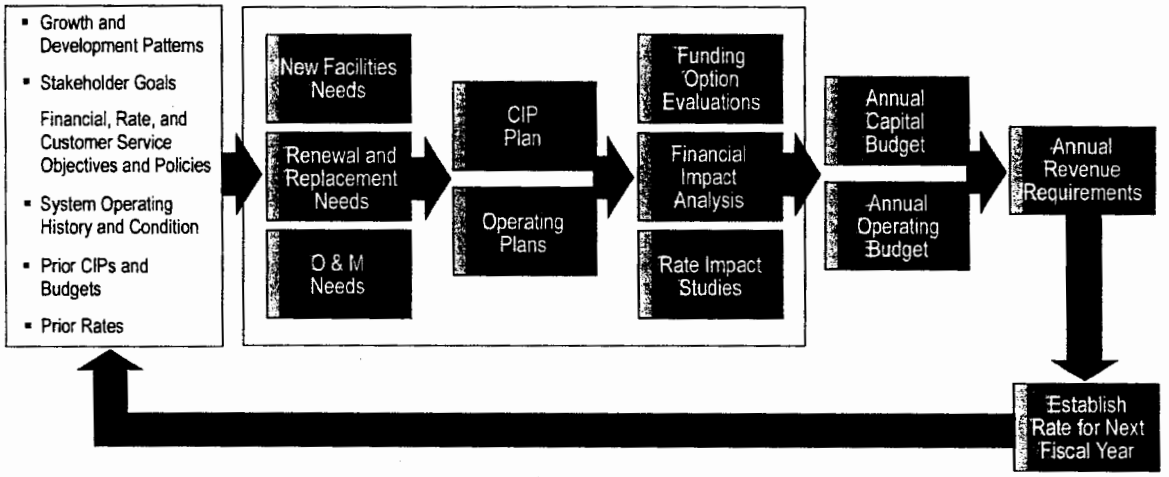
As the utility matures, we will support it with ongoing, annual updates to the Long-Range Plan. We envision a highly collaborative process with key stakeholders to assure that the Long-Range Plan remains current with the highest priorities of the utility's leadership. As an engineering-based management consultant, with deep experience with water utility municipalization and operations, R. W. Beck is well suited to assist the City and MVRWD in providing excellent service to its customers at the least cost, while enhancing the local environment.

Recurring Task 9 - Review Capital Improvement Plans

Effective management of the capital improvement planning process is critical to successful utility operations. The new community-owned utility must continuously invest in the creation of new assets, and the renewal and replacement of existing assets, in order to achieve present and future customer service objectives. Well-run utilities conduct diligent, on-going capital improvement planning in order to maximize the leverage of the limited capital available; prioritize needs to assure adequate service levels; and to stabilize rates. We view a utility's CIP as a business system, which combines important organizational, financial and political issues together into an integrated action plan. The approved CIP must be affordable within the selected rate structure, address deferred and ongoing asset renewal and replacement, and anticipate the future needs of the utility by providing the new assets that might be required by service area population growth, changing regulations, or system expansion. Specific inputs to the CIP will come from the results of the Condition Plan Evaluation (Task 4); the Hydraulic Model Evaluation (Task 5); and the Security Plan Review (Task 8).

The O&M contractor's condition study of fixed assets is perhaps the most critical input to the new utility's Capital Improvement Planning in the near term. As presented in our Initial Task 4 discussion, we recommend that the O&M contractor develop a comprehensive asset register of all major fixed assets of the utility. When complete, the asset register database will be a powerful tool for Long-Range Planning related to capital improvements for renewal and replacement of existing assets. If completed according to our recommendations, the O&M contractor's condition plan will provide a comprehensive summary of the condition of all of the utility's equipment and structures upon the taking of the assets.

The new utility will know the current condition of all equipment and structures, their remaining useful life, and what is not "fit for purpose" and must be upgraded or replaced. Furthermore, a relative ranking of all mission critical equipment will be identified so that the utility knows where to spend limited capital most effectively to mange operations risks.



A comprehensive capital improvement planning process achieves customer service goals at least cost.

We propose that the O&M contractor assess the impact of asset failure to determine if an asset is mission critical and the consequences to the utility if the asset becomes non-operational. Similarly, the O&M contractor determines the utility impact of an asset that is operating at a sub-standard level, has defects (a condition in an asset that may prevent it from operating as intended), is in poor condition or has a low Functional/Structural Evaluation.

With this information in hand, capital improvements needed to maintain established customer service levels can be prioritized and scheduled. The result is a time-scaled list of improvements that O&M staff can agree are necessary. These data would be the basis of the utility's Capital Improvement Planning related to existing assets.

SOME OPTIONAL TASKS YOU MIGHT WISH TO CONSIDER

As an engineering-based management consultant, R. W. Beck is a national leader in the creation of municipal utilities and related operations contract oversight. As such, our staff is comprised of Subject Matter Experts offering broad qualifications and experience in a variety of areas related to utility creation and operations. The deep qualifications of some of our specialists are briefly described in Section 2. Should the new utility wish to call upon the expertise of the R. W. Beck team more broadly than required by the scope of work included in the RFP, some of the optional tasks that might be considered are described in this section of our Technical Approach. It is important to note, that all of these capabilities are available to the new utility through the staff of R. W. Beck, Inc. and Tetra Tech Inc. We are specialists in utility creation, management and oversight. Therefore, we have not had to create a cumbersome team of numerous affiliates to achieve your goals. The benefit to you is efficient project management and delivery of superior work products.

On the following pages, we describe some of the priority activities that we believe might be of value to the new community-owned utility as it faces the many and significant challenges of starting up. Our suggested additional, optional scope of work items, which are offered for your consideration are:

- Community Outreach
- Comprehensive Watershed Planning
- Financial Consulting
- Strategic Planning
- Grant Funding Assistance

OPTIONAL TASK 1 - Community Outreach

The City and MVRWD have engaged in a prudent but locally uncommon process of acquiring the assets of the private company that has been the local water supplier for generations. The acquisition has turned rancorous with the parties now involved in contentious public proceedings. The private utility has embarked on a directed publicity campaign to personalize the debate, and to discredit the obvious merits to the community of the municipalization of the private water company.

Diverse stakeholder interests must be considered in a successful Public Outreach Program.

Successful start-up of the new community-owned water utility will require the support and involvement of a number of local governments, the state, and the general public. It is important, therefore, for the new utility to consider implementing a proactive public outreach program to help achieve rapid and deep community support. Positive community relations occur most successfully using a variety of media and approaches over an extended time period. It requires a directed strategy, coupled with skills in publicity and promotion. To positively position the utility in the community, a specific public outreach campaign could be created and implemented. It would target the audience; establish the desired impact and message; educate the public; and actively promote positive intergovernmental relations.

A successful community outreach program is designed to reach the target audience including community leaders, elected decision-makers, merchants, City and MVRWD employees, special interest groups, and concerned citizens of all ages. The goal is to reach everyone, understanding that different audiences respond to different approaches and styles.

Establishing the message is the result of teamwork – a core group of selected stakeholders from the City and MVRWD would meet periodically in a workshop-type meeting, facilitated by the R. W. Beck team, to create and refine information that the differing audiences need to know.

Educating the public requires using public relations and publicity tools. Samples include newspaper listings; news releases, and feature articles; publicity photos; direct mail; live meetings; local cable television; brochures; spokesperson interviews and testimonials; and bulletin board flyers. Selection of

the appropriate tool(s) is based on the target audience, the image created, the message, the timing, and the available budget.

The budget determines the quantity, frequency, and type of positioning campaign. Note that very effective campaigns can be implemented with huge success on a limited budget. Greater results are achieved when well-defined positioning activities occur over a specified time period. If requested by the utility, we would design a public education campaign based on objectives established by the chosen message. The theme, message, and style will be tailored to make the desired impression. A plan can also be prepared for immediate implementation in case the utility experiences an emergency.

Effective Intergovernmental Relations is a key element of successful public outreach programs. The City and MVRWD must assure the participation and buy-in of all government entities and agencies that affect the acquisition, start-up and operation of the new community-owned water utility. It is essential for local and state lawmakers to be kept apprised of progress to assure their on-going support for key decisions that the new utility will make early on.

Sensitive to the critical importance of effective intergovernmental relations to the creation and commissioning of the community-owned utility, the R.W. Beck team includes several important New Hampshire thought leaders with many years of experience as public servants in local, state and federal government. Their collective knowledge, insight, integrity and effective working relationships at all levels of government could be invaluable to the City and MVRWD. Their experience and relationships would be valuable in both the regulatory and grant funding areas, should you wish to engage them.

Highlights of R.W. Beck's Government Relations team staff follows:

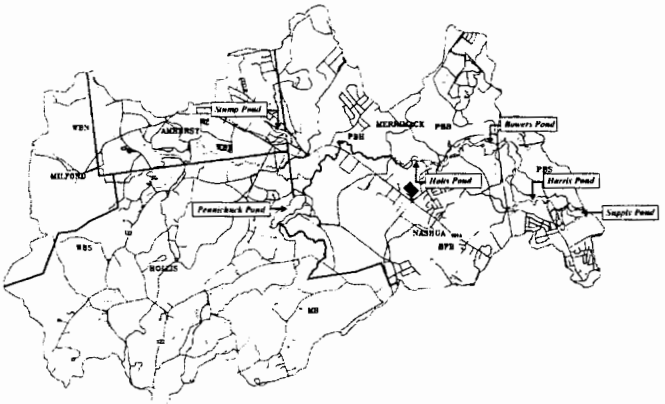
John A. Clements, P.E., Vice President Tetra Tech, Inc., former Commissioner New Hampshire Public Works and Highways; former Chairman, New Hampshire Republican Party; Director, American Public Works Association; former Associate Administrator Federal Highway Administration; former President and Board Member, Business and Industry Association of New Hampshire; New Hampshire Industrial Development Authority, Board Member and Treasurer.

Jeffery H. Taylor, President Jeffrey H. Taylor and Associates; former Director, New Hampshire Office of State Planning serving Governor's Gregg, Merrill & Shaheen.

Individually and collectively, these veterans of New Hampshire state government have enviable reputations for trustworthiness and uncommon track records for consensus and coalition building on any number of important state initiatives. The community-owned utility will find no better advocacy, either locally, at the State House, or in Washington, D.C., for issues of import to the City and MVRWD, than these highly accomplished former public servants.

OPTIONAL TASK 2 - Comprehensive Watershed Protection Planning and Management Program

The water utility industry and the Safe Drinking Water Act prioritize "source protection" for the control of drinking water quality. Research shows that the quality of treated drinking water, compliance with the Stages I and II Disinfection By-Products Rule, the Interim Enhanced Surface Water Treatment Rule and the Long-Term 1 and Long-Term 2 Enhanced Surface Water Treatment Rules of the Safe Drinking Water Act is directly related to the quality of the source water.



Our nationally recognized expertise in watershed management can help protect your water supply.

Water quality problems in watersheds are often caused by human activities and land use practices. Land use related impacts include stormwater run-off over developed property, chemicals from agricultural areas and lawns; septic systems; construction related erosion and sedimentation; improper chemical storage and handling; illegal wastewater discharges; and leaking underground storage tanks.

Local Background Data/Protective Measures in Force. Recognizing the role that urbanization plays in reducing the watershed's yield over time, the City established an ordinance that requires infiltration of stormwater at most sites within the watershed. PWW was designated to provide the expertise to review the Best Management Practices (stormwater control, drainage, run-off), designs and operation and maintenance plans of developers creating development within the watershed of the region.

The State of New Hampshire also recognizes the importance of watershed protection issues. Under RSA 485:23 local officials and local citizens can petition the New Hampshire Department of Environmental Services (NHDES) to investigate local regulations that are not adequate to prevent contamination of water supply sources. NHDES has adopted rules, Env-Ws Part 386, to protect half of New Hampshire's surface supply sources.

An assessment of the vulnerability of the City's surface water supplies, to a number of specific criterion, was performed by the NHDES in 2001, updated in 2003. The three surface supplies, Harris Pond/Pennichuck Brook, Merrimack River and Supply Pond/Springs, were given a vulnerability ranking to impact criteria such as: septic systems, farming, urban land use, highways, known contamination sources, and nutrients.

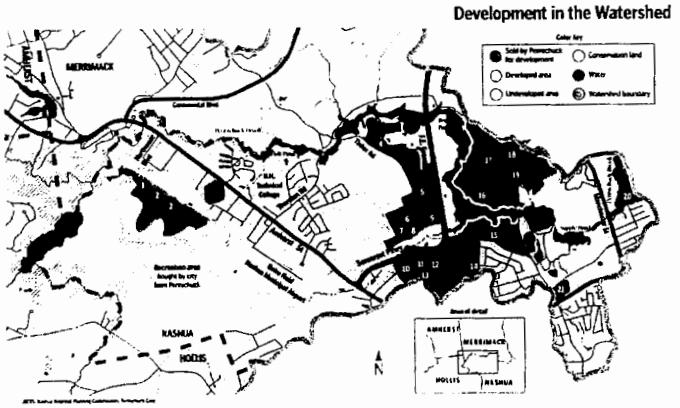
Pennichuck Corporation Practices. In April of 1983, the PUC allowed Pennichuck Corporation, the parent holding company of PWW, to be formed. One of the PUC conditions of forming the holding company required it to retain the critical lands necessary for adequate watershed protection. That same year, the newly-formed Pennichuck Corporation created a subsidiary, the Southwood Corporation, to act as a real estate development company. Also in 1983, Pennichuck Corporation transferred 1,088 acres of watershed buffer zone and other key watershed land to the Southwood Corporation. Between 1984 and 2001, the Southwood Corporation sold and/or developed 796 of the transferred 1,088 acres or approximately 73 percent of the properties transferred. This development of the watershed by Southwood continues today.

Many local watershed groups with stakeholders within MVRWD have organized. The Pennichuck Brook Watershed Council is one such group that is very concerned about watershed issues. Local watershed groups believe Pennichuck Corporation has not been a good steward of the water supply watershed.

MVRWD Watershed Protection --- Overdue Priority within the Region. Based on review of readily available information, we believe that the quality of the source water of the watershed within MVRWD, risks further decline unless active watershed protection and management measures are undertaken.

At the time the PWW Assets are acquired, we recommend the City conduct the required investigations to begin remediation of existing water quality problems in its source water and the prevention of future water quality degradation within its watershed. We propose that the new utility develop a multi-faceted watershed source protection program to protect its drinking water sources within MVRWD.

The first step in establishing such a program is to extensively revise the PWW Watershed Management Plan to be in compliance with the latest water industry model watershed protection plans. The PWW Watershed Management Plan, as evaluated in the 2003 Comprehensive Review of the Pennichuck Water System, is deficient in several areas. For example: non-point source pollution studies were conducted within the watershed without implementation of their recommendations, acquisition of conservation and buffer zone land within the watershed is essentially non-existent; a coordinated deicing program should be completed; and emergency response procedures for spill control within the watershed, along with appropriate drills, need to be shaped and validated.



Watershed protection must become a regional priority to maintain drinking water quality.

The second step is to aggressively implement the recommendations of the revised watershed plan among all of the stakeholders within the region with vigor. A watershed management plan produced merely to satisfy regulatory intervention that just "sits on the shelf" is not beneficial.

We recommend that upon acquisition of the PWW assets, the utility immediately begin to develop and implement an aggressive source protection program, inclusive of the following:

- an accurate technical basis for setting source protection priorities;
- participation of local communities in stewardship and public education about drinking water supplies;
- sustain a highly visible presence throughout MVRWD to foster local community participation;
- coordination with key elected officials, planning and zoning commissions, economic development commissions, conservation commissions and inland wetlands commissions, the Nashua Regional Planning Commission, regarding development issues, site plan reviews, and subdivision regulations;
- adopt regulations and ordinances framed to protect the watersheds within MVRWD;
- inspect existing land uses for compliance with local and state water quality protection regulations;
- cooperation among municipalities within MVRWD to control land uses in critical areas;
- cooperation among municipalities within MVRWD to purchase or acquire additional land for source protection;

- support the return of the remaining Southwood properties to watershed protection or obtain conservation easements, per the New Hampshire Forest Program;
- support additional New Hampshire water source supply protection regulations;
- comprehensive monitoring of water quality in the watersheds and aquifer recharge area;,
- maintenance of accurate maps that delineate watershed boundaries along with land use;
- coordination with state and local agencies in investigating contamination incidents;
- inspection and patrols of watershed resources;
- implementation of security measures on a priority basis;
- implement Best Management Practice to remediate non-point source contamination; and
- development of an emergency spill response protocol.

We also suggest that the new utility establish active watershed field inspection and procedures to mitigate the negative impacts of watershed land uses. These should include:

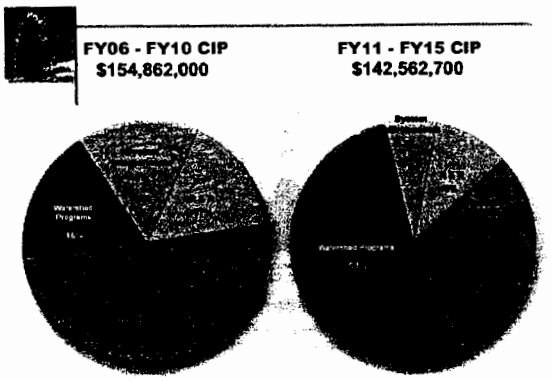
- Identify violations of state and local water supply protection regulations and inform land owners and appropriate enforcement agencies when violations occur.
- Recommend best management practices for unregulated land use that affects water supplies.
- Maintain records of chemical use and potential contaminant routes at specific sites for use in water quality investigations and land use risk assessment.
- Educate property owners and the employees of business establishments on the watershed about water supply protection issues.
- Ensure that land management techniques used at the utility's facilities and properties are exemplary and in compliance with all applicable State and Federal regulations to serve as a model for others.

The R. W. Beck team, including Tetra Tech, has in-depth experience in watershed management and is recognized locally and nationally for its technical and policy leadership in this critical area. Should the new community-owned utility wish to proceed urgently with development of the Resource Plan required by MVRWD Charter, we are very well suited and poised to do it.

OPTIONAL TASK 3 - Financial Consulting

Water utilities under government ownership have distinct financial advantages over investor-owned utilities (IOU) including no liability for dividend payments to shareholders, income taxes, or sales tax, and a significant advantage for lower cost capital borrowing, given current tax law.

Each of these advantages results in lower operating expenses or reduced debt service requirements when compared with an investor-owned system, which reduces the cost of service to water users. Also, the assets are owned by the community; as debts are paid down over time, equity accrues to the customers.



The new utility's Capital Improvement Plan must balance multiple needs including deferred maintenance.

Given these advantages, why do government-owned systems often struggle after acquisition of an IOU? R. W. Beck has observed several reasons why this occurs:

1. Initial capital needs under government ownership are underestimated upon acquisition.
2. Political pressures limit rate increases needed to sustain financial stability and cover debt.
3. Limited due diligence prior to acquisition leads to an incomplete condition assessment, so more capital investment is needed to correct deferred capital and maintenance problems unknown at acquisition.
4. Regulatory changes are not anticipated and built into the capital program or O&M cost structure.
5. Optimistic growth projections lead to higher projected future revenues than are realized.
6. Governments are sometimes out-negotiated by the IOU, resulting in a high purchase price.
7. The total cost of selling bonds, including consultant fees, bond counsel, underwriters and bond insurance, are not accounted for as part of the purchase price and debt structure.
8. Customers expect better customer service from a government-owned and operated system.

The 2003 report by Tetra Tech subsidiary Rizzo and Associates entitled, *Summary Report-Comprehensive Review, Pennichuck Water System, Nashua, New Hampshire"*, provided a comparison of the system under IOU and City ownership. Based on their analysis, they predicted: *"Excluding inflation, rate increases under City ownership are projected to be 28% over the 20-year projection period. Rate increases under PSC ownership are projected to be 49.5%, almost twice the City scenario".*

While one could argue the specifics of the projected rates, the City's lower cost of capital alone will result in a lower debt service payment to fund the utility's capital program, with reduced rate increases resulting. Nevertheless, the City must carefully construct a financial model for the utility prior to final acquisition. In preparation for this business modeling, the City may wish to take the following steps before taking possession of the utility:

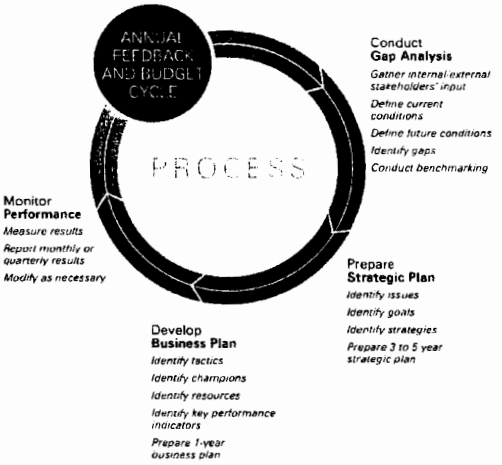
1. **Initiate detailed engineering due diligence on system assets.** The City has been provided very limited access to the PWW sites and records. Prior to a final commitment to purchase price, the City should conduct site visits, condition assessments and record review to better understand deficiencies and capital needs. The previously referenced Rizzo report outlined a $40 million 5-year capital need compared with $24 million contained in the PWW annual reports with limited information. Our experience suggests that digging deeper will uncover more problems and higher capital needs.
2. **Engage a certified utility appraiser.** Appraisals of water systems should not be based on a single method of valuation, such as Replacement Cost New Less Depreciation (RCNLD), Comparable Sales, or an Income Approach. Rather, each of these methods should be investigated under the direction of a Certified Utility Appraiser, who can represent the City in final pricing negotiations and possible testimony in condemnation proceedings.

3. **Evaluate O&M costs and renewal and replacement needs.** Experienced plant operations personnel should review the existing O&M costs and R&R allowances. These costs should be reviewed considering likely increases resulting from enhanced treatment to meet new regulations.
4. **Review/revise CIP.** The PWW CIP should be reviewed to ensure compliance with regulatory changes, customer growth and infrastructure replacement needs. Population growth in Nashua and surrounding communities is significant. Accounting for the growth and establishing appropriate connection charges will be important to the new utility's future financial stability.
5. **Develop financial planning model.** Given the inputs from Items 1 through 4 above, a financial model is constructed to help calculate debt service coverage and projected rate increases. These tools allow the utility to analyze "what if", with input variables such as interest rates and timing of capital expenditures. Once developed, ongoing models become important planning tools for the utility's annual budgeting, rate setting and managing capital.

The figure on Page 3-19 summarizes how capital and operating costs can be incorporated into a financial planning system to develop an integrated asset management program and achieve financial equilibrium.

OPTIONAL TASK 4 - Strategic Planning

Many organizations fail to achieve their full potential because they lack organizational consensus on its mission and the strategy to achieve it. Conversely, organizations thrive when all stakeholders agree on and are energized about a clearly-defined strategy to achieve a common mission. Young organizations, such as the soon to be formed community-owned water utility to server greater Nashua, are particularly challenged to gain consensus on critical issues if only because of the lack of institutional history. These challenges can slow critical decision-making and prevent efficient governance and utility operation.



Our strategic planning process drives continuous improvements in utility operations.

We are regularly involved in facilitating the strategic planning of major water utilities across the country. In the past few months alone, R. W. Beck completed strategic planning consultancies for utilities in San Diego, Kauai, and Nashville. As shown in the accompanying figure, our planning process follows a simple business model that promotes continuous improvement.

The City and MVRWD may wish to complete a strategic planning process as an early action item once the community-owned utility is created and begins operations in earnest. The benefits to the utility would include: organizational alignment and stakeholder agreement on key challenges that face the utility in the near term and into the future; understanding the available core competencies and priority areas to close competency gaps to assure key performance requirements; establishing clear, consensus goals for the utility within the planning horizon; and documenting a consensus plan among all stakeholders of the strategic direction of the utility, along with the supporting tactics to achieve the planned strategy.

It is important that the utility grow and develop strategically to properly serve its customers. A key to the success of the process is staff involvement and support. The challenges faced by the City and MVRWD

will be dynamic as a result of creating the new community-owned utility. Key challenges include: the need for effective watershed management; debt financing for the acquisition and possible system renewal resulting from deferred maintenance; community acceptance and support of the new community-owned utility; implementation of effective management policies and procedures, particularly fiscal controls; recruiting and training key (leadership) staff; and maintaining fair, equitable and affordable rates which adequately cover the true cost of service. The new customer-owned utility must build a strong foundation to successfully manage these challenges.

The overall strategy of the utility must be integrated with day-to-day activities. It is important that these activities are developed as specific tactics, are measured to ensure completion and most of all, are budgeted as part of the business planning cycle so that strategic activities are, in fact, completed in the normal course of day-to-day business. The key to a successful strategic and business planning process is developing a document that has value and will be adopted and used. Our approach is to develop a simple but operative process, which integrates the strategic plan with the utility's annual budget cycle. This connection helps to insure that short- and-long term business strategies are accounted for in the City/District's annual budget planning process. It is recommended that the management of the new community-owned utility update and drive the strategic plan forward one year at a time and revise it on an annual basis. This will keep the plan current and responsive to changing economic, technical, and/or political conditions.

We offer the City and MVRWD a planning process that produces practical, flexible, and useful strategic and business plans. This process has been adopted by a number of leading water utilities across the country, including the Santa Clara Valley Water District and the Orange County Water District.

OPTIONAL TASK 5 - Grant Funding Assistance

The new utility will be faced with a variety of investment needs including addressing deferred maintenance, planning for system growth, and dramatically improving watershed management. The ratepayers may not be able to afford all of the investments that the utility leadership might recommend. Obtaining grants, special funding considerations and low cost loans are some of the ways public utilities use to address their capital requirements and stabilize rates.

We understand the financial needs of its public sector clients and has been very successful assisting utilities with procuring financing and grant funds. Our staff is experienced in all phases and types of State and Federal programs, including the Drinking Water Revolving Fund (DWRF) loan programs; State Revolving Fund (SRF) loan programs; Community Development Block Grant (CDBG) programs; Rural Development Water and Waste Disposal grant and loan program; EPA's Environmental Programs and Management (EPM) Grants Program; Special Appropriations Projects (SPAPs) administered under EPA's State and Tribal Assistance Grants (STAG) Program; and many others.

EPA's current Environmental Programs and Management (EPM) account is funded at $2.3 billion for the development of environmental standards; monitoring and surveillances of pollution conditions; direct Federal pollution control planning; technical assistance to pollution control agencies, and organizations; preparation of environmental impact statements, enforcement and compliance assurance, and assistance to Federal agencies in complying with environmental standards. The EPA's State and Tribal Assistance Grants (STAG) account is funded at $3.9 billion. The STAG account funds grants to support the state revolving fund programs; state, tribal, regional, and local environmental programs; and special projects to address critical water and waste treatment needs.

R. W. Beck's subcontractor Tetra Tech has been very successful obtaining grant funding for its utility clients over the years. Grant applications prepared by Tetra Tech staff have been well received by State and Federal reviewers. Tetra Tech's grants staff is led by Nate Zill who has over 25 years of experience assisting clients by
preparing grant application packages and providing guidance on regulation affecting grants programs.

R. W. Beck team staff has been active in government relations and funding for major projects in the region, including the Central Artery/Tunnel Project in Boston.

We have developed and maintained good working relationships with the managers and staff of many of the funding program reviewing agencies. Tetra Tech has received recognition from the EPA and several State Departments of Environmental Protection or Quality for their role in the successful completion of complex projects, where multiple sources of funding were received that involved the construction of road, water, and sewer system improvements.

Most of the direct grant money will come from Federal Agencies and Congressional special amendments to Congressional Water legislation which will best be facilitated through personal contacts with New Hampshire's Congressman Charlie Bass, Senator Judd Gregg (a Nashua native and Chairman of the Congressional Budget Committee) and Senator John Sununu. Our team, including John Clements and Jeff Taylor, is uniquely well-positioned and experienced working both locally and federally to secure grant and loan funding. John, as previous President of the Highway Users Federation in Washington, D.C. and Principal Manager for Governmental Affairs for the Central Artery (Big Dig) Project has extensive experience negotiating the federal funding maze and knows the legislative staff that can best help achieve federal funding objectives.

Much of Mr. Taylor's success in implementing New Hampshire planning projects over the past 30 years has been his ability to attract grant funds. In Berlin, New Hampshire, Jeff successfully secured Community Development Block Grants and funds from the U.S. Economic Development Administration for the upgrade of Berlin's water distribution systems and storage facilities, for the construction of new roadways and bridges, and for the construction of an industrial park. While the Director of the New Hampshire's Office of State Planning, Jeff supervised the distribution of some $12 million in grant funds annually, many of which were used to upgrade municipal water and other utility system. As a result of Mr. Taylor's experience within New Hampshire, he has developed an extensive network of connections within the executive and legislative branches of state government, as well as personal relationships with all four members of the Congressional delegation. These connections and personal relationships will serve the new utility well whether working to seek permits, licenses, or supportive pieces of legislation, as the community-owned utility moves forward.

APPENDICES

A

APPENDIX A
CLIENT LETTERS OF REFERENCE

In this appendix, we are providing client reference letters. We encourage you to contact the following client references, who can speak to our ability to exceed project objectives while maintaining budget and schedule.

R·W·BECK

Regional Water Authority

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, Connecticut 06511-5966 203.562.4020
http://www.rwater.com

July 7, 2005

The Honorable Bernard A. Streeter
City of Nashua
229 Main Street
Nashua, NH 03061-2019

Re. Regionalization of Local Water Utility Assets – Recommendation for R.W. Beck

Dear Mayor Streeter,

Congratulations on your leadership working to take public control of the local water system. It takes courage, foresight and tenacity to regionalize these assets in order to provide the most cost effective and reliable water supply to the citizens in the greater Nashua area. I have followed your progress to a limited degree since my visit with you.

As you may know, this year marks the 25th anniversary of the South Central Connecticut Regional Water Authority. The Authority acquired the assets of the former New Haven Water Company in 1980 and it has been one of a very small number of successful water system regionalizations in the northeast in the past 25 years. Similar to the current situation in Nashua, local leaders had concerns about the cost and quality of service, governance of the utility and a particular concern about watershed protection as we undertook the Authority's creation and assumed control of the local water company.

As a charter member, I have served continuously on the Authority's governing board since its inception. I am writing to you at the request of R. W. Beck to confirm their involvement in the creation of the Authority and their continuous assistance ever since. An engineering based management consulting company, R. W. Beck began their involvement in the authority's regionalization process with valuation reports and engineering analyses in 1977. R. W. Beck consulted on a wide variety of engineering, financial, and business aspects of the regionalization. Subsequently, they advised us on the issuance of the municipal revenue bonds we secured to fund the acquisition, including the necessary certifications as our 'Independent Engineer'. R. W. Beck has continued these responsibilities for each of the subsequent 19 bond issues by the Authority to fund its capital program.

Over the years, the Authority has come to know R. W. Beck as a trusted business partner. As an Independent Engineer, it is clear that they always endeavor to put the needs of the Authority first. They don't compete for our design work and have never created a conflict of interest in this way. R. W. Beck's reputation in the bond market is excellent. This has been helpful to us in placing our bonds in the most favorable way. Their advice is sound, straightforward and timely. Furthermore, we have been fortunate to have the same staff involved for over 25 years. Jeff Clunie has provided us sound advice for all these years, and we commend him to you.

Regional Water Authority

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, Connecticut 06511-5966 203.562.4020
http://www.rwater.com

If you have any questions about R. W. Beck, or if I can help you in any way with your regionalization, please call me.

Very truly yours,

Claire C. Bennitt
Chairperson

2535 Landmark Drive, Suite 211, Clearwater, FL 33761-3930
Phone: 727.796.2355 / Fax: 727.791.2388
www.tampabaywater.org

TAMPA BAY WATER
Supplying Water To The Region

July 11, 2005

Bernard A. Streeter
Mayor
City of Nashua
229 Main Street
Nashua, NH 03061-2019

Re: Regionalization of Local Water Utility Assets – Utilization of R.W. Beck, Inc.

Dear Mayor Streeter:

I was asked by R.W. Beck to prepare a letter of reference regarding their performance on Tampa Bay Water projects. I also understand that you are moving forward with ownership of local water supply facilities. From our own experience, we know of the many challenges you and the several governments in the area face to regionalize these assets in order to provide the most cost-effective and reliable water supply to the citizens in the greater Nashua area. Good luck with your on-going efforts in this regard.

As you may know, Tampa Bay Water was created as a regional water authority in 1998 to address pressing regional water supply issues for over two million citizens in the greater Tampa area. This is an alliance of six local governments: the counties of Hillsborough, Pasco and Pinellas, and the cities of New Port Richie, St. Petersburg and Tampa. With limited water supply in the area, and a rapidly growing population, it was critical for the local communities to come together to collaborate—rather than compete—to assure safe and adequate water for everyone in the region. It took over two years of active governance discussions to create this new Authority from the predecessor agency (West Coast Regional Water Supply Authority). But, seven years later, it is clear that the creation of Tampa Bay Water is successfully achieving the goal of assuring a safe and abundant water supply for the entire Tampa Bay region, at a fair price.

Since the inception Tampa Bay Water, R.W. Beck has provided us with a variety of engineering based management consulting services and has advised us on procurement strategy, assisted with the development of all key procurement documents, assisted with contract negotiations, and provided oversight of some major design, construction, commissioning and operations contracts valued at over $75,000,000.

We consider R.W. Beck to be an industry leader in procurement and contractor oversight in the water industry. They don't compete for our design work and don't team with operations vendors on other projects. Therefore, they have never created a conflict of interest in this way. We value R. W. Beck as a trusted business partner. Their advice is sound,

TAMPA BAY WATER
Supplying Water To The Region

straightforward and timely. Furthermore, we have been fortunate to have the same staff involved on our projects since the Authority's creation. In particular, Neil Callahan and Joe Dysard have provided excellent contractor oversight for us. They are former utility executives; their hands on experience operating water utilities make them invaluable advisors.

If you have any questions about the performance of R.W. Beck on our projects, or if I can help you in any way with your regionalization, please call me.

Sincerely,

Kenneth R. Herd, P.E.
Director of Operations and Facilities

OFFICE OF THE
SUPERINTENDENT

THE CITY OF WATERBURY

Bureau of Water

21 EAST AURORA STREET WATERBURY, CONNECTICUT 06708

The Honorable Bernard A. Streeter, Mayor
Office of the Mayor
City of Nashua
229 Main Street
Nashua, NH 03061-2019

July 11, 2005

Re: Oversight Services for Private Contract Operations of New Water Utility
Reference Letter for Paul B. Doran, P.E.

Dear Mayor Streeter:

I have been made aware of your executive leadership in the City of Nashua's aggressive efforts to pursue public ownership of the privately-held water system, through the legal mechanism afforded by New Hampshire Law. It takes a great deal of courage and tenacity to navigate the many obstacles that are ever-present in creating a public utility.

I understand that the City's intention is to add a minimum number of City employees when the water system is ultimately publicly acquired. The City has chosen to manage and operate the City's new water utility with the use of a private operations firm. In addition, the City is procuring a contract oversight firm that will act as the City's auditor, management and owner's advisor regarding the private operations contract.

The City of Waterbury, through its locally controlled Bureau of Water, is responsible for providing high quality water to its citizens, with sufficient volume and pressure for fire protection. As the Superintendent of Water in charge of the Bureau of Water's activities, I am writing you at the request of Mr. Paul B. Doran, P.E. of R.W. Beck, Inc.

The Bureau of Water has used private contractors to operate and maintain its water treatment plant for 16 years. In March of 2003, four months prior to the existing operations contract expiration, the Bureau of Water began the process of re-procuring a private operator. The Bureau of Water retained the services of Mr. Doran as an independent owner's advisor to provide expertise in: developing a re-procurement process, reviewing and rating proposals received, performing the interviews and conducting contract negotiations with the selected private contractor. Employed by another firm at the time, Mr. Doran always conducted himself in a professional manner, was instrumental in the success of the re-procurement and offered sound guidance throughout the process.

Working with Mr. Doran, I found him to be proficient in the many complex issues of private operations and maintenance services, in the technical and engineering aspects of operations and highly responsive in serving the needs of the Bureau of Water. I would wholeheartedly endorse Mr. Doran services for oversight services in Nashua.

If you have any questions about the specific services Mr. Doran provided or if I can offer my personal experience with private contract operations, please contact me at your convenience at (203) 574-8250.

Very truly yours,

Kenneth R. Skov

Kenneth R. Skov
Superintendent of Water

cc: Brian S. McCarthy, Board of Aldermen

Office of
SEWER & WATER DEPARTMENT
ROBERT TOZESKI
SUPERINTENDENT

TELEPHONE
(508) 841-8506
FACSIMILE
(508) 841-8497

TOWN OF SHREWSBURY

SHREWSBURY, MASSACHUSETTS 01545-5398
Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5398

July 8, 2005

City of Nashua
229 Main Street
Nashua, NH 03061-2019

Re: **Letter of Recommendation**
City of Nashua
Water Utility Oversight Services

Mayor Streeter:

Over the past 15 years, the Town of Shrewsbury has experienced some of the highest population growth rates of any community in Massachusetts. Back in the mid 1980's we were facing this projected growth with an aging and inadequate water supply and distribution system. Jack Henderson led a team of engineers that evaluated the adequacy of our existing system and identified the critical weaknesses and deficiencies in our supply and distribution system. Under his direction, we rehabilitated several existing well supplies and installed a new high yield well to serve as a redundant supply for our single largest well, the Home Farm well. Mr. Henderson also led the design and permitting team for our new state-of-the-art Home Farm Water Treatment Plant which today is the backbone of our water supply system.

Mr. Henderson also prepared a computerized model of our distribution system which includes four different pressure zones, three major water booster pumping stations and three pressure reducing valves to control the flow of water between the various pressure zones. The distribution model generated a comprehensive and prioritized list of capital improvement projects totaling approximately $28 million including pumping and piping improvements. This Capital Improvements Plan (CIP) has been the road map for the Town of Shrewsbury's system improvements for the past decade.

Jack always provided the Town of Shrewsbury with responsive, cost-effective and technically sound services. Based on our experience working with Jack and my understanding of the City of Nashua's need for a team to provide water utility oversight and engineering services, I would recommend him to the City of Nashua.

Very truly yours,

Robert Tozeski

Robert Tozeski
Superintendent of Water and Sewer

B

APPENDIX B
RESUMES OF PROJECT TEAM

In this appendix, we have placed summary resumes of our project team. Upon request, we would be happy to furnish detailed resumes for each individual.

The table on the next page highlights our project team members' experience.

R·W·BECK

Name	Project Role	Years of Experience	Education
Paul Doran, P.E.	Project Manager	30	B.S., M.S. - Civil Engineering
Stephen Gates, P.E., DEE	Principal-in-Charge	29	B.S. - Civil Engineering
Jeffrey Clunie	Finance & Administration	32	B.A. - History M.B.A. - Financing
Joe Dysard, II	Operations & Maintenance	34	B.A. - Business Administration A.S. - Computer Science
Jack Henderson, P.E.	Planning & Engineering	20	B.A. - Geography B.S. - Civil Engineering
John Clements	Govt & Community Relations	40	B. S - Engineering
James Huiting	Security	23	B.S. - Civil & Env. Engineering
Ian Catlow	Hydraulic Modeling	15	B.S. - Civil Engineering
Richard Sperandio, P.E.	Construction Management	30	B.S. - Civil Engineering
Neil Callahan	Procurement	27	B.S., M.S. - Environmental Science
Edward Wetzel, Ph.D.	Regionalization	25	B.S. - Civil Engineering M.S. - Civil and Sanitary Engineering Ph.D. - Sanitary Engineering
David Jochim, P.E.	Strategic Planning	30	B.S. - Civil Engineering M.S. - Hydraulic Engineering
Kyle Rhorer	Business Modeling	16	B.A. - Quantitative Economics MBA - Environmental & Natural Resources Management
Edward Ionata	Permitting	30	B.S. - Natural Resources M.S. - Forest Science
Andrew Woodcock, P.E.	Asset Evaluation	15	B.S., M.S. - Engineering M.B.A.
Jeff McGarvey	Cost of Service / Rates	10	B.S. - Finance
Nathan Zill	Grants & Loans	28	B.S. - Natural Resources
Leslie Shoemaker	Water Resources Management	20	B.A. - Mathematics M.E., Ph.D. - Agricultural Engineering
Jeffrey Taylor	Govt & Community Relations	31	B.A. - Geography Graduate Study - Architecture

Paul B. Doran, P.E.

Mr. Doran joined R. W. Beck in 2004 and serves as a Senior Water Consultant in the National Owner Advisory Services Practice. Having over 30 years of consulting experience in sanitary, environmental and general civil engineering, Mr. Doran has served in the roles of a Project Manager, an Associate Engineer, a Director and a Principal Engineer. In these various roles, Mr. Doran designed, managed construction and managed major projects in municipal wastewater treatment, industrial wastewater pretreatment, municipal and industrial wastewater collection systems, pumping stations, water distribution systems, water treatment, sewer system evaluation surveys, stormwater abatement, combined sewer overflow abatement, sewer separation, and evaluated the applicability of public/private partnerships through procurement of private industry responses to RFP's. Prior to joining R. W. Beck, Mr. Doran was the Director of Engineering for a management consulting firm that specialized in independent engineering reviews and procurement of municipal Design/Build (D/B) and Design/Build/Operate (D/B/O) alternative delivery projects

PROJECT EXPERIENCE

Procurement for Operations and Maintenance of 25-MGD Water Treatment Plant; Preparation of an RFP, Evaluation of Proposals and Contract Negotiations for Private Operations

Waterbury, Connecticut

Project Manager. A private contractor had operated the City of Waterbury's water treatment plant since it was constructed. Prior to the expiration of the existing contract, Mr. Doran served the City, through its Bureau of Water, by providing technical and financial assistance in preparing an RFP for continued private operation and maintenance of the plant for a period of an additional five years. Mr. Doran also assisted in evaluation of private proposals received, negotiated and prepared the draft service contract for continued private operations and maintenance of the plant.

Preparation of RFP, Evaluation of Proposals and Contract Negotiations for Design, Construction and the Long-Term O&M

Plymouth, Massachusetts

Project Manager. Mr. Doran assisted in several aspects of their procurement to design, build, operate and maintain a new wastewater treatment plant, and operate and maintain a new pump station and force main for a 20-year term. Provided strategic guidance for this public/private partnership on technical, business, and contract issues to aid in structuring the RFP; assisted with RFP preparation, review of proposals, design review, construction monitoring, and operations monitoring of the D/B/O and D/B private contractors; and served as Program Manager, overseeing the work of all parties during the design and construction of the new plant.

Northeastern University
B.S. in Civil Engineering
M.S. in Civil Engineering

KEY EXPERTISE

Innovative Procurement of Design/Build, Design/Build/Operate and Contract Operations Alternative Project Delivery Options

Negotiation/Monitoring of Private Vendor Service Contracts

Asset Management Programs for Municipalities and Utilities

Technical and Business Assessments/Reviews of Water/Wastewater Facilities

Independent Engineering Reviews of Water /Wastewater Utilities

Optimization of Water/Wastewater Facilities

Design and Construction Management

Adjunct Faculty in Civil/Environmental Engineering

Project Role:
Project Manager

R·W·BECK

Innovative Procurement of Design/Construction Administration/Operation of Wastewater Treatment Facilities and Collection System Pump Stations for 20 Years

Sioux, City, Iowa

Project Manager. Mr. Doran managed an innovative design-operate (D/O) procurement for the City that integrated a number of professional services: preparation of an equipment evaluation report that identified the treatment plant and pumping station upgrades necessary for the next 20-year design period, preparation of an operations evaluation report, and preparation of a feasibility study for a new treatment plant to replace the existing plant. Mr. Doran developed an engineering and economic assessment of needs to upgrade the existing 30 MGD wastewater treatment plant and comparing that to an alternative for the relocation, design, and construction of a new facility within the regional service area. The study concluded it would be more economical to upgrade the existing plant and to use its remaining useful life. Coordinated the efforts of and worked with the Mayor, the City Manager, the Director of Environmental Services, the City Attorney, the Citizen's Advisory committee and a local engineering firm.

Preparation of RFP, Evaluation of Responses, and Contract Negotiations for Long-Term (20-years) Contract Operations, Sale or Lease of Wastewater Treatment Plant and Pump Stations, and Design/Build for CSO and Other Capital Improvements

Taunton, Massachusetts

Program Manager, Construction Manager, Project Manager. As one of the first D/B/O projects in Massachusetts and the United States, Mr. Doran prepared a comprehensive Request for Proposals for either the 20-year contract operations, or sale or lease of the City's 9 MGD wastewater treatment plant and collection system pump stations. In addition, Mr. Doran also solicited proposals from private contractors to continue the existing City practices of short-term private contract operation. The RFP presented a unique "menu" approach to provide the City with a choice of multiple proposals. Private contractors were to be responsible for financing, design and construction of capital improvements, a portion of which were CSO projects. Once into construction, Mr. Doran provided the City with design review, construction monitoring, construction management and service contract monitoring and oversight services. Mr. Doran monitored and recommended approval of the start-up services and acceptance testing of the completed facility. He also reviewed the first seven years of the private operator's operation and maintenance practices and prepared yearly detailed reports summarizing the performance of the private vendor. Annually, Mr. Doran prepared the year-end financial summary and met with the private contractor to approve the annual settlement statement for operation and maintenance costs.

Design/Build Procurement, Contract Negotiation, Project Management and Contract Monitoring for Wastewater Treatment Plant and Air Pollution Control Upgrade of the Sludge Incinerators

Upper Blackstone Water Pollution Abatement District, Millbury, Massachusetts

Project Manager, Construction Manager. Mr. Doran was the Project Manager and Construction Manager for the District's upgrade project at its 56 MGD wastewater treatment plant, the first public/private D/B wastewater project in the Commonwealth of Massachusetts. The project, under a strict DEP Consent Order, included major air pollution retrofits and upgrade to the solids handling/incineration complex. Mr. Doran conducted the following activities: permitting, developing a procurement strategy, preparing requests for proposals, assisting in proposal evaluation, contract negotiations, design review, construction monitoring, and monitoring of acceptance testing. Responsibilities included managing the efforts of a consulting engineering firm that provided the detailed resident engineering and construction management services. Facility start-up was successfully completed and acceptance testing has been completed. All requirements of the Consent Order were met.

Stephen R. Gates, P.E., DEE

Tufts University
B.S. in Civil Engineering, Cum Laude

Project Role:
Principal-in-Charge

Mr. Gates, who recently joined R. W. Beck as a Client Services Director for the Boston Office Water/Waste Practice, has 29 years of environmental engineering experience providing program management, management consulting, facilities planning, detailed design and construction management for a wide variety of environmental engineering projects throughout Northeastern United States and Canada. He has successfully planned, designed, and managed construction of environmental facilities for public and commercial clients valued well over US$2 billion. He is highly experienced in alternative project delivery methods, including design/build contracting and program management.

EXPERIENCE

Public Sector Projects

Project Manager

Mr. Gates directed a wide variety of projects for federal, municipal and county governments. He managed projects, including master planning, facilities and feasibility studies, permitting, design and construction management for water supply and distribution; wastewater collection, conveyance and treatment; solid waste management-land filling and incineration; and hazardous waste management. Mr. Gates managed facilities permitting, including the then largest (3,000 TPD) mass burn solid waste incinerator ever built. He wrote program policy and guidance documents for EPA, COE and HUD.

MWH Global, Inc.

Program Management Global Practice Unit
Project Development

In select geography, Mr. Gates led MWH's Program Management Practice, providing vision, strategic direction, leadership and resources to create, acquire and support Program Management engagements. He worked to maintain MWH's highly regarded reputation and track record for successful program management engagements through team building, resource allocation, and the development and deployment of best practices among all MWH programs.

MWH Americas

Client Service Manager
New York City/President

Previously, as Corporate Officer-in-Charge, Mr. Gates directed all work performed by MWH for the NYC Department of Environmental Protection, including the East of Hudson Dams Rehabilitation; Hillview Reservoir Chamber Improvements; Facilities Planning for the Interim Upgrade of the Rockaway Water Pollution Control Plant; Citywide

R·W·BECK

Collection System SCADA System; and the Advanced Wastewater Treatment Program Management Assistance contracts. In this capacity, Mr. Gates directed all project activity and assured the focus of MWH's senior management on high quality service to NYC DEP through appropriate staffing, attention to established quality assurance protocols, and active oversight of project management and contract administration, to meet customer needs and to assure that project goals were met to the satisfaction of NYCDEP. With 9 million customers, NYC DEP is among the largest water utilities in the world. During this assignment, Mr. Gates directed a Needs Analysis and Functional Requirements Report for a comprehensive Project Management Information System (PMIS) to assist the Department with management of its US$16.5 billion 10-year capital improvement plan, and the implementation of a proof of concept PMIS.

MWH Americas, Inc.

Northeast Region Manager

Until his assignment to serve the needs of NYC DEP on a full-time basis, Mr. Gates was responsible for MWH's operations throughout the Northeastern United States and Canada. He oversaw all project activity, including significant environmental engineering projects for the Massachusetts Water Resources Authority, the New York City Department of Environmental Protection, the Hartford Metropolitan District Commission, the Providence Water Supply Board and the cities of Trenton and Newark, New Jersey, Cambridge, Massachusetts and Ottawa, Ontario.

Collection System SCADA Master Plan

Massachusetts Water Resources Authority
Project Director

Mr. Gates managed completion of a comprehensive Master Plan for the implementation of a centralized system for automatic monitoring and control of all facilities owned and operated by the Sewerage Transport Division of the Massachusetts Water Resources Authority (MWRA). The Transport Division is responsible for the operation of all the Authority's Pumping Stations and CSO facilities. The Master Plan evaluated alternative means and defined the most appropriate level of centralized monitoring and control for MWRA's 1.2 billion gallon-per-day (GPD) wastewater collection and transport system, which serves approximately 2 million customers in and around Boston, Massachusetts. The Master Plan also provided detailed implementation recommendations for the proposed SCADA and computerized control system, considering organizational development and training needs, purchasing constraints, and technical requirements.

Central Artery/Tunnel Project

Massachusetts Highway Department - Environmental Services Contract
Deputy Project Director

Mr. Gates directed work plan development and managed permitting, engineering, design and construction tasks on a $50,000,000 services contract for the Massachusetts Highway Department, Central Artery/Tunnel Project. He managed environmental audits, assessments, and remediation designs at 250 sites throughout Boston in support of highway construction involving excavation of 13 million cubic yards of urban fill. Mr. Gates also managed negotiations of Memos of Understanding (MOUs) on the requirements of federal, state and local environmental regulations with stakeholder agencies. Construction progress on the $14.5 billion project remains largely unimpeded by environmental issues.

Colby College
B.A. in History

Boston University
M.B.A. in Finance

Babson College
Graduate Studies in Federal Taxes

Project Role:
Finance & Administration

Mr. Clunie is Chairman of the Board of R. W. Beck, Inc. He has worked at R. W. Beck since 1973. He is also Client Services Director of the Water/Wastewater/Waste Management Group. His areas of specialization include project development, vendor procurement, contract negotiations, risk assessment, and the preparation of consulting engineer's reports used in the financing of infrastructure projects. Mr. Clunie has served as Project Manager for more than one hundred solid waste management and water/wastewater projects, prepared for both public and private sector clients. He has also managed portfolio power project reviews and other independent power projects.

Mr. Clunie has served as the Project Manager for the preparation of more than 70 Independent Engineer's Reports used in the issuance of more than $7.0 billion of revenue bonds, for infrastructure projects including waste management facilities, water and wastewater treatment facilities, hydroelectric projects and international power projects. The size of the financings has ranged from $7 million to $370 million. He understands potential investors' concerns regarding technology, environmental, contractual and financial issues. As part of his responsibilities during preparation of these reports, Mr. Clunie has made numerous presentations to the rating agencies and bond insurance companies. He has also played a leading role in helping with the creation and development of joint-action public utilities, including water authorities and solid waste authorities.

Mr. Clunie has published a number of papers addressing financial risk, risk sharing, and the elements necessary for a financeable project.

AREAS OF EXPERTISE

Mr. Clunie has served as Project Manager for the procurement of full-service vendors to either: operate; design, build and operate; or design, build, own and operate water/wastewater utility facilities.

Cranston Wastewater Treatment System

Banque Paribas, Cranston, Rhode Island

Project Manager. Mr. Clunie served as the Project Manager in preparing an Independent Engineer's Report, on behalf of the project lender, regarding the proposal by the City of Cranston, Rhode Island to privatize its 23 MGD wastewater treatment and collection system. The report included a review of technical, environmental, and economic aspects of the project; it also included: a review of the current condition of existing facilities; technical review of proposed capital improvements; the current status of all permits; prior violations of permit conditions; the prior experience of the selected operator and the EPC contractor; identification of replacement operators; the adequacy of performance tests; the reasonableness of liquidated damages payments; and a detailed review of the commercial terms, payment provisions, performance

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incentives and penalties, as well as the division of responsibilities between the parties to the agreement. R. W. Beck reviewed the capabilities of the Contract Operator to provide operations, maintenance, and repair and replacement over the 25-year contract life as projected in the Contractor Operator's bid. R. W. Beck also developed projected operating results over the term of the financing including a series of sensitivity analyses which addressed potential changes to the base case.

South Central Connecticut Regional Water Authority

Project Manager. Mr. Clunie has worked for SCCRWA on a regular basis since assisting in its creation in 1980. He has served as Project Manager in providing numerous services, including: periodic technical reviews for the purposes of financing and reporting to SCCRWA's bond trustee; expert testimony; property value appraisal services; and preparation of the Consulting Engineer's Report for SCCRWA's 16 revenue bond financings.

His first assignment for SCCRWA was a feasibility study of SCCRWA's acquisition of a major investor-owned water utility, the New Haven Water Company. The study included a technical review of all of the Company's major water system facilities and a survey of their operations and maintenance to ascertain the value and condition of each asset; the ability to finance the acquisition, and the impact on ratepayers. R. W. Beck prepared the Consulting Engineer's Report used for financing SCCRWA's purchase of the Company, and for initial capital improvements. Since the first assignment, R. W. Beck has served SCCRWA as its Consulting Engineer for each of its subsequent financings. In total, R. W. Beck has assisted SCCRWA in the issuance of approximately $500,000,000 of revenue bonds since inception.

Tampa Bay Water Authority

Project Manager. Mr. Clunie is currently serving as the Project Manager for the development of an Independent Engineer's Report to be included as part of the financing of a seawater desalination project being developed on behalf of the Tampa Bay Water Authority. The project is to be capable of processing 25 million gallons per day of seawater into drinking water. The report addresses the technology to be employed (reverse osmosis), the capital cost of the project, status of permits, operating expenses, operating revenues and the development of projected operating results.

Independent Engineering Assessment

Town of Smyrna, Delaware

Project Manager. Mr. Clunie served as Project Manager for the preparation of an Independent Engineering assessment for a bond financing report to fund the Town's water and sewer facility capital improvement program. The report included a financial analysis of the Town's water and sewer revenues, operating expenses, operating and maintenance practices, capital improvement program, water and sewer facilities, and regulatory compliance.

Henrico County, Virginia

Mr. Clunie participated in the preparation of the Consulting Engineer's Report used in the financing of Water and Sewer System Revenue Bonds issued by County, Virginia in 1975 to help fund the capital cost of the County's improvement program. Included among the improvements were sewer collectors and extensions.

Joe A. Dysard, II

Antioch College
B.A. Business Administration

Terra Tech
A.S. Computer Science

Project Role:
Operations & Maintenance

Mr. Dysard is a Senior Director in R. W. Beck's Infrastructure practice with over 32 years of experience in the water and wastewater industry. Prior to joining the firm in 1996, he spent over 25 years with a major investor-owned water utility holding company. While with the investor-owned water utility holding company, Mr. Dysard spent seven years as President of various companies under his direction in seven states. Mr. Dysard specializes in utility operations management, strategic planning, acquisitions and mergers, organizational restructuring, public/private/partnerships, and contract management.

In his executive role for the utility, Mr. Dysard played a key role in infrastructure planning, evaluation, scheduling, and implementation for treatment facilities, transmission and distribution systems, and collection systems throughout the Southeast, East, and Midwest United States. He supervised engineering personnel in the evaluation/cost-benefit analysis of individual capital projects ranging in size from $100,000 to $30,000,000 per project. He has managed multidisciplinary teams bringing together engineering, rates, planning, legal and outside contractors/consultants in the areas of systems consolidation, infrastructure improvement, unified pricing, and management audits.

Mr. Dysard has been involved with:

- 16 wastewater systems in 5 states
- 81 water systems in 15 states
- 15 wholesale sales water systems in 8 states
- Regulatory liaison for over 30 projects
- Project Management for Independent Engineering Reviews

Mr. Dysard has served on various committees for state and national industry associations such as AWWA, NAWC, NARUC, Capital Region Water Board, and PA Water Utility Council.

RELEVANT PROJECT EXPERIENCE

Operations & Maintenance Efficiency Review

City of Garden Grove, California

Lead Technical Advisor. As part of an overall financial master plan performed by Garden Grove Sewer District (GGSD), Mr. Dysard provided a detailed analysis of the GGSD Wastewater Maintenance Department programs, procedures and processes with recommendations regarding staffing, preventive maintenance, potential outsourcing and improvements in automated documentation control. Mr. Dysard also provided comparative benchmarks for similar wastewater collection systems.

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Management/Operations Review

City of Hamilton, Ohio

Lead Technical Advisor. R. W. Beck has been retained by the City of Hamilton, Ohio Department of Public Utilities to assist the City in reaching its goal of improving the provision of all aspects of utility services which include electric, water, wastewater and gas services. Mr. Dysard was responsible for conducting interviews of management and staff in the water and wastewater city support divisions and gas distribution division; evaluating responses and providing recommendations for improvement. He also facilitated strategic planning sessions and reviewed all organizational staffing requirements. Mr. Dysard was also responsible for conducting condition assessments of the water and wastewater plants and process reviews.

Cranston Public / Private Partnership

Banque Paribas, New York

Assistant Project Manager. Mr. Dysard provided technical assistance with respect to the privatization of Cranston, Rhode Island's 23-mgd wastewater treatment plant and collection facilities. This project involved a 25-year lease, operation, maintenance, and capital improvement program. Mr. Dysard evaluated existing facility conditions, private contract operators, predictive and preventive maintenance programs, O&M manuals, risk assessment, projected operating costs, staffing requirements, and division of responsibility between the parties to the agreement for the lenders.

Facility Condition and Valuation Assessment

Confidential Client, Orlando, Florida

Technical Advisor. Mr. Dysard was responsible for technical review of water, wastewater, and reclaimed water systems for a confidential entertainment industry client. The project was to perform an annual conditions review and provide a system valuation study related to a refinancing. This included on-site visual observation of facilities, O&M review, useful life determination, and an assessment of regulatory compliance.

66 MGD Surface Water Treatment Plant

Tampa Bay Water, Tampa, Florida

R. W. Beck's role has included procurement, negotiations, construction monitoring and contract administration. Went into service in August 2002 and is going through Acceptance Testing and R. W. Beck will continue to work with Tampa Bay Water through construction closeout. The project construction costs are approximately $100 million.

Procurement and Negotiations

Tampa Bay Water, Clearwater, Florida

Project Manager. Mr. Dysard is providing project management direction for multiple capital improvement projects. This involves contract procurement and negotiation services for both traditional and alternative delivery projects. These include development and implementation of requests for qualifications, risk management strategies, requests for proposals, service agreements, selection of contractor and final negotiations. Individual projects vary in magnitude from $10s of millions to over $100 million per project. Mr. Dysard also assisted in the independent engineering review for project financing related to certain projects.

John M. (Jack) Henderson, P.E

Mr. Henderson is a Senior Project Manager and water supply engineering expert in Tetra Tech's Infrastructure Practice with more than 20 years of experience in all aspects of planning and engineering for water supply, treatment and distribution networks for public water supply systems. His expertise ranges from the study, piloting, design, construction and startup of water treatment plants to water supply master plans and engineering reports. This experience includes groundwater and surface water management and development plans, distribution system modeling studies, and the design of distribution storage and large diameter transmission and pumping facilities. Mr. Henderson has played key roles in infrastructure planning, evaluation, design and implementation of water treatment and distribution system facilities throughout the United States, South America and the Middle East.

Mr. Henderson has a strong background in hydraulics for pumping and transmission systems, and for distribution system modeling. He has led engineering teams for municipal clients to develop and evaluate comprehensive and cost-effective Capital Improvement Plans (CIPs) ranging from $28 million to more than $450 million in prioritized system improvements. Furthermore, he has been the lead design engineer for many of the infrastructure improvements recommended by the CIPs.

Specific areas of expertise in water treatment and process design include Disolved Air Floatation (DAF), membrane treatment, *Cryptosporidium* control, disinfection byproducts control, ozone and biologically active granular-activated carbon filters and all aspects of conventional treatment. Mr. Henderson has been a member of both UV and Desalination Strategic Initiative Teams. He currently serves as the Vice Chair of the New England Water Works Association Filtration Committee and was appointed to the Association's Ad Hoc Committee to provide comment to the EPA on the proposed Disinfection Byproducts Rule and the Stage 2 Long Term Enhanced Surface Water Treatment Rule. Mr. Henderson also serves as the Chairman of the Board of Health for his home community.

RELEVANT PROJECT EXPERIENCE

Water System Master Planning and Design

Water Facilities Master Planning and Improvement Project, Shrewsbury, Massachusetts. As the Project Manager for the water facilities improvement project, Mr. Henderson led a team of engineers which evaluated the water supply and distribution systems for this rapidly growing community. A computer model of the town's water distribution system was developed and used to analyze and identify major deficiencies and to develop a comprehensive $28 million, prioritized CIP. Mr. Henderson was the Design Manger for a new 1.25-mg steel water storage tank, a new 1.25-mg pre-stressed concrete water tank and a new 1-MGD booster pumping station which were identified as priority projects in the CIP. As the Project Manager, Mr. Henderson

Middlebury College
B.A. Geography

Worcester Polytechnic Institute
B.S. Civil Engineering

Professional Associations

American Society of Civil Engineers

Chairman, 1998 ASCE National Convention,

Local Organizing Committee

ACEC Environmental Affairs Committee

Boston Society of Civil Engineers
- Management Committee, Chair

American Water Works Association

New England Water Works Association
Groundwater Committee
Filtration Committee, Vice Chair
Program Committee
Ad Hoc Committee on Stage 2 DBP/LT2 Rule
National Water Well Association

Project Role:
Planning and Engineering

was responsible for the design and construction of two large diameter gravel packed wells to augment the town's water supply and the design of a 4.4-MGD water treatment plant to remove volatile organic chemicals, control dissolved manganese, and lower the corrosivity of the water from the largest single groundwater production well in Massachusetts.

South Weymouth Naval Air Station Redevelopment Project, LNR Property Corporation, Weymouth, Massachusetts. Mr. Henderson is the project manager responsible for developing the water and wastewater infrastructure for the redevelopment of the former naval air station. The project is a sustainable, "smart growth" approach to development and is currently the largest single development project in the State of Massachusetts. The project requires the development of a regional water supply capable of meeting the average day base demand of 1.5 MGD of potable water, 0.5 MGD of irrigation water and an on-site wastewater treatment plant designed for a maximum day flow of 3.0 MGD and capable of treating the wastewater to reuse standards required for irrigation water. A membrane bio-reactor process has been proposed for the wastewater treatment facility. A 5-10 MGD seawater desalination plant with membrane filtration followed by Reverse Osmosis RO membranes has been proposed and is being studied as the most attractive water supply alternative capable of economically meeting the developments' demands as well as a thoroughly documented regional water supply deficit.

Blue Hills Covered Storage Facility, Massachusetts Water Resources Authority (MWRA), Boston, Massachusetts. Mr. Henderson is the project manager for the conceptual design and Owner's Representative Services for the design-build delivery of two 10 million gallon covered water storage tanks. Both cast-in-place and wire wound pre-stressed concrete (AWWA D10 Type III) tanks are being considered. The conceptual design included the siting, sizing and hydraulic design for the tanks and conceptual cost estimates as well as an evaluation of the pros and cons of the two basic construction methods for water storage tanks. The hydraulic evaluation included extensive Computational Fluid Dynamic (CFD) modeling of the distribution system and the storage tanks to determine the appropriate hydraulic elevation and tank design to promote fill and drain cycles and to recommend an inlet-outlet design to maximize mixing within the tanks to best maintain chlorine residual and water quality within the tank.

Walnut Hill Water Treatment Plant, Massachusetts Water Resources Authority (MWRA), Marlborough, Massachusetts. Project manager for the planning, site selection and conceptual design of a 405-million gallons per day (MGD) filtration facility and a 50-million gallon (mg) clear well for the MWRA. The process facilities included dissolved air flotation clarifiers, ozonation, biologically active carbon filters, and corrosion control. The conceptual design included the evaluation and optimization of process performance and design criteria, as well as facilities layout and control strategies.
Mr. Henderson was also the Design Manager for final design of chemical feed systems, residuals treatment and handling systems, the intake systems and raw water transmission modifications and rehabilitation, and the plant waste systems. As Design Manager, Mr. Henderson was responsible for the evaluation and rehabilitation of the 100-year old Wachusett Aqueduct Intake. The project required the demolition of existing 48-inch gate valves and turbine generator piping in this historic landmark facility and the installation of new sleeve valves and piping designed to control flows from 25 MGD to 325 MGD and to burn more than 100 feet of excess hydraulic head without damage to the valves, piping or historic structure.

Water Facilities Master Panning and Improvement Project, Stoughton, Massachusetts. As part of an evaluation of the town's overall water supply system, Mr. Henderson conducted a computerized model study of the Town's distribution system which was used as the basis for developing a prioritized Capital Improvement Plan. Mr. Henderson was also responsible for the exploration testing, design, and development of the remaining groundwater supplies within the town. This work included a town-wide hydrogeology study, the testing, permitting and design of the required pumping and treatment facilities for the Cedar Swamp well field, and a fractured bedrock test well investigation program.

John A. Clements, P.E.

Yale University
B.S., Engineering

Project Role:
Government and Community Relations

Mr. Clements has extensive experience in executive management for both corporate and governmental organizations in New Hampshire, New England and the United States. He has served in government leadership positions at the local, state, national and international level where he has developed special talents in building public and private consensus in highly contentious and controversial projects. In addition he has held senior management positions in private industry. His financial responsibilities ranged from managing private sector corporate activity of $20-$100,000 million to Public Sector Mega Projects like the $10 billion Central Artery/Third Harbor Tunnel Project (CA/THT) in Boston and the $22.0 Million Ohio River Bridges FEIS Project in South Indiana and Louisville, Kentucky. Throughout his career, Mr. Clements has built a network of senior managers and administrators in both the public and private sectors and enjoys access to many key legislators at every level of government.

He is the recipient of several prestigious awards: The FHWA Public Service Award; The 1985 George S. Bartlett Award for outstanding Contributions to Highway Progress presented by the American Association of State Highway and Transportation Officials(AASHTO), The National Academy of Sciences - Transportation Research Board(TRB) and the American Road and Transportation Builders Association(ARTBA);Certificate of Special Appreciation, American Forestry Association "For Services to Conservation and the Advancement of Intelligent Management and Use of Forests and Related Resources of Soil, Water, Air, Wildlife and Natural Beauty", presented in recognition of his contributions in locating I-93 through the New Hampshire Franconia Notch State Park and the White Mountain National Forest.

RELEVANT PROJECT EXPERIENCE

Associate Administrator of the Federal Highway Administration, 1992 to 1996. Mr. Clements served in research positions in the United States for both Highway and Transit, on OECD in Paris, and in the Transportation Association of Canada's Research Council.

As Chairman of the National Academy of Sciences Transportation Research Board, his responsibility covered all modes of Transportation including the Transit Cooperative Research Program (TCRP).

Commissioner of the New Hampshire Department of Transportation. Successful in resolving the I-93/Franconia Notch controversy. Prior to becoming Commissioner, settled first and longest NEPA environmental dispute of its time, ahead of Overton Park and Glenwood Canyon (the dispute was widely acclaimed by environmental as well as highways interests). Continues to enjoy unique credibility with environmental interests like the Conservation Law Foundation.

Central Artery Program Management Team. Responsible for completion of the Draft Environmental Impact Statement (DEIS) through the record of decision (ROD), state and federal agency liaison, and the creation and operation of the community programs. Included work with the Boston Downtown Business Committee, 1,000 Friends of Massachusetts, and the Boston Harbor Islands Trust.

President of California Transportation Ventures. President of a joint venture created to design and construct a private toll road from San Diego, California to Tijuana, Mexico, which required extensive community public involvement with San Diego, Chula Vista, and Otay Mesa, California.

Louisville/Southern Indiana FEIS and Preliminary Engineering Project. Project Manager for this $2 billion-estimated construction cost project for the Kentucky and Indiana Departments of Transportation, which involved a very extensive public involvement program over four years with more than 1,000 community meetings, with four regional advisory and a citizen advisory committees. The preferred alternative, two new bridges and a major rebuild of a three-interstate interchange affects the entire metro region. It is a project of congressional interest and one of five U.S. Department of Transportation National Priority Projects.

James T. Huiting

University of Wisconsin Madison
B.S., Civil and Environmental Engineering

Project Role:
Security

Mr. Huiting has more than 23 years of experience in the civil and environmental engineering field, with a strong emphasis on hands-on water resources engineering and project management. Mr. Huiting has supplemented his engineering background with education and project experience in vulnerability analysis, emergency action plans, information technology (IT) applications, and grant applications. In addition to vulnerability and assessment projects, Mr. Huiting brings substantial experience in civil and environmental engineering: planning, design, and construction of water-resources infrastructure, regional planning, computer applications, and general project management.

RELEVANT PROJECT EXPERIENCE

EPA National Homeland Security Research Center (NHSRC) to develop the RRATool. Mr. Huiting served as Water Resources Engineer and as Technical Editor in developing the model methodology for EPA's RRATool. The RRATool is a Web-based application that rapidly evaluates risks to human health as a result of exposure to a chemical or biological agent. The tool features a water dispersion model that authorized personnel can use to estimate the concentration of a threat agent in the drinking water supply. The water dispersion model uses several screens of simple queries to the user to run calculations that model the concentration of a threat agent from its entry into the water supply — whether in surface water, the water treatment plant, or the distribution system — to the tap of the nearest receptor. The goal is to provide a tool to water treatment plant staff to assist emergency responders or risk managers through estimates of exposure and quantified human health risk based on assumed threats.

Department of Defense, U.S.A. Chemical Materials Agency (CMA). Mr. Huiting served as Senior Engineer for on-site inspections and the engineering report for water system vulnerability assessments (WVAs) at CMA facilities in the Midwestern United States. These WVAs were conducted in response to Department of Defense Instruction (DoDI) 2000.18 guidelines that require these sites to conduct a WVA in accordance with Section 401 of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. Mr. Huiting characterized each installation's water utility and mission, identified and prioritized adverse consequences to avoid, determined critical assets, assessed the qualitative likelihood of malevolent acts, evaluated existing countermeasures, analyzed current risk, and developed prioritized plans for risk reduction. Each CMA VA involved a review of pipes and constructed conveyances, physical barriers, water collection, pretreatment, treatment, storage and distribution, electronics, and supervisory control and data acquisition systems (SCADA). In addition, each CMA VA evaluated the use, storage, and handling of various chemicals, and operation and maintenance of each system, as applicable. These CMA WVAs were incorporated into each installation's site wide

VA and Anti-terrorism and Force Protection Plan (AT/FP), and required integration and concurrence of assessment findings with existing emergency response plans (ERPs), memoranda of agreement, and military battle plans

Kansas Department of Health and Environment, Vulnerability Assessment and Emergency Response Planning for Small Public Water Supply Systems. Mr. Huiting provides on-site training in vulnerability assessments for a continuing series of Kansas Department of Health and Environment (KDHE) workshops. These workshops present information for conducting VAs and developing emergency response plans (ERP) for public water supply systems that serve less than 3,300 users. The training focused on the methodology for conducting the VA and the required components of an ERP, allowing participants to use existing KDHE's guidance documents including Simplified Vulnerability Assessment Tool for Drinking Water and Emergency Response Planning Guidance for Kansas Public Water Supply Systems. This $325,000 work assignment will be completed over 20 months.

State of Colorado, North Central Region Emergency Preparedness Plan. Mr. Huiting served as Project Manager for Tetra Tech's contract with the Colorado North Central Region Emergency Preparedness Plan. In this role, he worked with counties; regional entities; and subject matter experts in law, medicine, and cyber-terrorism. In addition, he worked with national guidance documents and various stakeholders in developing a strategic vision that combines many plans, procedures, and guidelines into an integrated plan for emergency preparedness. The project encompassed development of a framework of an emergency preparedness plan. Key to the project was providing forums, workshops, and a secure website to coordinate among the various federal, state, and local groups to allow for the exchange of ideas, problems, and available resources. These groups included law, enforcement, fire fighters, and hazardous materials handlers; emergency management; the medical and health community; emergency medical services; public health and public works; and information technology (IT). Several surveys were designed and distributed to shareholders and subject matter experts within the region as well as to Tetra Tech's staff.

Colorado Department of Public Health and Environment (CDPHE), Independent Verification Project. Mr. Huiting served in a similar project management role for Tetra Tech's CDPHE Independent Verification and Validation project. In this capacity, he is coordinating both IT and physical security assessments for a number of facilities for CDPHE. The assessments included physical and IT inspections as well as coordinating alternatives around open public facilities, biohazards, and general building operations. Mr. Huiting personally inspected and assessed building security and developed recommendations for improvement.

Wisconsin Power Hydroelectric, Senior Civil Engineer. Mr. Huiting provided inspection and engineering services for a vulnerability assessment of nine dams in two states. The assessments evaluated the concrete arch, gravity and buttress dams, spillways, earthen and rock-fill dikes, fuse plugs, drainage galleries, penstocks, surge towers, turbine intakes, generators, motor-control centers, SCADA control, operator assess, and operating procedures. Dam break inundation maps and emergency action plans where reviewed for general consequence and risk analysis. The resulting reports detailed suggested improvements in site security, detection, response, and mitigation. .

Worcester Polytechnic Institute
B.S. Civil Engineering

Mr. Catlow is responsible for civil and environmental engineering design tasks, including the design of sanitary and storm sewers, groundwater modeling, and hydraulic modeling.

RELEVANT PROJECT EXPERIENCE

New England Diversified Enterprises, LLC, Wastewater Treatment Facility Hydrogeology and Groundwater Discharge Permit, Westford, Massachusetts.

Project Role:
Hydraulic Modeling

As Project Engineer, Mr. Catlow is conducting a hydrogeologic evaluation to determine the wastewater disposal capacity of an undeveloped 63-acre site. The property requires an on-site wastewater treatment facility to accommodate future site development. The hydrogeologic evaluation is based on an extensive field program which includes the excavation of test pits, soil borings and monitoring wells. Soil and groundwater samples were collected and analyzed to determine critical aquifer properties and existing groundwater quality. The data which is also used to determine the potential impact of the discharge on downgradient receptors. In a subsequent phase of the project, Mr. Catlow will develop a preliminary design for the on-site wastewater treatment facility. Since the proposed point of discharge is located within a Zone II wellhead protection district the effluent from the plant must comply with Massachusetts' groundwater reuse standards. Mr. Catlow is responsible for preparing an Engineering Design Report, Permitting Plans, the Hydrogeologic Evaluation Report, and a permit application to satisfy the requirements of the Massachusetts' Groundwater Discharge Permitting Program. Mr. Catlow is currently working with the client to design a facility that will meet the standards while simultaneously providing an economical solution to the developer.

Boston Water and Sewer Commission, Floatables Control Program.
Mr. Catlow served as a Project Engineer for the design of a baffle Floatable Control System for 15 Combined Sewer Overflow (CSO) regulators. The technical assessment was combined with construction, operational, and economic considerations to develop a cost-effective approach for floatable control for the BWSC.

Massachusetts Convention Center Authority, Infrastructure and Utility Design for the Boston Convention and Exhibition Center.
Mr. Catlow served as a Staff Engineer for the design of on-site water, stormwater, and wastewater utility systems for the Convention Center's 60-acre site. This effort involved design of approximately 1,500 linear feet of 30-inch water main relocation, 3,000 linear feet of sanitary sewer, and 2,000 linear feet of a 72-inch storm drain, including a new outfall to handle drainage from the facility's 45-acre roof – the largest roof structure in New England. The amount of stormwater runoff from the roof area for a 10-year storm is approximately 200 cubic feet per second.

Town of Southbridge, Massachusetts, Sewer Collection and Water Distribution System Design. Mr. Catlow served as Project Engineer for the study and design of a number of sewer collection systems. He evaluated the existing systems and helped determine requirements for expansion to service new growth areas. The project will result in the installation of approximately 4,000 linear feet of 8-inch water main. The sewer collection system alternatives included traditional gravity collection, gravity collection with pumping systems, and low pressure sewer systems.

City of Waltham, Comprehensive Drainage Study of Chester Brook and West Chester Brook Watersheds, Waltham, Massachusetts. Mr. Catlow, serving as Civil Engineer, is responsible for the development and implementation of a series of hydrologic and hydraulic models used in the study. The project deliverable will be a Stormwater Master Plan for the Chester and West Chester Brook Watersheds in the City of Waltham.

New England Patriots, New Football Stadium and Economic Development Complex, Preliminary Design and Permitting, Foxborough, Massachusetts. Mr. Catlow served as Civil Engineer for the preliminary design and permitting of the new 250,000-gpd wastewater treatment plant at the New England Patriots' Gillette Stadium. He was also involved in the design of the water reuse system on the site. This system is currently the largest greywater reuse system in the state.

JPI Apartment Development, LLP, Permit Preparation, Bellingham, Massachusetts. Mr. Catlow led the hydrogeologic investigation and permit preparation tasks in support of a 54,000-gpd wastewater treatment plant. The proposed wastewater treatment plant is located within a Zone II Wellhead Protection District. Mr. Catlow has been instrumental in ensuring state and local regulators that the proposed plant will provide high quality recharge to a protected aquifer.

Pleasant Bay Health & Living, LLC, Wastewater Treatment Plant, Brewster, Massachusetts. Mr. Catlow performed a hydrogeologic evaluation in support of a proposed 27,000-gpd wastewater treatment plant.

The Rivers School, Wastewater Treatment Plant, Weston, Massachusetts. Mr. Catlow prepared the hydrogeologic evaluation and preliminary design of a 15,000 gallon-per-day wastewater treatment plant at the Rivers School.

Boston Water and Sewer Commission, Dorchester 090 Combined Sewer Separation Project, Boston Massachusetts. Mr. Catlow is serving as Civil Engineer for the design of separate storm drains and sewers to reduce the occurrence of combined sewer overflows (CSOs) from Boston's 090 combined sewer outfall into Dorchester Bay. During the first phase of the project, Mr. Catlow was responsible for producing basemaps that accurately depicted the location of existing utilities within the project area. In subsequent phases of the project, Mr. Catlow was involved in the design and preparation of plans and construction documents for more than 69,000 feet of storm drain piping.

Boston Water and Sewer Commission, East Boston Combined Sewer Separation Project, Boston Massachusetts. As Civil Engineer, Mr. Catlow evaluated existing hydrologic conditions and developed preliminary piping schemes for the approximately 50-acre area tributary to the Massachusetts Water Resources Authority (MWRA) 207 combined sewer outfall. He was also involved in the final design of storm drains and the development of construction documents.

Richard C. Sperandio, P.E.

Tufts University
B.S., Civil Engineering, 1973

Project Role:
Construction Management

Mr. Sperandio is a Vice President with Tetra Tech, Inc. With 30 years of experience, he has been involved in a variety of program management and construction management projects, as well as numerous projects involving the planning, design and construction of commercial, municipal, and military facilities, airfields, runways, taxiways, aprons, roads, and infrastructure involving water distribution and treatment, wastewater collection, pumping and treatment, and stormwater systems.

Mr. Sperandio also has extensive experience in procurement including preparation of contract scope of work documents, management of subcontractors, and change orders.

RELEVANT PROJECT EXPERIENCE

Massachusetts Water Resources Authority, Blue Hills Owner's Representative Services, Quincy, Massachusetts. As Project Manager for the Owner's Representative Services to the Massachusetts Water Resources Authority (MWRA), Mr. Sperandio is managing the delivery of the Blue Hills Covered Storage project using the design/build delivery approach. The Blue Hills Reservoir is an existing open distribution storage reservoir located in the Metropolitan District Commission's (MDC) Blue Hills Reservation in Quincy, Massachusetts. Tetra Tech is serving as prime consultant with support from CH2M Hill, Project Management Associates (PMA) DMC Engineering and Haley & Aldrich. Prior to providing Owner's Representative Services to the MWRA, Tetra Tech successfully completed the Environmental Impact Report (EIR)/Conceptual Design for the MWRA Blue Hills Covered Storage facilities. Tetra Tech was responsible for evaluating alternatives, siting of storage facilities, conceptual design of storage facilities and large diameter connecting water mains, environmental permitting, landscape design and development of wetland habitat mitigation.

City of New York, Department of Environmental Protection, New Water Treatment Plant Design. Mr. Sperandio served as Project Director for the preliminary design of a 290-MGD water treatment facility. This water treatment plant to treat the Croton water supply system, due to its location within a City Park, was to be constructed in a single underground nine-acre facility.

City of New York, Department of Environmental Protection, Wastewater Treatment Facilities Rehabilitation. Mr. Sperandio served as Project Director for the Jamaica Wastewater Pollution Control Plant. This 100-MGD plant, originally constructed in the 1940s, was in need of substantial upgrade and improvements. Mr. Sperandio directed the development of a multi-phased, long-term design and construction program for this facility. In addition, Mr. Sperandio served as Project Director for the final phases of the Owls Head Water Pollution Control Plant upgrade program, which spanned a period of more than 20 years.

Pollution Control Department, Samut Prakarn Wastewater Management Project, Thailand. Mr. Sperandio served as Project Manager during the initial year of project start-up for the Samut Prakarn Wastewater Management Project in Thailand. This project included design and construction of 125 km of pipeline from 300 mm (12") to 3,000 mm (10') in diameter, five major pump stations, a crossing of the Chao Phraya River using horizontal directional drilling techniques, and a 125-MGD treatment plant with an outfall to the Gulf of Thailand.

U.S. Army Corps of Engineers Afghanistan Engineer District, Design/Build of Regional Afghan National Army Base, Gardez, Afghanistan. Chief Design Engineer responsible for directing the master planning, and wastewater, civil, site, structural and geotechnical engineering associated with the design and construction of a 300-acre regional army base for 6,000 soldiers of the Afghan National Army.

U.S. Army Corps of Engineers, Transatlantic Program Center for the Pol-E-Charkhi 1st Brigade Army Base, Afghanistan. The Mr. Sperandio was the Chief Design Engineer for the Perini Corporation/Tetra Tech design/build team on the Pol-E-Charkhi 1st Brigade Army Base project. This $24-million fast-track design/build project, which began in January 2003, was ready for the Afghan National Army to occupy the barracks by the end of June 2003. Temporary utility services were provided until the entire base and infrastructure was completed in September 2003. The scope of work included designing infrastructure to support housing for 6,000 Afghan soldiers, as well as design for new permanent barracks and dining facilities. Mr. Sperandio was responsible for directing the civil, site and water/wastewater engineering, including a wastewater treatment plant and water distribution system. The planning included coordinating new well sites, water storage and pumping requirements, a wastewater collection, pumping and treatment system, a power supply building and complete electrical and communications distribution system. Tetra Tech also assisted in coordination with the United Nations Mine Action Center to address land mine and unexploded ordinance issues.

United States Air Force Space Command, Ground Based Mid-Course Defense (GMD), Upgraded Early Warning Radar (UEWR), Design and Construction of Facility Modifications. Mr. Sperandio Mr. Sperandio is currently serving as the Project Manager for the design of all facility modifications to support the GMD UEWR Program at Beale Air Force Base in California, Cobra Dane Facility at Eareckson Air Station in Shemya, Alaska and RAF Fylingdales in England. Tetra Tech, as part of a joint venture, is teamed with Perini Corporation as part of a design/build team for the delivery of this project. Perini and Tetra Tech are providing support to Raytheon Integrated Defense Systems. The facility modifications include major interior architectural changes along with revisions and upgrades to the facility mechanical and electrical systems to support the UEWR system.

U.S. Air Force, Peace Shield Air Defense Facilities Program, Saudi Arabia. Mr. Sperandio served in a variety of key roles on this $1.6-billion program to design and construct the state-of-the-art Peace Shield air defense facilities for the Kingdom of Saudi Arabia. This project included five underground hardened sector command centers, a central command operations center, 17 long-range radar facilities, and a centralized maintenance facility. The project involved site investigations, site selection, master planning, analysis of existing utility systems, new and renovated facilities, new and upgraded utility systems, roadways, and other infrastructure support facilities.

Neil V. Callahan

Rutgers University
B.S. in Environmental Science
M.S. in Environmental Science
Graduate Studies in Water Resources

Project Role:
Procurement

Mr. Callahan joined R. W. Beck in 1997 and is a Principal and Senior Director for the Infrastructure Practice. He has 27 years' experience in the water and wastewater industry. He has participated as Project Manager or Senior Operations Consultant in over a dozen major Public/Private Partnership procurements in nine states, Canada, the Caribbean and Mexico.

Mr. Callahan has served as project manager for utility planning, permitting and construction projects with values ranging from $50,000 to $108 million, drawing on his comprehensive knowledge of state and federal regulations, project development, scheduling and contract management. Mr. Callahan was a principal consultant for an engineering firm specializing in the troubleshooting and design of treatment processes, utility operations, facilities planning, permitting and facility start-up. Mr. Callahan has been responsible for the construction management of over $25 million of water and wastewater utility assets. Further, he has been the Project Manager for the successful start-up of five advanced biologic nutrient removal wastewater plants, including the development of all operational, management and maintenance management systems.

AREAS OF EXPERTISE

Public/Private Partnerships

Mr. Callahan has participated in the public/private partnership arena from the privatizer's perspective. He has been a corporate decision-maker, senior technical strategist and/or project manager or over a dozen major national and international procurements. Neil has been a team leader for identifying and implementing innovations that make utilities competitive.

Mr. Callahan has been the Project Manager for multiple contract operating projects and for the development of seven proposals for a public/private partnership with total revenues in excess of $165 million.

Strategic and Business Planning/Change Management

Mr. Callahan has managed and assisted water/wastewater utilities throughout periods of change caused by competitive or compliance-driven initiatives. In one project he directed, the utility had been consistently non-compliant, was being fined heavily, and had two employees convicted of federal water pollution law violations. After sixty days the facility was compliant; after two years it received an award for its performance.

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Independent Engineer's Reviews

Mr. Callahan has served as Technical Manager and or Project Manager for Independent Engineering Reviews of water/wastewater facilities in support of financing and, for some projects, privatization.

Performance Enhancement/Operational Efficiency Studies

Mr. Callahan has a decade of experience with water/wastewater utility assessments of management systems, business processes, treatment effectiveness, safety, and employee skill and performance. Neil has developed and successfully implemented programs that have yielded significant measurable savings or performance improvement to the utility.

SELECTED EXPERIENCE

Contract Procurement and Negotiations Services for Supply Development Program Projects

Tampa Bay Water – Clearwater, Florida

R. W. Beck has been retained as member of Tampa Bay Water's System Engineering team to provide expert assistance to Tampa Bay Water with the development of alternative procurement programs including: Design-Build-Operate, Design-Build and Build- Own-Operate-Transfer procurements. The work has included the following: development of a nationally prominent procurement program, procedures and schedule; develop DBO terms and conditions and procurement documents; assistance with development of terms and conditions and documents for BOOT procurement; development of risk allocation methodology, preparation of a Risk Matrix, and risk-based cost impact analysis for DBO procurement; develop and assist with the pre-qualification, evaluation of contractors and proposals for DBO; assist with the negotiations of the DBO procurement.

Tampa Bay Seawater Desalination Project

Tampa Bay Water – Apollo Beach, Florida

Mr. Callahan has been the R. W. Beck Project Manager for the landmark Tampa Bay Seawater Desalination Project. The project consists of the development, design, permitting and construction of a 25 MGD seawater desalination plant. R. W. Beck has provided design review, contract development assistance, contract negotiations, Independent Engineering reviews, bond reports and construction management services for the project.

Gulf Coast Seawater Desalination Project

Tampa Bay Water – Pasco County, Florida

Mr. Callahan has been the R. W. Beck Project Manager for the development of Tampa Bay Water's second seawater desalination project. The proposed project is a Design/Build/Operate project delivery for a 25 to 35 MGD seawater reverse osmosis desalination plant co-located with a power plant. The Gulf Coast Project involves the overall project planning, development of the procurement documents, permitting, public relations, design review, contract development assistance, and contract negotiations.

Carlsbad Desalination Project

San Diego County Water Authority – San Diego County, California

Mr. Callahan has served as the Project Manager for the feasibility evaluation of the Carlsbad 50 MGD seawater reverse osmosis desalination plant proposed to be co-located with a power plant. The project involved evaluating the contracts, project risk, project costs and energy concerns.

Edward D. Wetzel

Lehigh University
PhD, Sanitary Engineering

Lehigh University
MS, Civil and Sanitary Engineering

Lafayette College
BS, Civil Engineering

Project Role:
Regionalization

Dr. Wetzel has served in a variety of academic, technical, project, marketing and management roles over his 25 years of service to water, wastewater and environmental clients. With an emphasis on relationship building and customer satisfaction, he has profitably grown every operation he has been associated with in his career. Dr. Wetzel's experience in utility acquisitions, systems planning, alternative project delivery and program management make him uniquely qualified to provide management and consulting services to the public and private water sector.

TECHNICAL EXPERIENCE

Dr. Wetzel has managed a variety of projects for municipal clients. Projects include water treatment process studies, water quality investigations, privatization studies, utility acquisitions, rate and connection fee studies, bond reports, resource recovery facility feasibility study, manhole rehabilitation, sewer system modeling, wastewater reuse and wastewater treatment plant design and performance evaluation. He is contributing author to the Water Environment Federation's Manual of Practice No. 8, *Design of Municipal Wastewater Treatment Plants*.

Dr. Wetzel has represented various governments in due diligence investigations and negotiations for the purchase of private utilities. Acquisitions have been both by negotiated agreement and condemnation, with settlements ranging from $3 million to $136 million.

Dr. Wetzel has served client sponsor and led Quality Assurance teams for numerous water and wastewater planning and design projects, including:

- Brunswick County Water and Sewer Authority - $35 million sewage collection and treatment program
- Elizabeth City, NC - $25 million water and sewer improvements
- Gwinnett County, GA - $200 million advanced water reclamation facility design
- City of Chattanooga, TN - $30 million Moccasin Bend wastewater treatment plant wet weather expansion to 260 MGD
- Palm Beach County, FL – improvements at six water treatment facilities, including a new 28 MGD membrane softening plant and the addition of ozone disinfection at a 16 MGD lime softening plant
- Fulton County, GA – Comprehensive sewer system evaluation survey and rehabilitation program.

Water and wastewater master plans have been prepared for Elizabeth City, NC; Palm Beach County, FL; Royal Palm Beach, FL; Town of Palm Beach, FL; Port St. Lucie, FL; Seacoast Utility Authority; Charlotte County, FL; South Brunswick Water and Sewer Authority; Spartanburg County, SC; and Chattanooga, TN.

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AFFILIATIONS

American Society of Civil Engineers

American Water Works Association

- Chair, SCAWWA Program Committee
- Consulting Engineers of South Carolina, Environmental Committee

Water Environment Federation

- Member, Task Committee on Aerated, Fixed-Film, Biological Treatment
- Author, Wastewater Treatment Plant Design, MOP8.

HONORS AND AWARDS

Elected to Phi Beta Kappa and Tau Beta Pi

Outstanding Civil Engineering Student Awarded by Lehigh Valley Section of ASCE

Brinks Fellowship

Outstanding Young Man of America

Clifton P. Mayfield Outstanding Young Alumni Award

Clarkson University, Department of Civil and Environmental Engineering Advisory Council.

PUBLICATIONS AND REPORTS

Wetzel, E. D., and R.L. Johnson, 1983, "Net Energy Production in Wastewater Treatment," *Proceedings of the 1983 Environmental Engineering Division Specialty Conference*, ASCE, 577.

Wetzel, E.D., 1983, "Users Manual for NEPWATR," *Fritz Engineering Laboratory Report* No. 354.485, Lehigh University.

Contributing author to *Fluid Mechanics: Exam File*, S. Klemetson, ed., Engineering Press, 1985.

Wetzel, E.D., W.I. Fisher, and J.P. Creedon, 1986, "Pilot-Scale Evaluation of A/O vs. Conventional Activated Sludge for High-Strength Industrial Wastewater," *Proceedings for the Industrial Wastes Symposium*. 59th Annual WPCF Convention, Los Angeles.

Wetzel, E.D. and S.B. Murphy, 1987, "Guidance Manual for Preventing Interference at POTWs," *U.S. Environmental Protection Agency, Permits Division*, Office of Water Enforcement and Permits.

Contributing author to *Design of Municipal Wastewater Treatment Plants*. Vols. I and II, Water Environment Federation (MOP8), 1992, 1998.

Wetzel, E.D., Osterman, H.C. and Elia, A.L., 1994, "The Value of Regional Authorities in Managing Environmental Facilities," *Proceedings: Management of Environmental Problems for Public Officials*.

Wetzel, E.D., 1996, "Introduction to Contract Operations and Privatization," *Proceedings: 1996 Advanced Topics in Wastewater Treatment*, Greensboro, North Carolina.

Wetzel, E.D., 1996, "Privatization – The Value of Water and Wastewater Utility Systems," Presentation to the 1996 South Carolina Environmental Conference, Myrtle Beach, South Carolina.

Mr. Jochim has more than 30 years of consulting experience associated with implementation of large capital facilities and systems for both public and private clients. His experience encompasses strategy development for implementation and project delivery strategies, community involvement, capital projects prioritization, and decision process formulation. Mr. Jochim facilitates discussions for public utilities with senior management and technical staff to obtain input, identify issues, develop strategies to address issues, and to obtain feedback resulting in plan endorsement from management and staff. He has assembled and managed complex project teams, requiring coordination among multiple project stakeholders and alignment with diverse regulatory, scheduling, budgetary, and technical requirements.

Montana State University
B.S. in Civil Engineering
M.S. in Hydraulic Engineering

Project Role:
Strategic Planning

RELEVANT PROJECT EXPERIENCE

Strategic and Business Plan

Department of Water Supply, County of Hawaii

Project Manager. In conjunction with development of a water master plan for the Department of Water Supply (DWS), Mr. Jochim facilitated multiple workshops with DWS senior management, key staff, and DWS opinion leaders to prioritize strategic objectives for the Department and identify potential organizational enhancements, performance metrics, and process improvements. Throughout these work sessions, team members learned ways of enhancing their listening, communication, and strategic skills. All-hands meetings were held during the planning process to seek input and feedback from staff and to gain endorsement of strategic issues, goals, and actions. Core planning team members also engaged board members to solicit input and feedback. The board adopted the Strategic and Business Plan in June 2004 and is in the process of implementing the strategic initiatives identified for the FY 2004–2005.

Capital Improvement Program Independent Oversight Review

San Francisco Public Utilities Commission/California

Task Lead. As part of the independent review of the PUC's $3.6 billion Capital Improvement Program, Mr. Jochim evaluated the local water system distribution program. The CIP includes the regional water system, local water system, and clean water system review. R. W. Beck's findings and recommendations were presented to a Blue Ribbon Committee, as well as to the PUC Commissioners. The recommendations addressed program implementation issues, including project need, cost, and scheduling; program staffing and leadership; and the use of a program management consultant in executing the program. The voters passed bond funding for the program.

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Freeport Regional Water Program

East Bay Municipal Utility District and Sacramento County Regional Water Authority. California

QA/QC Manager. Working directly with the general manager of the Freeport Regional Water Authority, Mr. Jochim had overall responsibility for QA/QC related to development of a delivery strategy for all technical aspects of this $750 million water supply program. The program includes a 185 mgd water intake on the Sacramento River, 20 miles of pipeline, and coordination of project activities with local, State, and Federal regulatory agencies.

Water Comprehensive Plan

City of Everett, Washington

Principal-in-Charge. Mr. Jochim served as Principal-in-Charge for preparing a Comprehensive Water Plan for the City of Everett, the largest city in Snohomish County and the area's main wholesale water purveyor. In addition to basic elements of the water plan, the Everett plan addressed critical issues regarding the City's capital rehabilitation and replacement plan (CRP) to update water system facilities. In relation to the CRP, Mr. Jochim's key responsibilities included planning the development, installation and maintenance of a facilities inventory database linked to the City's GIS system and drafting a water utility financial plan.

Water System Plans and Capital Improvement Programs

Various Clients/Northwest United States and Canada

Project Manager. Mr. Jochim has been responsible for preparation of comprehensive water system plans, water system analyses, and capital improvement program development for many jurisdictions located in the Pacific Northwest. In conjunction with these projects, he has completed water distribution system hydraulic analyses, facilities condition assessments, feasibility analyses, capital projects prioritization, capital improvement programs development, environmental reviews, cost estimates, scheduling, implementation strategy development, and development of grant assistance strategies for the following jurisdictions:

- Bellevue, Washington
- Fairbanks, Alaska
- Highline Water District/Washington
- Hillsboro, Oregon
- Issaquah, Washington
- Port Townsend, Washington
- Portland, Oregon
- Redmond, Washington
- Salem, Oregon
- Skyway CWSP/King County, Washington
- Vancouver, B.C.
- Vancouver, Washington
- Vashon CWSP/King County, Washington
- Woodinville Water District/Washington.

Kyle B. Rhorer

University of California, Davis
MBA Environmental and Natural Resources Management

University of California, San Diego
BA in Quantitative Economics

Kyle Rhorer serves as the Western Region Director for R. W. Beck's National Owner Advisory Services Group, where he specializes in the areas of strategic planning, capital financing, financial management and controls, and the development of public-private partnerships for utility infrastructure. Mr. Rhorer also has over 16 years of experience in marketing to municipalities, regulatory agencies, and publicly- and privately-owned drinking water, wastewater, solid waste utilities, and other environmental services providers.

PROJECT EXPERIENCE

Project Role:
Business Modeling

Water Treatment Plant Design-Build-Operate (DBO) Procurement Services

San Diego County Water Authority, California

Mr. Rhorer served as project manger of this comprehensive DBO procurement for the San Diego County Water Authority for the development of a public-private partnership for the design, construction, and long-term operation of a 50-100 MGD surface water treatment plant. A landmark project for the Authority, this project is the first treatment project it has undertaken and will be the largest DBO water treatment facility in California when completed in 2008. In addition to his project management responsibilities, Mr. Rhorer led the development of the procurement strategy, risk allocation and service contract terms, and solicitation documents. Mr. Rhorer currently serves on the Board of Senior Consultants for the Authority, overseeing the development of the overall public-private partnership.

Procurement of Design-Build-Operate (DBO) Services

City of Woonsocket, Rhode Island

Mr. Rhorer worked with the City to develop a public-private partnership strategy, including a long-term analysis of capital financing options and user rate impacts. He led the financial review of proposal finalists for the long-term DBO engagement and developed a cost-risk methodology to determine the financial implications of various risk allocations. Mr. Rhorer determined the ability of the proposers to provide financial considerations and competitive service fees, while maintaining a stable and affordable user-rate structure.

Water Utility Privatization Studies

Various

As water utilities across the country search for ways to improve efficiency and cut costs, many are turning to "privatized" operations. Working on behalf of municipalities across the country, Mr. Rhorer developed a number of economic feasibility models to present the cost implications of various privatization alternatives. As a crucial component to this modeling, he performed rate sensitivity analyses to

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provide public utilities with the answer to one of the most important questions: "What will this do to the rates?" Specifically, these projects required close analysis of operating budgets, and capital financing plans to determine the various impacts privatization may have on the utility's "true cost" of providing water and subsequently the impact on the user rate schedule.

Rate Study and Utility Formation/Sparks

City of Sparks, Nevada

Serving as project manager, Mr. Rhorer assisted the City of Sparks in improving the fiscal management of their sanitary sewer, storm water and reclaimed water utilities while promoting a fair and equitable allocation of costs to customers. The project had three main objectives: 1) Develop an organizational and financial structure for the City's storm water and reclaimed water utilities; 2) Determine the adequacy of the City's revenue recovery practices for sanitary sewer, storm water and reclaimed water functions; and 3) Develop an integrated, user-friendly financial model that will allow the City to determine fair and equitable user fees for the sanitary sewer, storm water and reclaimed water utilities in accordance with Title 13 of the Sparks Municipal Code.

Integrated CIP Financial Planning Model

City of Tempe, Arizona

Mr. Rhorer developed a comprehensive financial model for the City of Tempe that integrates the City's capital improvement program with its budget and revenue management systems. The spreadsheet-based model develops 20-year budget and rate projections for the City's drinking water, wastewater, and irrigation systems. The model allows the City to run an infinite number of "what if" analyses to determine the budgetary and user rate impacts associated with alternative capital improvement programs. The model also facilitates rate sensitivity analyses at the customer class level to determine appropriate rate making policy for the City.

CIP Strategic Business Plan

San Francisco Public Utilities Commission, California

Mr. Rhorer managed a high-level engagement to develop an overall strategy for SFPUC's implementation of a $4-billion capital improvement program. Mr. Rhorer also served as key architect of the utility-wide planning process to develop a new organizational design and associated mission, vision and performance measures against which the large utility will evaluate the feasibility of implementing the largest CIP in the history of San Francisco. In addition to all day-to-day project management responsibilities, he developed an overall directional plan and strategy to involved all SFPUC stakeholders including customers, management, staff, and elected officials.

Performance Assessment

City of Midland, Texas

Mr. Rhorer served as project manager for a performance assessment of the City's Water and Wastewater Utility to identify potential alternatives to achieve cost reductions while maintaining or improving the current level of service provided by the Utility. Based on the results of the assessment, alternative service delivery opportunities for the City were evaluated. These alternatives include contract operations of all or some of the existing facilities; DBOF contracts for new capital facilities; outsourcing of selected management or administrative functions such as utility billing and customer service; sale of selected Utility assets or systems; or sale of the entire Utility system.

Edward Ionata

Yale University
M.S., Forest Science

University of Rhode Island
B.S., Natural Resources

Harvard University Extension
Land Development & Financial Management

Mr. Ionata is a Senior Vice President at Tetra Tech, Inc. Mr. Ionata specializes in the management of multi-disciplinary projects from inception through design, permitting and construction. He is well versed in fast-track and design-build delivery methods and has managed environmental reviews, permitting, and compliance for two of the largest public infrastructure projects in the United States – the Massachusetts Water Resources Authority's Deer Island Treatment Plant and the Central Artery/Tunnel Project. Mr. Ionata directly manages multidisciplinary public and public-private partnership projects.

RELEVANT PROJECT EXPERIENCE

Project Role
Permitting

Massachusetts Water Resources Authority, Blue Hills Covered Storage EIR/Conceptual Design and Design/Build Services. Mr. Ionata managed the completion of conceptual design, MEPA documentation and permitting for the placement of two 12.5 million-gallon, potable water storage tanks within the existing Blue Hills Reservoir. The project involves replacing eight acres of existing reservoir with a meadow/forest habitat covering the new storage tanks, and creating an 8-acre pond and wetland habitat in the remaining reservoir footprint. Based on the successful completion of this work, Tetra Tech has been selected as the owner's representative for the design/build construction of the Blue Hills Covered Storage facilities. Mr. Ionata is responsible for completing environmental permitting and assisting in selection and monitoring of construction contractors.

Massachusetts Water Resources Authority, East and West Spot Pond Supply Mains Rehabilitation Project. Mr. Ionata served as Technical Advisor for MEPA and state and local permitting efforts. The project included the evaluation, rehabilitation, and associated permitting of proposed improvements of 20 miles of 48-inch and 60-inch diameter cast iron and steel pipe. The pipe, constructed between 1896 and 1902, is located in seven communities including Boston, Cambridge, Medford, Malden, Melrose, Somerville, and Stoneham.

Massachusetts Bay Transportation Authority, Greenbush Commuter Rail, South Shore Massachusetts. Mr. Ionata is coordinating services provided to the Cashman/Balfour Beatty design build team constructing 18 miles of reclaimed heavy railway and seven passenger stations. Tetra Tech is providing design input to ensure environmental compliance, designing replacement wetlands, providing support to the owner (MBTA) in acquiring wetlands permits for the project, designing highway signals and construction detour routing, coordinating hazardous waste investigation and removal, and acquiring environmental permits for the design builder.

South Shore Tri-Town Development Corporation, Naval Air Station, South Weymouth, Massachusetts. Mr. Ionata managed the environmental and engineering studies, master plan refinements and

MEPA documentation for the ongoing redevelopment of the 1,400-acre Naval Air Station (NAS) in South Weymouth, Massachusetts. He oversaw field inspections to evaluate wetland resources in the study area. GIS technology was used to identify environmental constraints and review local population and land use data. Detailed transportation studies were performed to evaluate access and highway improvements. An innovative approach was used to fast-track early environmental approvals and to allow continued development to be reviewed and approved in phases keyed to an emerging master plan and responding to changing market conditions. Ongoing services are being provided to support master planning, engineer utilities, and ensure economic compliance.

New England Patriots, New Football Stadium and Economic Development Complex, Foxborough, Massachusetts. Mr. Ionata was the Deputy Project Director responsible for environmental and planning issues for the 68,000-seat stadium, and parking and infrastructure improvements to the 300-acre stadium site. The project involves construction within state and federal wetlands and floodplains, and includes major highway and site roadway infrastructure improvements and more than 14,000 parking spaces. Massachusetts Environmental Policy Act (MEPA) review used an expanded Environmental Notification Form (ENF) and a single Environmental Impact Report (EIR), which allowed a Phase I Waiver for stadium structure construction. In addition to extensive civil engineering and highway design, Tetra Tech designed and permitted an award-winning relocation of the Neponset River, creating a new ¾-mile river course nine acres of riparian habitat and associated wetlands.

Massachusetts Convention Center Authority, Boston Convention and Exhibition Center, Boston, Massachusetts. Mr. Ionata managed environmental permitting and civil engineering services for the new Boston Convention and Exhibition Center. Design services included a large-diameter separated storm drain and direct outfall to Boston Harbor to handle roof drainage from the massive convention center structure, utility connections, and traffic and signage. Permitting services included MEPA documentation for project changes and preparation of project impact reports under the Boston Redevelopment Authority process.

Prior to joining Tetra Tech, Mr. Ionata served in the following capacities:

Parsons Brinckerhoff, Central Artery Project, Boston. Mr. Ionata served as Environmental Services Manager for the Core Management Team. He managed a 45-person environmental services group to provide environmental analyses required for a $10-billion highway/tunnel/bridge project. He was responsible for acquiring all environmental permits, monitoring environmental compliance during construction, and facilitating regulatory agency relations. He was also responsible for the budget, scope, and schedule for environmental tasks and specialty subcontractors. He developed strategies for materials disposal and construction mitigation, and provided NEPA and state environmental impact documentation necessary to gain approval for project changes. Mr. Ionata managed preparation of a major supplemental impact statement examining tunnel/bridge design options for a river crossing. He supported an aggressive permit acquisition schedule, provided litigation assistance, and directed technical studies in multiple disciplines including air quality, odor control, water quality, landfill revegetation, marsh restoration, and noise control.

Massachusetts Water Resources Authority, Boston Harbor Clean-up – Deer Island, Nut Island, Fore River Shipyard, and Ocean Outfall Facilities. Mr. Ionata served as Construction Manager, developing strategies and leading the permitting team to acquire NEPA reviews and environmental permits for the construction of the $3.28-billion Boston Harbor wastewater treatment facility and the barge and ferry facilities required to support its construction. Operating under court-ordered deadline pressure, he managed $3 million of consultant resources to gain all required coastal, wetlands, solid waste, hazardous waste, and water pollution regulatory approval.

Mr. Woodcock has special expertise in utility due diligence investigations, utility valuations, financial feasibility analyses and business plans. He has participated in over 60 water and wastewater utility valuations and acquisitions for utility systems located throughout the United States. The acquisition projects cover a wide range of utility system configurations and sizes and include engineering due diligence inspections, valuations, and financing activities associated with the transactions. Major projects include the City of Nashua, NH, Comprehensive Review of Pennichuck Water, the City of Peachtree City, GA acquisition of Georgia Utilities Company, the City of Winter Haven, FL acquisition of Garden Grove Water Company and the acquisition of the Deltona and Martin County systems from Florida Water Services Corp.

He is also experienced in the preparation and review of capital improvement programs, master planning and water and wastewater impact fees. Mr. Woodcock's water and wastewater utility planning experience includes several master plans and capital improvements programs. Recent planning projects include the City of Winter Haven Water Master Plan, the Town of Palm Beach Water Capital Improvements Program, and the Marion County Utility Consolidation Program.

Additionally, Mr. Woodcock has experience in the review and analysis of water and wastewater utility impact fees and utility financial feasibility studies in support of capital funding including studies for the Cities of Apopka, Brooksville, and Bartow, Pasco County and the Tohopekaliga Water Authority.

RELEVANT PROJECT EXPERIENCE

City of Nashua, New Hampshire, Comprehensive Review of the Pennichuck Water System. Mr. Woodcock was the principal analyst in Tetra Tech's comprehensive review of the Pennichuck Corporation, the largest investor-owned water utility holding company in New Hampshire. Pennichuck provides water to the City of Nashua and 22 other communities in southern New Hampshire and Massachusetts. Tetra Tech provided the overall project management and was responsible for the assessment of the water supply system, distribution system, safe yield, future supply and demand, capital improvements and watershed management components of this study. The project team investigated Pennichuck Corporation's assets and liabilities, water capacity, watershed management plan and the legal and regulatory issues relative to acquisition. The team prepared a sample portrait of the potential merger of Pennichuck Water and Philadelphia Suburban Corporation.

University of Central Florida
B.S.E., 1988

M.S.E., University of Central Florida
M.S.E., 1989

Rollins College
M.B.A., 2001

Professional Affiliations
Water Environment Federation
American Water Works Association

Project Role:
Asset Evaluation

Jeff J. McGarvey

University of Central Florida
B.S. in Finance

Project Role:
Cost of Service / Rates

Mr. McGarvey is a Senior Consultant and has been providing professional consulting services to municipal solid waste, water, wastewater, electric and natural gas utilities throughout the southeastern region for more than 10 years. Mr. McGarvey has a broad range of experience with municipal utility systems with special expertise in utility rate analyses; utility valuations and acquisitions; regionalization and consolidation studies; debt issuance support including the preparation of financial feasibility analyses associated with the issuance of revenue bonds; capital financing analyses; strategic planning, assisting with rate and regulatory matters, and instituting financial mechanisms to provide for sufficient recovery of operating and capital costs.

He has assisted clients in the preparation and presentation of public awareness and information programs related to municipal projects. He has developed procedures and supervised the preparation of extensive computer models for utility rate studies, financial control, data retrieval and analysis, financial feasibility studies, and capital financing alternatives. His relevant experience is listed below.

AREAS OF EXPERTISE

Rate and Cost of Service Studies

Mr. McGarvey has experience in utility rate and cost of service studies for solid waste, water, wastewater, electric, and natural gas systems located throughout the southeastern region. Such experience generally relates to performing budget analyses, customer and usage analyses, development of revenue requirements, cost of service allocations, and sensitivity analyses related to the implementation of rate structures designed to promote desired usage characteristics.

- **Solid Waste Rate Study – City of Panama City, Florida:** Mr. McGarvey provided assistance in the area of solid waste rate matters including a five-year financial plan and identified recommended changes and improvements to comply with current utility practice on behalf of Panama City.
- **Solid Waste Rate Study – St. Petersburg, Florida:** Mr. McGarvey is leading R. W. Beck's team in developing a revised rate structure for the City's solid waste utility. This work includes developing a 10-year projection of operating results assuming current year and future rate increases.
- **Strategic Plan and Cost of Service Study – City of Orlando, Florida:** Mr. McGarvey is assisting the City examine methods to improve the efficiency of their solid waste collection system as well as examine revenue enhancement mechanisms. Mr. McGarvey will utilize the City's existing system as well as potential system changes

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to model a detailed five year cost of service study. The model will project annual capital and operating expenses for each alternative collection style and service level.

Additional clients include: City of Thomasville, NC; City of Highpoint, NC; City of Greensboro, NC; City of Gastonia, NC; City of Hickory, NC; City of Monroe, NC; The Greenwood CPW, SC; The Greer CPW, SC; French Broad Electric Membership Corporation, NC.

Revenue Bonds, Feasibility Analyses and Capital Funding

Mr. McGarvey has been involved in the preparation of capital financing plans and feasibility studies associated with the issuance of several hundred million dollars in municipal revenue bonds and bond anticipation notes (BANs). The funding proceeds have been utilized for such purposes as utility acquisitions, expansion of facilities, and various other capital improvement needs. In addition, Mr. McGarvey has developed capital funding strategies utilizing various combinations of bonds, bank loans, government assistance loans (i.e. State Revolving Funds) and grants.

Acquisitions and Valuation Analyses

Mr. McGarvey has been involved in numerous acquisitions and valuation analyses for utility systems located throughout the southeastern region. The acquisition projects generally involve financial due diligence, valuations, negotiations, and financing activities associated with such transactions. Mr. McGarvey has performed valuation analyses utilizing various generally accepted methodologies including cost approach (value of the cash flows generated by the system), original cost less depreciation (book value), comparable sales (actual transactions for other systems), replacement cost new less depreciation and reproduction cost new less depreciation (value of system assets).

Some of the major valuation and acquisition projects Mr. McGarvey has been involved in include the acquisition of the Duke Energy's North Carolina water system by the Broad River Water Authority; the City of Anderson, South Carolina acquisition of part of Duke Energy's South Carolina water system; and Lexington County Joint Water and Sewer Commission, South Carolina investigation into the acquisition of select service territory of Carolina Water Services; Marion County, Florida's acquisition of several of the Florida Water Services systems. In addition to this water and sewer valuation experience, Mr. McGarvey has been involved in several studies regarding the feasibility of municipalizing the distribution assets of investor-owned electric utilities.

Colorado State University
B.S., Natural Resources, 1976

Project Role:
Grants and Loan

Mr. Zill has been responsible for the preparation of grant applications and grant amendments on behalf of municipalities for funding from State and Federal agency programs which include programs administered by the Michigan Department of Natural Resources, U.S. Environmental Protection Agency, Michigan Department of Commerce, U.S. Department of Agriculture – Rural Development Programs, Michigan Department of Transportation, Federal Highway Administration, etc., for water, wastewater and road projects. He has assisted partnership preparation of engineering contracts for projects receiving State and/or Federal funding for water, wastewater, and road projects, and has managed the administrative requirements associated with grants and loans.

RELEVANT PROJECT EXPERIENCE

Recently, Mr. Zill has provided clients with information on the latest Drinking Water Revolving Fund (DWRF) Loan Program. Project plans have been prepared for the following communities: Algonac, Breckinridge, Manchester, Marine City, Mount Clemens, and Saline.

Previous wastewater State Revolving Fund (SRF) loan experience includes work in the following communities: Armada, Capac, Escanaba, Genoa Township, Oceola Township, Hamburg Township, Hartland Township, Lansing, Manchester, Marine City, Menominee, Milk River ICDB, Salem Township, Washtenaw County, Wayne County, Yale, Sault Ste. Marie, Frankenmuth, Mount Clemens, Warren, and Port Austin.

Mr. Zill also provides review and comment on proposed and adopted State and Federal regulations which impact Tetra Tech projects. He circulates pertinent regulations to appropriate staff personnel and maintains files of current regulations and guidance documents. His expertise and knowledge of regulatory and funding requirements, as they pertain to project planning and environment assessment, facilitates the preparation of Tetra Tech reports and planning documents to expedite the grant and funding process.

Mr. Zill has been responsible for preparation of Environmental Assessments for water, wastewater and/or road improvement facilities in Almont, Coldwater, Midland, Escanaba, Manchester, East Jordan, Bark River, Michigamme, Sault Ste. Marie, Marine City, Lansing, Grand Rapids, Genoa and Oceola Townships, Armada, Capac, Port Austin, Wayne County, Hamburg Township, Hartland Township, Brighton, Wixom, Walled Lake, Salem Township, Washtenaw County and Ann Arbor, among others.

Leslie Shoemaker

University of Maryland
Ph.D., Agricultural Engineering

Cornell University
M.Eng., Agricultural Engineering

Hamilton College
B.A., Mathematics

Project Role:
Water Resources Management

Dr. Shoemaker is a nationally recognized expert with over 20 years experience in the analysis of watershed and ecosystems and development of integrated modeling systems. She has authored dozens of technical papers on modeling watershed systems that have been published in leading scientific and trade publications. Dr. Shoemaker has directed numerous multi-disciplinary watershed management studies such as Lake Tahoe, Patapsco (Baltimore County, MD), Clermont County, and watershed assessment and BMP modeling system development for Prince George's County. She has provided planning, facilitation, and modeling for reservoir protection projects such as the Upper Patuxent watershed (Washington Suburban Sanitary Commission) and Loch Raven reservoir. For the Milwaukee area she is leading a large-scale HSPF modeling application (>1000 sq. mi.) study that will evaluate and recommend the combination of discharges, CSO, SSO, stormwater, and management practices that will best meet multiple water quality objectives.

Dr. Shoemaker supported the development and testing of the first version of GWLF, and application to reservoir management planning (NYC Cannonsville Reservoir) in 1983. Her Ph.D. work focused on the development and testing of models to evaluate surface-groundwater interactions. Dr. Shoemaker supported the development of early GIS-model linkages using ARC/INFO (WPS, Prince George's County). She helped formulate the initial design and development of the BASINS modeling system. Dr. Shoemaker currently oversees the development of the next generation integrated modeling system, the EPA TMDL Toolbox. Dr. Shoemaker is the principal investigator for research and development of an innovative system to locate, size and optimize BMP strategies, currently being tested in the Anacostia watershed.
Dr. Shoemaker is lead author of the EPA Model Compendium for Watershed Assessment & TMDL Development (Vers. 1 & 2), developed for EPA to support informed review and selection of modeling tools.

Dr. Shoemaker manages Tetra Tech's Water Resources and Modeling Division, which includes over 65 specialists in modeling, water quality assessment, and systems development throughout the United States.

RELEVANT PROJECT EXPERIENCE

Lake Tahoe TMDL Development. Principal Investigator for the development and execution of a comprehensive four-year plan to develop a watershed/lake study and TMDL including design of a modeling system, stakeholder involvement planning, data needs, and TMDL components. Currently overseeing the development of a watershed model for high alpine conditions, model testing, and collaboration with the interagency TMDL development group.

Patuxent Reservoirs Modeling, Monitoring Plan & HSPF Application. Washington Suburban Sanitary Commission (WSSC).

Developed Comprehensive Watershed Planning Strategy for the Upper Patuxent Reservoir system by facilitating a large interjurisdictional workgroup. This innovative plan encompasses the full range of monitoring evaluation and design analysis, water supply and water quality modeling, safe yield studies, cost allocation, and funding needs to implement an ecologically based watershed approach. The measures include a combination of terrestrial and aquatic habitat indicators, beneficial use support, and drinking water protection criteria. Habitat measures include assessment of forested and wetland areas for functional value, size, and continuity. Aquatic habitat and stream system stability are to be tracked using a variety of techniques.

Future Development Impact Study, Clarksburg, MD. Project manager for a study of the potential impact of future development on water and environmental resources in the Clarksburg planning area, near Washington, DC. The work includes the development of a large scale hydrologic and water quality stream and lake model for existing and future conditions within the basin. Existing conditions are primarily agricultural, while future conditions are expected to be low to medium density residential. GIS overlays were developed and used to define areas with potential environmental sensitivity. Potential for ground water contamination of the sole source aquifer was evaluated using the DRASTIC methodology. The project involved close coordination with county planners and engineers as proposed land use plans were developed. In each step of the process, cooperation ensured sensitivity to environmental opportunities and constraints. The resulting land use plans minimized adverse impacts by avoiding steep slopes, wetlands, and ground water recharge areas and maintaining buffer areas throughout the reservoir and stream valley system.

EPA Technical Guidance Development. For over 11 years, provided continuous support to EPA in developing guidance for modeling, model selection, and watershed and TMDL assessment techniques. Key author for the EPA Model Compendium for Watershed Assessment and TMDL Development (versions 1 and 2), TMDL Protocols for Pathogens, Nutrients, and Sediment, TMDL Guidance for the 2001 Rule, and the TMDL Case Study Series. Supported numerous other documents such as the BOD/DO Technical Support Document, and EPA Region 4 Monitoring and Listing Guidance. Most recently supported the development of the Watershed Handbook – EPA's new guide for procedures and analysis for the development of watershed management plans.

BASINS Development and Training. Provided original concept and design support for the BASINS modeling system, including linkage to the HSPF and development of assessment and targeting tools. Provided management and oversight of the development of the BASINS modeling systems (1.0, 2.0, 3.0) from the initial concept design through sequential updates to the present. Co-author of the BASINS modeling manual. Provided training to hundreds of state and federal practitioners at more than 15 locations throughout the country in the use of the modeling system.

Placement of BMPs in a Watershed to Manage Sediment and Protect Source Waters. EPA ORD. Principal Investigator. Identifying needs, available models and modeling systems, conceptual design, and system prototype for EPA ORD NERL Edison Laboratory. This integrated decision-support system will provide the needed link between management action, source loading, stressors, and water quality endpoints. Ultimately this system will provide tools to optimize watershed management activities and trade resources to meet identified water quality goals. The resulting system will be tested using case studies with extensive monitoring records. The system will be available to support of comprehensive studies for TMDLs, trading, storm water/MS4 management and planning.

JEFFREY H. TAYLOR
660 Hopkinton Road
Hopkinton, NH 03229
(603) 224-6555 (W)
(603) 228-4614 (H)

SUMMARY OF QUALIFICATIONS

Strong conceptual abilities, coupled with experience in practical applications. Ability to lead group discussions, and to keep all focused on the task at hand. Extensive experience in economic development and related land use planning issues. Able to foster inter-disciplinary communication.

WORK EXPERIENCE

2003 to Present

PRESIDENT
Jeffrey H. Taylor & Associates, Inc.
Concord, New Hampshire

Upon leaving state service, formed a consulting company focused on community planning and economic development issues. Clients have included municipalities, non-profit organizations, and private entities. The connecting theme for all of this work has been the focus on community development. Projects have included master plans, development projects, the formation and/or improvement of non-profit entities, and related topics.

1989 to 2003

DIRECTOR
NH Office of State Planning
Concord, New Hampshire

Appointed by Governor Judd Gregg and re-appointed by Governors Stephen Merrill and Jeanne Shaheen. Supervised an office of 45, with an annual budget of $15 million. Key program initiatives have included the use of community development block grant funds for economic development, the creation of a state-wide network of regional development corporations, the establishment of an annual training program for all local land use boards across the state, and the passage of several pieces of environmental legislation, including the Shoreline Protection Act.

A leader in Governor Shaheen's efforts to have communities and state agencies alike develop in patterns consistent with sound planning principles. Helped secure passage of legislation that more fully coordinates planning at the local, regional, and state levels. Brought a focus on implementation to the planning office.

1977 to 1989

ASSISTANT PLANNER, then
COMMUNITY DEVELOPMENT DIRECTOR, then
DEVELOPMENT DIRECTOR
City of Berlin, New Hampshire

Assignments in this northern community began with traditional planning activities and advanced to grant writing; then to project supervision, including oversight of road and bridge construction; and finally to economic development, including the construction of a 62 acre industrial park and the capitalization of a $2 million loan fund.

EDUCATION

1974 to 1976	CORNELL UNIVERSITY Ithaca, New York

Graduate study in the College of Architecture, Department of Urban and Regional Planning. Research efforts focused on community-based approaches to land use planning.

1966 to 1970	MIDDLEBURY COLLEGE Middlebury, Vermont

Bachelor of Arts degree in geography. Senior thesis focused on the physical, economic, and social development of a Massachusetts coastal community.

MILITARY EXPERIENCE

1970 to 1974	US COAST GUARD

Lieutenant (Junior Grade). Deck watch officer aboard USCGC *Active*, a 210' medium endurance cutter. Instructor at Officer Candidate School, Yorktown, Virginia.

BOARDS/COMMISSIONS

Plan New Hampshire, serving in numerous capacities since 1992, including chair of the Charrette Committee, which delivers design weekends to communities across New Hampshire each year to resolve problems of local concern.

New Hampshire Stories, served on the founding board and continued to serve on this project to promote local economic development through the sale of unique New Hampshire-made products from 1997 to 2003.

Gulf of Maine Council on the Marine Environment, served as one of New Hampshire's three representatives to this joint Canadian/US effort to monitor and maintain environmental quality in international waters from 1989 to 2003. Chairman 1994-5.

AWARDS, HONORS

2003	Achievement Award, NH Preservation Alliance
2003	Honorary Member, NH Chapter, American Institute of Architects
2001	Honor Award, NH Chapter, American Institute of Architects
1999	Clint Sheerr Award for Creative Leadership in the Built Environment, PLAN NH
1998	Fellow, Salzburg Seminar, Salzburg, Austria
1992	PLAN NH President's Award
1989	US/UK International Planners Exchange Participant
1987	Governor's Citation for Outstanding Community Development
1982	NH Planners Association Award for Planning Excellence

September 1, 2005

R·W·BECK

City of Nashua
Central Purchasing Office
229 Main Street
Nashua, NH 03061

Dear Community Leaders,

Subject: **RFP1306-061505 - Water Utility Oversight Services**

Per the August 31, 2005 letter from your procurement consultant, R. W. Beck is attaching its Revised Cost Proposal for Water Utility Oversight Services. Please replace our original Cost Proposal, submitted on July 14, 2005, with this Revised Cost Proposal.

We would welcome the opportunity to discuss the details with you to assure that you are provided the services you need, within the resources available.

Very truly yours,

R. W. BECK, INC.

Stephen R. Gates, P.E., DEE
Client Services Director

Paul B. Doran, P.E.
Senior Associate

The Corporate Center, East Wing 550 Cochituate Road P.O. Box 9344 Framingham, MA 01701-9344
Phone (508) 935-1600 Consulting Fax (508) 935-1888 Engineering Fax (508) 935-1666

INITIAL TASKS

The estimated price to perform the Initial Tasks described in Section 3 of our Technical Proposal is $230,000.00, including expenses directly chargeable to the services furnished. This price shall remain valid until December 31, 2005, after which the price will be escalated in accordance with the Consumer's Price Index (CPI) for the Boston-Brockton-Nashua area.

R.W. Beck, Inc. is available to support the City with contract preparation and negotiation. As a New Initial Task #9, R.W. Beck, Inc. proposes a Task allowance of $35,000 to support the City's procurement consultant's preparation of the O&M Contractor's Service Agreement and applicable Technical Exhibits. This allowance is in addition to the proposed budget of $230,000 for the Initial Tasks described in Section 3 of our proposal.

RECURRING TASKS

The estimated annual budget to perform the Recurring Tasks described in Section 3 of our technical approach is $315,000.00, including expenses directly chargeable to the services furnished. This budget price shall remain valid until December 31, 2005. Pricing for Recurring Tasks for subsequent years would be calculated and presented yearly to the City at the time the services are to be performed and indexed in accordance with the CPI for the Boston-Brockton-Nashua area.

The estimated pricing above includes:

- *Labor of R. W. Beck personnel* calculated using anticipated hours of services to be furnished multiplied by R. W. Beck's current fixed hourly rates - see Page 3 for current fixed hourly rates. Rates are valid until December 31, 2005 at which time they are subject to revision as stated above;
- *Labor of Tetra Tech personnel* calculated using anticipated hours of services to be furnished multiplied by Tetra Tech's current fixed hourly rates - see Page 4 for current fixed hourly rates. Rates are valid until December 31, 2005 at which time they are subject to the revision similar to R.W. Beck, Inc. labor above;
- *Services of Subconsultants/Subcontractors* calculated using quoted costs plus 10%; and
- *Expenses* for anticipated types and quantities calculated using current rates and costs. Typical expenses include, but are not limited to: communications (postage, fax, long-distance telephone expenses); printing, reproduction, and binding; computers and automated drafting systems; rentals, communications, furnishings and utilities

R·W·BECK

for field offices; reasonable travel and living expenses for personnel; and other expenses directly related to services furnished.

Pricing for Optional Tasks 1 through 5 defined in Section 3 of our Technical Proposal, as well as any other additional services, will be calculated at the time the services are requested by the City.

BASIS OF PRICING

The pricing quoted above is based on the following criteria which is inherent in the calculation of our fixed hourly rates and general overhead costs.

- The City will reimburse R. W. Beck on a monthly basis for services performed and expenses incurred.
- The City and R. W. Beck will negotiate mutually agreeable contract provisions for:
  - Payment
  - Standard of Care and Reperformance of Services
  - Limitations of Liability, including no consequential damages
  - Use of Work Product
  - Indemnity and Insurance
  - Dispute Resolution.

INITIAL TASKS – COSTING ASSUMPTIONS

- Complete Initial Tasks over a 6- to 8-month period.
- Includes fourteen (14) City meetings over the Initial Task period.
- Includes two (2) meetings with Mayor and Board of Aldermen over the Initial Task period.
- Includes ten (10) full-day and five (5) half-day meetings with O&M contractor over the Initial Task period.
- Includes the review of the following O&M contractor deliverables:
  - One (the final) staffing plan
  - One (the final) maintenance plan
  - One (the final) initial inventory
  - One (the final) billing procedures SOP
- Single review of the existing Vulnerability Assessment and Emergency Response Plan.

RECURRING TASKS – COSTING ASSUMPTIONS

- Includes two (2) City meetings per month over the first year of service.
- Includes one (1) meetings with Mayor and Board of Aldermen each month over the first year of service.
- Includes three (3) full-day on-site meetings per month with O&M contractor over the first year of service.
- Single annual review of the Vulnerability Assessment and Emergency Response Plan for updates.
- Includes an allowance of $20,000 for Recurring Task #1 representing the City in Owner Negotiations during the first year. This allowance is for R.W. Beck, Inc. to represent the City in any O&M Contractor Service Agreement Amendments that may become necessary due to changes in O&M scope of services, occurrence of Uncontrollable Circumstances, occurrence of Changes in Applicable Law, and the addition of engineering and/or construction projects.
- Includes an allowance of $40,000 for Recurring Task #7 Construction Coordination during the first year based on the construction of improvements to the water treatment plant and the water distribution system needs. Acting as an extension of City staff, this allowance is for R.W. Beck, Inc. to represent the City's interest in any construction work for the newly acquired water utility, to include coordination with the various City agencies and departments impacted by pipeline and other construction projects.
- Includes an allowance of $20,000 for Recurring Task #9 Review of the O&M Contractor's first year Capital Improvement Plan. This allowance is for R.W. Beck, Inc. to work with the O&M Contractor in the selection and prioritization of capital projects for the new utility in the first year of operations.

R. W. BECK CURRENT BILLING RATES (July 2005)

Billing Rates $/Hour(*)	Category/Project Roles
12.00 - 72.00	Clerical, Administration, Junior Engineers and Technicians
84.00 - 120.00	Staff Engineers, Consultants and Technicians
132.00 - 168.00	Senior Engineers, Consultants and Technicians, and Project Managers
180.00 - 240.00	Executive Engineers and Consultants, Senior Project Managers, and Principals
252.00 - 295.00	Executive Engineers and Consultants, Executive Project Managers, and Senior Principals

(*) - Billing rates are based on actual salary paid and inclusive of allowances for personnel benefits and multiplier. Rates are subject to review and annual adjustment in accordance with the Firm's salary administration plan.

Tetra Tech RAI, Inc. Fee Schedule

Effective December 2005

Rate Category	Hourly Rate
Principal	$200.00
Project Director	$165.00
Senior Project Manager/LSP	$150.00
Senior Project Manager	$145.00
Technical Specialist	$135.00
Project Manager/LSP	$120.00
Project Manager	$120.00
Senior Project Engineer/Environmental Scientist/Planner/Landscape Architect	$100.00
Construction Manager	$95.00
Project Engineer/Environmental Scientist/Planner/Landscape Architect	$95.00
Project Surveyor/Party Chief	$70.00
Engineer II	$85.00
Scientist/Planner II	$85.00
Engineer/Scientist/Planner I	$72.00
Designer	$80.00
Draftsperson/Cartographer	$70.00
Surveyor	$55.00
Technician	$50.00
Junior Technician	$40.00
GIS Analyst	$65.00
Administrative Assistant	$50.00
Word Processor	$45.00
Technical Trainee	$30.00
Computer-Aided Design and Drafting (per CPU hour)	$5.00

Expenses

Direct expenses shall be billed as three percent of labor charges. Direct expenses include local routine transportation, in-house printing costs, postage, faxes, telephone calls, and minor delivery expenses. Subcontractor costs and other expenses will be billed at cost plus fifteen percent.

Payment

Invoices are issued monthly and are payable within 30 days of their issue date. In the event payment is delayed beyond 30 days from that date, interest shall be paid at 1.5 percent per month on the unpaid balance.

Expert Testimony

A surcharge of 50 percent shall be added for expert witness testimony or participation in hearings or depositions, including preparation time.

REPORT OF THE PENNICHUCK WATER SPECIAL COMMITTEE

September 7, 2005

A meeting of the Pennichuck Water Special Committee was held on Wednesday, September 7, 2005, at 7:05 p.m. in the Aldermanic Chamber.

Alderman Brian S. McCarthy presided

Members of the Committee present: Alderman-at-Large Steven A. Bolton
Alderman-at-Large David W. Deane
Alderman David D. Lozeau
Alderman Robert G. Shaw, Jr.

Members not in Attendance:

Also in Attendance: Alderman David Rootovich
Alderman Robert Dion
Alderman Kathryn Vitale
Alderman Lori Cardin
Jean Guy Bergeron
Mr. Scanlon
Mrs. Quinton
Alderman-at-Large Steven Bolton
Alderman David MacLaughlin

DISCUSSION

Chairman McCarthy

Tonight we are going to continue the interviews with the respondees to the request for a proposal for operation and oversight of the water system. I'll ask Mr. Sansoucy to introduce the firms. Let the record show that Alderman Bolton and Alderman McLaughlin have arrived.

George Sansoucy

Thank you Brian. Before we get started tonight, I'd like to review first a couple of things left over from last night. Also, I'd like to go through the procedure for tonight to see if we are in agreement on what the procedure is going to be to get through the night. The first thing that I would like to review is the roles of the oversight and the O&M contractors. There seem to be some confusion I detected possibly in some of the questions that the distinction in what we are trying to prepare for you – the distinction between an oversight contractor and the operations contractors.

The oversight contractor acts as your owner's representative and is the entity answering directly to you the City, and the Board of Aldermen, and the Regional Water District board in a seamless transition to the Regional Water Board. They are your managers. You direct them to direct the operations contractor. They will be deeply involved in the development of the contracts for the O&M contractor and they'll be involved to the extent requested by the Public Utilities Commission in that process also. They are distinctly different from the operations manager.

The operations manager is the company operating the system in the street. The pipes in the street operating the satellite systems throughout the Pennichuck Water Works system like Bedford, for example, New Market, etc. They will be operating the treatment plant, the dams, the out pump stations, the fleet of trucks for example, and the labor to manage the system. They will be operating the scatter system for example that produces all of the telecommunications to you. The operator's role is to perfect and maximize the efficiency of operations not to an oversight. They would be managed by the oversight contract. So that is the distinction.

Some communities will actually have a department of supervisors. A superintendent and 2 or 3 assistants that do the oversight for the City who are city employees. Your request to us has been that we have no

new departments and no new city employees. So the oversight contractor is your ad hoc department that you are contracting for. The operator is the people actually with the labor force, the trucks, the backhoes, and everything in the streets to operate the water systems for you in accordance with the contracts that you have negotiated with them. Are there any questions on that at the moment? At any time during the evening we can – feel free to ask me about that if there is any confusion in that distinction. Do you have any questions Kathy? No. You're all set.

Alderman Lozeau

If the operation company reports to the oversight company wouldn't it be more proper for the oversight company to pick the operation company?

George Sansoucy

That's a very valid question. The way we've structured the bids and the way we've structured the contracts is that the oversight contractor will be working with us to develop a contract based on the bids, but they have not been part of the bidding process. The bidding process has been collective where we've bid oversight and operations. The oversight contractor could have bid the operations out also. In this particular process it is very important that we control it at this stage, not the oversight contractor because at this stage, it is critical that it is developed properly for the Public Utilities Commission in the taking, which is foreign to everyone. If all of the operations contractors, all of the over oversight contractors had not actually done a taking in the State of New Hampshire. That's why we are controlling that process, but we want them involved in it. To answer your question, it would be logical if it wasn't a taking. Where it is a taking, we need to control it with the City and the attorneys for the City.

Alderman Lozeau

With the oversight company who the operation company reports to have jurisdiction over the contract for the operation company if in fact, that the operation company doesn't function to the ability that the oversight company feels they should?

George Sansoucy

If the operations contractor does not perform and fulfill the contract, it is the oversight contractor's responsibility to detect it, attempt to correct it, and report it to you. It is your contract. They report it to you. They may make a recommendation, for example, to terminate the contract. Ultimately the aldermen or the directors of the district when and if it is transferred to the district, the executive branch of government will make the decision to terminate but that decision would likely be a recommendation from the oversight contractor on how you would terminate, how you would switch vendors. It is only a 6 year contract. It is a short-term contract in that regard.

Alderman Lozeau

Both the oversight and the operations?

George Sansoucy

Yes. Yes. Because we believe the transition phase is going to be very difficult. When we are done the transition phase, you may feel compelled that you may ask your oversight contractor to re-bid the operations contract at a later date once things are moving much more smoothly for example. The real horse that leads the race is the transition phase of this job. We are transitioning a 150 year old regulated corporation public utility to a municipal entity, and the two are patentedly different.

Alderman Bolton

Mr. Sansoucy, am I wrong to understand that – let me try and introduce it this way – analogizing from something I am much more familiar with, and I think many of the people on the Board of Aldermen are more familiar with, is construction contracts. Typically you might hire a design professional, an oversight firm, an architect, or an engineer, and you'd hire a construction company and the engineering firm or the

architectural firm would be the owner's representative making sure that the construction company adhered to the design, adhered to the specifications, did the job correctly, report back to the owner and say yes you should accept this work as being done correctly and so forth. Obviously it's not the same and it's more of an ongoing process. As a point of analogy, would I be correct in saying that the oversight contractor would be like the owner's representative, the architectural firm, and a construction contract, and the operations and maintenance firm would be like the contractor, the building firm.

George Sansoucy

You would be correct to a point and that is this Alderman Bolton, every aspect of your analogy is correct and it represents one piece of what this oversight contractor has to do. In addition to those correct analogies about being a clerk of the works and an owner's rep., this oversight contractor has a much broader responsibility to manager. At the very, very top of the responsibility heap is the management of the financial records and the rate structure so that the disclosure to the bond agents per year through Carol Anderson's office is made properly to Carol Anderson and her financial advisors. That's number one in the process. That level of activity is what keeps your bond rates strong and your Wall Street space in Nashua strong. Secondly, if we came down in the pecking order sort to speak, the ability to prepare, operate, and manage and understand when problems arise with the rate structure so that the revenue stream is flowing correctly for the budget that you've set and for the bond repayment.

Now that is twofold in this instance for the operations contractor. The first is the regulated rates, which are being transitioned from Pennichuck's regulated rates to municipal rate design and rate structure. We have outlined that rate design for our testimony. We expect the operations oversight contractor to work with us in the final preparation of a proposed rate that is attached to your ordinance that you would vote on in the future. If for whatever reason in the future the district elect to have rates different from Nashua to other parts of the district if they were to take over a troubled for example, if those rates are 15 percent or more than Nashua's rates, the oversight contractor has to be ready to manage regulated rates because those rates will be regulated by the PUC if they are 15 percent or more.

The third thing down in the priority sort to speak is the ability to manage and assist the City in the conservation and management plans for the water resources, the watershed, and land protection management plans, the capital plans necessary that they then would work with the aldermen and the district in developing the long-term capital plan. Then they get down to the their management of the actual operator, which is not necessarily the same as a contractor building a large new pipeline, but nevertheless, working in the streets as a clerk of the works. So your analysis is exactly correct, but we have to layer a new layer of management on top of that also. Namely the ownership and operation of a water company that also has to maintain a very strong bond rating. It should. I mean that's your goal as a City to maintain great bond ratings. I have no doubt that you will. You will maintain good ratings. I have no doubt about that in my mind. Does that answer your question Alderman Bolton?

Alderman Bolton

Yes.

George Sansoucy

Thank you.

Alderman Bolton

It more than does.

George Sansoucy

That is an excellent question. A very important question. Thank you for asking it.

Chairman McCarthy

Any more questions?

George Sansoucy

We have a procedure tonight that goes back a year to what we represented to the bidders. We bidded a procedure for choosing sort to speak an oversight and an operations contract. As you know, we short listed four from seven. We've heard from two. We're going to hear from two more tonight. We'll do the same with the introductions and the presentations as we did last night. Tonight's introductees are Camp, Dresser, McKee as an oversight contractor who has provided a responsive bid to our RFP and Earth Tech, a company that has provided a responsive bid for the operation and maintenance of the entire system. At that the end of that process and at the end of the Q & A, I will then prepare for you and make a public recommendation on who I would recommend to you as the water committee for consideration of your vote to the full Board of Aldermen. It will be your decision if you wish to vote tonight on a recommendation. I will be available, obviously, at the end of my recommendation for any questions that come up. No questions should be left unanswered because this is the most important decision we will be making in this phase of the taking in the next 3 to 5 months.

Once I've made my recommendation and once you've either considered to vote or not vote, we will be voting on qualifications. That will be our request. We have told the bidders that the choice is going to be made on qualifications in this process. We have a short contract, 6 years. The transition phase of this contract through the PUC taking is critical. The qualifications of the contractor are absolutely critical to the City's ability to tell the Public Utilities Commission through us as your experts through Rob Upton as your attorney that you, in fact, have contracted for the managerial, financial, and technical capability to take over this water company.

At the end of that voting phase, if you elect to vote, we will then open the 2 price proposals of the recommended and/or voted on bidders. We will verify with you that those prices are acceptable and meet the pro forma that has been submitted to the Public Utilities Commission for the municipal operation of the water facility for the entire PWW either through the City or the district – either or seamless. At that point, we would suggest that the water committee adjourn and that the Special Board of the Aldermen convene, and that the aldermen vote to direct negotiations, direct us on your behalf to prepare and negotiate draft contracts for your consideration as a full Board of Aldermen in the future. Then at that point we would adjourn. That is the basic process that I would recommend that we have set up over the course of a year. If that is acceptable, we should procedure. If it is not, I think we should either what debate it Brian?

Chairman McCarthy

We'll handle it the way we normally handle questions before the Board.

George Sansoucy

It would be my recommended nature of the process. Do you have any questions? Further questions before we start?

Alderman Deane

I don't have a question. I just would like to recognize that Alderman LaRose joined us at 7:12 p.m. Also in attendance Mayor Streeter, Chief Financial Officer Carol Anderson, Community Development Director Katherine Hersh, Attorney Connell, Attorney Upton, and I believe Mark Sousa is here as well.

George Sansoucy

How many vacant seats do we have tonight Brian?

Chairman McCarthy

It looks like 3.

George Sansoucy

We have the Mayor's chariot.

Alderman LaRose

I will go sit in the audience.

George Sansoucy

Oh no please, please, please Alderman LaRose. They can use this mike.

It pleases me tonight to introduce to you Camp Dresser & McKee. They have prepared a team of people some of which I don't know if you've seen before or met before in your years of working with Camp that have responded credible and in a great way to the management portion of this contract. I'd like to introduce tonight Robert Weimar, who is the office in charge for Camp Dresser McKee who has put the together. With Robert is James Taylor. Jim is in charge of operations, the management on operating side of Camp Dresser McKee for the operations of water and sewer systems not the day to day business operations. Sitting beside James is Bill Pauk. Bill is a retired superintendent or manager, whatever he wants to call himself, of the Haverhill Water District. Thirty years with Haverhill? He ran the water system for the City of Haverhill for some 30 years. He has joined CDM and he is the recommended guy on the street for CDM. He's the person you would be interfacing with routinely in their proposal. Beside him is Jeffrey Diercks. Jeff I don't know if your face has been shown in these aldermanic chambers before. Jeff is an engineer and he's a water engineer. He's designed many water treatment systems throughout the United States possibly from elsewhere? New England primarily. He's familiar with the Pennichuck plant and is the engineer in charge sort to speak. He's the water guy, the water engineer, and he will be the go to guy on the water engineering side.

A couple of additional people – Joe Ridge. Joe is in finance rate design. Camp has done a lot of municipal rate design. Some regulatory – a little bit – public and private muni stuff. He is here tonight representing Camp in the financial management side for rates, rate design, bond, bond management, etc. Additional people with him – I'd like to introduce Bill Shaheen from the Law Office of Shaheen and Gordon. He is with Mr. William Hounsell. Bill is on the public relations side for Camp Dresser & McKee with Bill Shaheen and available for any questions related to that. Bill is from Conway – Bill's counsel; and Bill Shaheen attorney in Dover, husband of our ex-governor Jeanne Shaheen. With that, we need your 4 main speakers in their seat which will be Mr. Diercks, Mr. Pauk, Mr. Taylor, and...

Phil is passing out the handout for you. Thank you Phil. Mr. Weimar will take the stand up mike. We're going to make him stand. Mr. Weimar will make all the introductions for you.

Robert Weimar

Good evening. As Mr. Sansoucy said, my name is Bob Weimar. I am senior vice president with Camp Dresser & McKee. I am a client officer or office in charge for the City of Nashua project. I think what I would like to do this evening is just give you a general understanding of the team we've assembled and put together here and let them speak for themselves. I think it is fair to say that we've attempted to cover all of the various activities that might be required; but recognize that not all of these individuals may be necessary for the ultimate work that is to be implemented. As Mr. Sansoucy pointed out, some of the staff are here in recognition of their issues or concerns that may arise during the process. We wanted to show you that we have the complete resources to provide those services that may become necessary. In your packet this evening I believe you have a handout which includes the staffing chart that we presented in the original proposal as well as a map which shows you the location of those staff. I think it is most important to say that all of the members of the staff before you and all of the members with rare exception, the most senior people only, live in the immediate proximity of Nashua. As a result, we will be readily available for the purposes of this particular project.

When we developed the team, we were blessed with the concept to provide a director of services – someone like Bill Pauk was available to us. Bill had been, as pointed out, a member of the City of Nashua staff and then a manager of the water and wastewater facilities for 30 years. In that capacity, he also ultimately reported directly to a board of mayor and aldermen. In fact, he was an assistant to the Mayor in his most recent activity with the City. So he is a unique experience that he can bring to this particular

project. In affect, he has managed a water system of similar size and intent as is going to be acquired by the City. So he knows the intimate responsibilities. He knows what City council would expect to hear, and he's going to be able to make sure that you are aware of the issues as they arise and help you solve them.

In addition, we've provided here a whole litany of staff to support Mr. Pauk. Rather than going through every one of the names, I think I'd just like to give some basic pointers about the individuals that are here, and also point out some of the other consultants that are not here that would be part of the ultimate team in responding to this proposal or project. First of all, we have an economist Joe Ridge. CDM has always been known for its engineering prowess. One of the areas that we perhaps don't get well known for is our management consulting skills. In fact, Joe has worked all over the country developing and assisting in the bonding and financing of facilities for public and private utilities. I think I'm going to let Joe speak to the specific facilities that he's worked on, but it is clear that he's had a number of opportunities to work in a situation of this type assisting municipalities, evaluate, operations, and contracts in addition to the bonding for capital improvement.

He is supported by Jim Taylor. Jim as was introduced earlier is an operations specialist. In fact, Jim has been an operator. I think it's probably not well known that he, in fact, was an employee of a predecessor organization to Veolia. In that capacity actually ran contracts for Veolia before he came to CDM more than 10 years ago. In his current role, he basically reviews and assists municipalities, negotiate contracts with, solves problems associated with the operations of water and wastewater systems. So, again, he has a specific unique characteristic that we need – we will not need continuously, but would need for the purposes of supporting Mr. Pauk in the management of this project.

In addition we introduced Mr. Diercks earlier. Jeff's experience is actually quite broad. He's done a lot of work in the actual oversight and strategic planning for water systems. So he's particularly able to help in the issues that may result from the district formation. He's also been most recently responsible for the development of a strategic plan for the City of Portland's water system. So he understands the broader issues that are necessary for water supply planning and distribution planning and can bring that kind of oversight expertise to any plans or proposals that might be brought by the operations contract.

In addition to that staff, it's clear that we have a number of significant support organizations as shown on our proposal. The key here is that with respect to small systems, we felt that someone who in fact operated these systems would be beneficial to have on our team. We've introduced TF Moran, who is an engineering firm, a survey firm, a long time New Hampshire firm. Robert Cruess is the owner of that firm has brought a small group together for the purpose of managing these small water systems. In that role, Mr. Duffield who was actually a former CDM employee oddly enough would be the person responsible for assisting us in developing and reviewing any small system issues that may come up in the future. We understand that may be an issue ultimately with respect to the PUC decision making.

In addition, we've brought Mr. Hounsell and Mr. Shaheen with us. They both bring skills related to funding. Mr. Hounsell has been working with CDM for almost 10 years. In fact, he's been instrumental in getting water supply funding for a number of communities. We originally started on a project for Greenville which was in fact an operation that the State was proposing to give to Pennichuck as part of their desire to get some third party to manage that system. Mr. Hounsell and CDM developed a financing strategy and funding strategy that allowed the town to take over that facility on its own. In effect, you can say we municipalized the system that was going to go private. In addition, Mr. Shaheen has a great deal of expertise in strategic planning for municipalities. In fact, his prime purpose for being on this team is to assist us in those – if you want to call it – political strategic issues that are always important to understand as you implement a project of this type.

We have a number of other staff that are shown, but I want to point out on individual Chris Woodcock. Chris Woodcock actually worked with CDM for its first 20 years of professional life and decided he wanted to live at home and work at home. He started his own firm. In his capacity at CDM he actually managed all of the utility work for the Manchester Water Works and has continued that role since he left CDM and started his own firm. So he in fact has been represented Manchester Water Works before the PUC for over 20 years. In that capacity he has ultimately been traveling around the country providing similar services for municipalities elsewhere. Clearly, he's one of the keen rather well known, well regarded rate specialists here in the United States.

In addition we have Dan Lanning a CDM employee who used to be a PUC employee. At one time he worked for the PUC and joined our management consulting division and he too would be available again to understand and assist in any PUC related matter.

If we look at the various skills, we recognize that often times it's good to have somebody overseeing the staff. What we've done is put together a strategic planning board. The purpose of that board is when and if necessary we can bring some of the most senior people in the country to this particular project by virtue of their current and past affiliations with CDM. We have Fred Elwell who was formally the director and manager of the Manchester Water Works for over 25 years. He's been with CDM now since 1990. Clearly his expertise and his knowledge of the NH seen is an incredible factor in any strategic planning effort.

We brought Mr. Cruess as we said as part of our strategic team. He was formally with the New Hampshire DES and clearly has a very close understanding of the New Hampshire DES issues. Mr. Kellogg is a former owner of wastewater treatment facilities and is now one of CDM's competitive optimization specialists. Clearly he has a great deal – over 20 years experience doing those kinds of things. I want to point out Mr. Joyner with IMG, which is an infrastructure management group. He brings a wealth of knowledge in private utility management. Infrastructure management group is working with municipalities primarily to manage private utility contracts and assist them in making the operations competitive. So we think that that panel will provide a great deal of resource should the project require it. I've gone a little bit longer than I intended, so I'd like to turn it over to Mr. Pauk.

William Pauk

Thank you Bob, ladies and gentlemen. As Bob indicated, my life changed about 2 years I went from a public sector to the private sector. I was the engineer in charge of the City's water and wastewater division in Haverhill. I also stamped the plans in engineering. The last couple of years acted pretty much as an operations officer for the mayor because of the crisis in Haverhill dealing with a municipal hostile going under. See if Haverhill is somewhat to what we are looking at in Nashua. It was a treatment plant of about 12 mgd up to maybe 15. You had about 200 miles of mains - three main storage tanks. I worked from the standpoint of the managerial, the finances, the engineering. I dealt with utility billing problems. We actually went through a couple of changes in computerizing our billing and collection processes. I dealt heavily with water meter readers and new systems that are ongoing. As a municipal employee, public relations, contracts, municipal budgets, concurrent grants and loans, etc. Those were my day to day operations. I reported directly to the mayor. I also prepared budgets and (inaudible) sometimes more than an annual basis. There isn't really much that I didn't get involved with from the standpoint of running a utility. I think the aspect of the team that CDM has put together is a great blend. It takes somebody like myself who's been in the public sector for so long and knows how a water treatment plant and a water distribution system is supposed to operate how that fits in with this private public relationship that is going to happen dealing with contract ops, dealing with oversight. I think it is a great blend. I have a hard sometimes in the last couple years of taking my consultant hat off and putting my client hat on because I've been a client for so many years. From my perspective, this is like going back to my regular job.

My approach to the operating plan is to basically to act as a superintendent engineer, act as your individual on the streets, and pretty much do the exact same things I did in Haverhill only with a support staff that is much greater than I had in Haverhill. A water department is run – it has many different sections to it. You have your billing and collection; you have your meter section; you have your distribution section; you have a water treatment plant. The regulations in the industry have changed drastically. The staffing needs have changed drastically because most of the people now have to be certified. It's a very, very enormous task and if you don't have the right people in the right places, it's very, very difficult to do. I think that's what we bring to the table. We bring people that have actually done oversight, done O&M as in Mr. Taylor. Joe Ridge and I actually worked together dealing with some of the rate studies in Haverhill for many years. Some times we saw eye to eye. Some times we didn't see eye to eye. Jeff Diercks I've got to know very well in the last couple of years of being a very capable engineer.

I think really what it comes down to is the individual that is in the position of a director role aside has to have the confidence of this Board. He has to have the confidence of the Mayor. They have to truly trust the individual that that individual is doing what is best for the City of Nashua. That's what it is really about. That is where I have come from. For the past 30 years I said I worked in the municipal sector. I used to

say to the individuals that worked for me that if they were going to buy a piece of equipment, a pump, or something I said don't buy it unless you buy it with your own money. Meaning that if you didn't think it was cost effective to spend your own money to buy it, you didn't buy it. In Haverhill I went through optimization over the last 10 years of bringing the staff up to a standard which I felt was better than any private sector standards. I saw people grow, and I saw people really take a lot of pride in their job. That's who I'm going to be here. I'm going to be somebody who is going to be working for you. Yes I'm going to have a great staff. I'm going to have the people behind me, but it is still all about the comfort level that you are going to have in me. If you trust me if I come to this Board and say there's something that has to be done. Someone is ruining a line and that line should be tied in because we've had some water problems and some discoloration. Or I come to you and say there is something else a land owner for instance. The operations contractor may come in and say well I tied in the service but the person calls you people and says I had sod there. I don't want loom and seed. I want sod. Those people are still going to be knocking on your doors calling you. You're going to need to have the faith to call me any time you need to call me. As I said, I live 30 miles away and I intend to be here pretty much all the time the first couple of years. You need to have that confidence.

With that, I could go through some of these recurring tasks and really what they mean and I will do that very briefly. You're talking about negotiations. You're talking about initial contract. You're talking about changes and conditions. You're talking about collective bargaining. You're talking about reopeners. There is going to be a lot of ordinances that have to be brought into this Board of Aldermen dealing with new ordinances because of the water department. It may be operated outside, but you are still going to need the legal aspect to do those things. There's a lot of audits that have to be done, from daily records, to checking work orders, to dealing (inaudible) water. There's a whole list of inventory things that you have to deal with. You have to review requests for unplanned maintenance. Those are little things like when you have a street dug up, do you put that inline gate on then or do you wait. It's cost effective to do it then. There's a lot of project as you all know in Nashua like in the other cities and towns there's a lot of development goes on. So other things should be piggy-backed upon that development. In other words, if you can get an outside individual to do some offsite work to improve the system you ought to do it.

I think there's a review of valuable operation data that deals with daily logs, month logs, from lab reports. There's a whole litany. One of things we've talked about one of the aldermen brought up construction. Now construction – if the O&M contractor is going to deal with some type of construction with the City, there's got to be communication. You've got to deal with City department heads; you've got to deal with the local business; you've got to deal with their curb cuts; you deal with the other utilities; you deal with State agencies; you deal with the highway department, other governmental units, the political concerns, the neighborhood concerns, the general citizens, newspapers, local people. That's what I'm going to be. I'm going to be an oversight director that is here working for the City of Nashua. With that, I think I'll just turn it over to our next speaker, which I believe is Mr. Ridge or Mr. Taylor.

Joseph Ridge

What I would like to do is spend a couple of minutes and in turn describe CDM's collective experience and my experience specifically in dealing with financial matters. Based on some of the issues (inaudible). As Bob Weimar mentioned, CDM has been providing financial services for more than 40 years. Currently we have a staff of 50 people who are full time doing financial and (inaudible) studies primarily for public utilities but not exclusively public utility. By my account over the last 10 years we've prepared more than 120 cost of service and rate studies for water and wastewater utility mostly in New England but throughout the country. With the experience of Chris Woodcock and Dan Lanning, we have testified and participated in New Hampshire PUC proceedings at least 15 to 20 times. Chris specifically has testified before the PUC in court proceedings in more than 40 different locations. So we bring a wealth of experience in that regard. My particular expertise is in the bond financing and capital financing. Over the last 10 years we have participated with our clients in the issues of more than $7 billion in bonds for water and wastewater utilities. What I think is most important in this setting is that we have participated with 5 utilities who are issuing bonds for the first time. The most recent is Manchester Water Works which issued revenue bonds 2 years ago. What I think is important in what you need to understand is there is a process by which you will negotiate with the financial community the terms for those bonds. Essentially what are you going to provide them as security over time. While it is important to get a high bond rating, it is also important to understand that those security provisions have a cost to you. You need to weigh the costs of meeting their security concerns with the interest savings that you might get from a bond rating. I think we are

unique in having been participates in the drafting of the new bond resolutions for the 5 utilities in New England. I am reasonable confident that we have participated in bond official offering statements for more utilities than for a larger amount of utilities in New England than any other firm. Part of this process, and I think what is important in something that Mr. Sansoucy alluded to, is to have credibility with the PUC and have credibility with the ratings agencies and others you deal with will require a solid financial plan. The experience that we have between Chris, Dan, and I we have more than 120 years of doing financial planning for water and wastewater utilities. So we understand the kinds of questions that come up and the kinds of issues that you are going to need to justify. There is critical things that you need to think about and be able to articulate as you move forward. They will be (inaudible) some of the operations, but they have financial implications. What is the proper inflation rate? How are you really going to finance your capital improvements? What are reasonable allowances for repair and replacement over time to the extent that the system hasn't been maintained at the level it might, how is that going to affect your rates over time?

The final thing that I would just touch upon is the first contact Nashua's and owner of a public utility is going to have with most of its clients is when the bills go out for the first time. That interaction will color how your residents and your businesses view this venture going forward. One of the things that we provide is that the staff that works for me includes 2 finance former CFOs of regulated utilities and unregulated utilities; and the chief operating officer of the utility who have gone through the creation of new billing systems and the integration of a new billing system. So we understand those issues that can help work with your contractor to make sure that the bills go out in a timely manner. Being timely is important for you because that is your cash register to pay the bills that are going to be coming due. Also, so that your customers get accurate bills and they understand their bills to lessen the kinds of complaints and issues that you have to deal with.

James Taylor

Thank you. I'd also like to just touch a minute on my background and then get into some of the issues and occurrences that I've run across in my years of wearing actually different hats. I started similar to Bill then I was in the public sector. I spent 15 years there and achieved a level of utility director and made a career decision and change and go into the private sector when there were contract operations in business. So I've actually lived in the contract operator's world. Bill alluded to treating every dollar like it's like your own. When you are in the contract operations business, you do treat every dollar like your own because it is. You're under generally a fixed fee contract. So I understand their business model. I understand what is important to them. I also understand the public sector and how their business models work.

The first key issue I identified as professional relationship with services providers. Most of my career has been in New England. I know many of the people who will be providing service under the contract operations. I already have established relationships with them. I am currently involved in overseeing some contracts around the country. It is important to remember as you go through this process that the business models are different, but at the end of the day the two the outcomes have to be aligned to match both business models. You can't have a win lose. It's got to be built around a win-win understanding. In order to make everybody happy whether it is the initial contract or working through interpretation of differences in contracts as time goes by and circumstances change. You need to understand what the other person is thinking and make sure you can steer them so they ultimately reach a uniform point of view.

The second bullet I have is needs assessment. Systems have needs, but there are a couple difference ones. There are several ways of meeting them. So when I talk about needs assessment, I'm looking at resource management, criticality assessments. What if a major pump fails at 2 o'clock in the morning? If it is critical to (inaudible) to getting water to your customers do you have that motor or that pump in inventory? Do you have a supplier that has it readily available to you? How do you deal with those situations? No entity can be completely self sufficient. So what point do you draw the line of what internal capabilities you want and what type of support resources you need to compliment your internal capabilities? The different service providers approach that in different ways. In the end, you have to get there but one may want to it to have more in house capabilities and contract out less; or this may perform to contract out. At the end of the day, you have to have the resource one way or the other.

Transition and implementation planning. This is the checklist that starts long before the process of turning over or taking on responsibility for the system begins. That is all the details and you need a schedule and a time line that you can make sure things are done on a critical path method to get you there whether it be creating position descriptions and recruitment and hiring of people; whether it is developing help and safety policies that are required for regulatory and worker safety. You need sampling, monitoring, and reporting plans. Ultimately you have to take over and be accountable for the quality of water. There are always labor relation issues. Ultimately you have to have a training plan where you can take the new people that you hire and on day one have them at a certain level competency where they can go out there and operate the system safely and reliably.

In terms of staffing plan. The key there is getting not just the number of people – a lot of contracts will say we're going to provide X number of staff, but it doesn't go to the next level. You need certain skill sets. You have electrical equipment that has to be maintained; you have instrumentation that needs to be maintained. You need to make sure that your staffing organization has balance who gives you the capabilities that you need to do that specialty work within the system.

In terms of establishing a base line. Probably the (inaudible) issue in any contract that, I think that CDM has been involved in I know Joe was shaking his head, is who is responsible for maintenance? How do you define the pre-existing condition? And how do you assess ownership liability and responsibility for repair? It is very important that equipment be properly categorized. Most of it has a history before your contract operator will come in. They are going to make certain assumptions about the condition. They are going to predicate their decision. They typically would have a very rosie scenario and if it fails, then it is not their fault. On the other hand unless you have documented history of how that equipment was maintained, you really can't substantiate it. So establishing what a realistic estimate of the condition of the equipment at day one is critical to both sides being able to move forward.

Part and partial to that then is developing an effective maintenance management plan. Vendors tell you what equipment needs to be maintained properly. It also talks about the expected service life. So that maintenance plan is really your insurance that you're going to achieve the maximum life you expect.

Performance auditing capability. Because I've worn both hats you know everybody who's been through an audit hates the auditor who came out of their profession. There's two parts to an audit: number is knowing what to ask for, and then the second part is knowing how to interpret it. Fortunately or unfortunately depending upon how you look at it since I've lived in both sides of it, I understand the business models, I understand the practices, and I know where potential vulnerabilities are.

As I said before, communication and consensus building ultimately you've got to get to a yes agreement with everybody involved towards any process forward. Bill talked about the need to make sure you're informed so you can make good decisions. We need to do our job to give Bill the information to make that happen.

The last but probably the most important aspect of any utility is that you can never forget and respect the fact that it is a 24/7 operation. Customers – their needs don't stop or don't fall within the 8 to 5 window. You need a system of responsiveness and that's where the criticality planning and some of those other things really come to play. You can't stop things from happening, but the citizens and the consumers will measure the success of this by how responsive you are to their needs at the end of the day when a crisis hits them. With that, Jeff.

Jeffrey Diercks

My name is Jeff Diercks. I'm a water system planner and engineer with CDM and had been such since 1978 when I first joined the firm. I have worked only on water system work in that time. I have never done a single wastewater project, so it is 100 percent on water work. I'd like to make a few brief remarks about 4 keys issues that you will be facing as you move forward.

The first one is public health. As the City assumes ownership of the water system you will also assume the responsibility for protecting public health through the drinking water. A key way of doing that is dealing with the Safe Drinking Water Act and its implementing regulations at the State level. The next 2 to 3 years is going to be an extremely active time for all water suppliers because of all the regulations that are

coming out. At the end of this year, we will be seeing 2 new regulations that will affect all service water suppliers dealing with filtration and disinfection. The end of next year we will be seeing 2 additional major regulations which will affect all ground water suppliers dealing again with disinfection and also other forms of treatment. Ground water supply regulations may be of particular interest to some of your colleagues in the Regional Water District because some of the small systems are ground water based. It is going to be very important for a team to assemble. The team being the City, the contract operator, and the oversight contractor to pool all of its knowledge to figure out the best way to respond to these new regulations and to make sure that you're well informed about what the implications of those are for your system. CDM has been doing that nationally and particularly here in New England since the Safe Drinking Water Act was passed in 1976. I've been doing it since 1978. We look forward to helping you with that as you move forward through the regulatory maze which is always changing; it's always a moving target.

The second key issue is how does the City make sure that you identify and get the improvements that you need to ensure the long term integrity of your water system. One of the key ways that you are going to do that, according to your RFP, is by obtaining the hydraulic model that already exists and using it to identify deficiencies and projects that are needed to move your system forward and to keep it improving. That hydraulic model is a critical component of short term and long term water system planning. It is something that is not used only for that, it is also something that could be used on a month to month basis as you consider proposed commercial developments, proposed residential developments, and what their impacts might be on the water system. CDM is particularly in a good position to help you on this because the way technology is going these days is toward an integration of these models and geographic information systems. In addition to our expertise on the modeling side, we also as you probably know, had a major role in the development of your GIS. We also helped out Pennichuck in some aspects of their GIS and past projects as well.

A third key issue is the question of how do we make sure that we are going to have enough water to meet our demands during droughts? How do we make sure that there is enough supply to meet all demands? Along that line moving forward, the key issue is the in stream flow rule which is being developed by the New Hampshire DES. We've been talking about this rule and its implementation now for over a decade. It is getting closer to reality. As you may know, DES is doing a pilot program on the Souhegan River, and the Lamprey River right now which will determine the allocation procedures that will be used to say how much water can everybody get during a drought. How much does everybody have to cut back to ensure that there is a particular minimum flow in the river. Clearly a key issue for those who withdraw water from regulated rivers such as the lower Merrimack which is on the list. Therefore, you will be dealing with this with your Merrimack River diversion. CDM was engaged by Manchester Water Works about 4 years ago to do the hydrologic evaluation and the effects of the in stream flow rule. In their operation they asked us to include consideration of the Pennichuck withdrawal. We actually did that back then. Under the rules of their expecting at that time, it looked as though the rules might be something you could live with. However, nothing has been finalized. There are still rules coming out of the pilot program which will determine those allocation procedures. This is definitely something that the City will want to keep an eye on moving forward to monitor its effects on your long term water system planning.

The fourth and last but by no means least, CDM is mindful of the fact that your RFP includes not only the core water system that serves Nashua, but also all these other communities, smaller water systems that serve a number of places in the area that are being operated by Pennichuck Water Works. As Bob mentioned, we included a small systems emphasis in our proposal to make sure that those issues got addressed. This will be a particular concern to some of your colleagues in the Regional Water District. We'll be looking at issues such as cost effective treatment modifications for very small systems. Issues such as interconnections to ensure reliability, and we do have, as Bob mentioned, staff who are well versed in doing that for very small systems as well as our own expertise in that area. With that I will turn it back over to Bob for a wrap up of our formal presentation.

Robert Weimar

Thank you Jeff. I know that I am always impressed when I hear these gentlemen speak before audiences. I know that I don't know as much as they do, and that makes me feel good. I think it is fair to say though that we feel that there are really five points that we would like to make in closing.

First, there is no question. We are a local team, well versed in New England. We know how do these

projects come together, and we've executed a lot of them. This team has worked together for more than 10 years. I personally worked with Jeff since he began with the firm because I hired him. Bill Pauk clearly has only been with us a couple of years, but I've known Bill for 20 years. I think the feeling here is that you've got a close working team. We know when to call on each other, and we know what to call each other for. That is going to make it a very, very competitive presentation of our skills to you. We know the oversight process. Clearly we deal with this often. We have a group, as we've mentioned, that provide these services for municipal entities. We also do competitive utility optimization for municipal entities assisting them in developing that keen sense of being competitive so they won't find the private sector trying to take them over.

We also have, as we've mentioned, more New England bond experience than any other firm. I think it is fair to say that Joe's comments about the new issuances for new entities is a very key factor that is going to be important for your purposes here. Our team certainly has focused New Hampshire experience not only the gentlemen here before you but those who are not here have specific key New Hampshire experience that will be available should it become necessary.

Last, I just want to say that right now we are providing oversight services. There's more than a dozen municipal**...end of Tape 1, Side a...** in serving those clients. So you've got the team and we certainly would welcome the opportunity to working with you on this.

Chairman McCarthy

Questions from the committee?

Alderman Shaw

To whoever can answer. What if some of those 10 other oversight current experiences or even previous experiences if so do you see as either relevant to directly to Nashua and the Pennichuck Water Works taking or just generally aspects that will benefit us in this oversight effort?

James Taylor

There are several that are relevant. One example is the City of Houston water system. They have a jointly developed facility. CDM has been providing oversight and audit support to them since 1999 when they realized that they had some issues that were not clear in their service agreement. They asked us to come in and help them understand it and work through those issues. Also when the time came to help them prepare a new proposal for selecting a new contractor, we did that. One of the things that come out as very significant as you make a transition, it is critical that you make sure that all the parties involved understand and agree on the expectations. You have a contract. It's a legal document. It's got lots of words but behind those words there is an expectation of service. An expectation of performance. An expectation of communications. It is very, very important at the outset that everybody understands the unwritten terms of the contract just as much as they understand the written terms so that everybody at the end of the day is pulling their oars in the appropriate direction. Another example is Smithfield, Rhode Island where it was a long-term capital investment program by a contract operator. We were asked to come in to develop the initial asset registry, do the condition assessment, and then set up a program going forward, and how do you monitor the condition on an ongoing basis rather than just baseline but how would you over retain your period? Track that and make sure that equipment is being maintained along the way so you don't wake up at the last day of the contract and say oh boy they didn't do the job and now we've got these capital costs that we hadn't anticipated facing us. So that is another example I think is very relevant.

Alderman Bolton

Maybe Mr. Diercks can help me with this. Nashua along with other municipalities in southern New Hampshire but I think particularly Nashua has for decades faced growth pressure and has tried to deal with growth pressure and understand what problems that might entail. Our ordinances and regulations have required developers and landowners who wish to get various City approvals before the Zoning Board and Planning Board. To seek input from the water utility as well as others as to the effect that their proposal might have and recognizing really that that's an issue that ought to be taken into consideration.

Really for decades, the response from the existing privately held water utility has been the same standard form letter which says under current conditions there will be adequate water supply, but we sometimes temporarily experience drought conditions where there won't be adequate supply. That has not provided a lot of enlightenment and help to us as we've struggled with these issues. What do you see that could be done differently?

Jeffrey Diercks

CDM has worked with a number of utilities, towns, and cities where this is an issue. We have, in fact, a number of arrangements where we do on behalf of the City reviews of proposed commercial developments, proposed industrial developments, proposed residential developments. There are actually a lot of issues that need to look at whenever you do that regarding a water system. It's not only a question of will you have enough water in the future during a drought, it is also a question of are the pressures adequate today in those areas? How much worse will the pressures get because of the water being consumed by this new entity? What will this new entity require for fire flow service? Is that available? If not, what do we need to do in order to make it available and what will that cost? So issues related to normal service pressures, supply availability, fire flows, effects upon water quality if there are problems in that part of the distribution system. Actually, all should be looked at every time that there is at least a major, and perhaps even some minor developments, depending on where they are located. We have done that sort of thing many times where we prepare analysis. That is where this hydraulic model comes in. That's where working with the contractor operator who knows the details about what's actually out there in the field. What are the conditions of those pipes? What are the problems in terms of leaks, breaks, or poor condition pipes in the given area and will that get worse? We normally do an analysis and typically it is set up where the developer pays for that through the municipality to cover those costs but you keep control of the person and entity doing the work so that you can have some confidence in the results and that they are working for you.

In the Portland Water District they use over and over again the slogan "growth must pay for growth". If somebody is going to come in and have certain effects, what they want to do is make sure all those issues are identified and costed, and then an arrangement can be made for the entity causing the growth to at least contribute toward resolution of those problems. Those are some of the issues that deal with and encourage be looked at and have looked at ourselves in those sorts of situations.

William Pauk

Just a follow up. Actually in Haverhill we brought to the city council, actually an ordinance that allowed when a person came into the planning board or a development came in, that they would have to pay for us to run a model to determine what those roles were, and what the demands were, what effects they would have not just in the existing neighborhood, but maybe a neighborhood 3 or 4 streets away, or what would happen if some other project was going to go in 2 years from now. So those are the things that should be brought to the aldermen. Ordinances should be passed, and the developer should be made to pay that fair share.

Alderman Bolton

So you didn't just give everyone the same standard letter?

William Pauk

No, we did not.

Alderman Bolton

Thank you.

Unidentified Male Speaker

Just a comment on that and it goes back to what Mr. Sansoucy said at the beginning. You are moving from a regulated utility model to a potential municipal utility. Under a regulated utility model, it is in the

regulated utility's interest to allow those connections because they essentially generate their money based on their rate base. A new connection is more rate based. It increases the amount that they can generate, and it also helps them justify their rate increases. In this system where you have much more control, you don't need the same (inaudible).

Alderman Shaw

I'm wondering if either through experience that CDM has had or Mr. Pauk perhaps specifically through experience you've had in Haverhill, is there something you can sight that you might pretty much classify as negative or a learning experience something that really didn't go as planned, as expected, that you've used to learn to better the rest of the customers that you are providing and servicing. Something that is essentially one of those things that maybe a business practice that has changed or something of that nature that essentially is what the experience and the benefit of the various either other contracts that you can sight as something that you offer to us?

Unidentified Male Speaker

I think in Haverhill, kind of through the whole spectrum with changes and culture from the aspect of how you manage things to actually contract negotiations and dealing with people and communications is somewhat of a buzz word. It is something that you can't live without. Haverhill was a little bit different because I had a staff of probably in the water department about 35 people. We ran as a team. It was all the cogs had to mesh so that your communication between your parties – and we touched upon that a little bit dealing with an oversight contractor, you have city department heads, you have a board of aldermen, you have citizens, you have the O&M contractor. That all has to mesh. Sometimes it is a change in culture as I said. Sometimes it takes time to change that culture. I find that if you stick with it and you give the individual tools and experience and the know how to do it; you can get through a lot of those different changes in culture. I don't know if I'm answering your question in the manner you asked it or not?

Alderman Shaw

I think that is helpful, but I guess I'm really looking for one of those things that you would cite as basically I realized or we realized as an organization that we were approaching this the wrong way. We truly had what I call a negative experience that we need to change the way we are doing things. I guess I'm looking for one of those kinds of examples. I certainly do appreciate the communication aspect of it. Clearly, you can't emphasize that typically enough.

Unidentified Male Speaker

The only thing I can do – we went through a couple of water billing changes in other words to go to a different computerized system. One of the failings that we found out was that we tried to put every single thing within the bill that we could possibly think of. It actually made it almost unmanageable so that one of the emphasis that came out of that is try to keep things real, real simple. I hope that is a better analogy.

Alderman Shaw

Thank you.

Unidentified Male Speaker

Fortunately, I had the opportunity to go through the initiation of 2 public utilities – one was in the public sector. One was a creation of a new city department. A new city utility. The second one was actually the reorganization of multiple communities into a regional utility. When we did the regional integration and transition, I was a lot smarter from having done it the first time. There are so many details that get lost. One of the things that I think struck me the most were people's expectations. I came up with the analogy of a football team and every time I interview people I ask them what position they liked playing whether they would be willing to substitute and play a different position if necessary and made sure that they understood at the end of the game the team walk off the field either as a winner or a loser. It really helped people get focused and understand as they came into a new environment that you couldn't predict

everything. You couldn't guarantee everything, but they had a sense of belonging and a sense that what they did individually had an importance to the overall success, which was something that I totally missed the first time I went through it.

Alderman Shaw

Thank you.

Chairman McCarthy

Other questions?

Karen White

I'm not sure who I should address this to, but I have some questions about the team you've put together. Was there a requirement in the City request for proposals that each of the oversight company's include a civil engineering firm?

Unidentified Male Speaker

Yes alderman. My understanding is that the engineering elements of this were really tangential. That is to say the principle responsibility was a managerial one, an operations focus, and a financial focus to be able to assist in the oversight of the operation's firm. In our case, we believe that there were 2 areas where engineering elements, assisting, and overseeing were to be done by the actual operations contractor required some civil engineer expertise. CDM has all of those resources within its abilities. Jeff represents a team of people that do that kind of work all the time. However, we've been advised that the role here is that of an oversight contractor and not actually the engineer sort to speak. When Jeff spoke about the various issues and raised issues, we would be seeing those as an overseer if you want to call it a reviewer of work that would be likely provided by the operations contractor and the consultants that worked with them.

It is possible with respect to some issues relative to the PUC and that process that they would want to understand and see that the oversight contractor had all of the various skills even though they may not be applied, but had all the various skills necessary. That's how we tried to represent our overall firm.

Karen White

I'm puzzled. Is Mr. Duffield here?

Unidentified Male Speaker

Mr. Duffield is not here.

Karen White

I work and represent the Town of Bedford. We are one of the small systems. I'm familiar with CDM's work; in fact, CDM did a long-range water extension and management plan for the Town of Bedford. I'm very familiar with TF Moran's work. They are a fine civil engineering firm that's done a lot of projects in Bedford. When I got this package is the first time I've ever heard of them holding themselves out as having any expertise in water or small systems operation. One of the top project listed – French Outward Marketplace, is 4 little commercial buildings with a well with 225 foot well radius. I usually think of small water systems as a well system that would serve 50 or more single family houses up to maybe 250. I guess – (inaudible) what Mr. Duffield had to offer.

Unidentified Male Speaker

Actually we did provide, I believe, his resume in the documents we initially submitted so you can his personal experience. In fact, we were surprised when we went to look for someone that could assist us in the small system area. Jeff and I both have designed and built small systems over the years. In fact, one

of the first ones we worked on was Woodstock, New Hampshire. At that time in the 1970's, it was only one well and no storage tank, and just one water main serving about 200 people. So Jeff and I have had that experience in fact that has been our personal technical specialty that we hold dear for our careers. When we looked at the specific conditions and the specific systems that Pennichuck currently manages, we felt we needed somebody who was closer to the regulatory and the general operation maintenance management of those systems so that whatever decisions were made would, in fact, be made with the knowledge. Mr. Duffield has that experience. Some of the systems that he has participated in are other community systems for small housing subdivisions of over 50 houses. It is similar to the types of systems that Pennichuck has acquired and operated. So we believe that his experience is in fact directly analogous, and it was particularly because of his personal experience that we sought him to be part of our team. Jeff do you have anything to add?

Jeffrey Diercks

Just that we of course I did work on the Bedford Water System master plan as well as being the technical reviewer on that project for CDM. I am aware of some of the smaller systems that Pennichuck runs there. There is a range of systems that Pennichuck operates in terms of size. As Bob mentioned, we have worked with systems in New Hampshire as small as the Bartlett Village water precinct which has 200 customers. We did their master plan on up through Conway Village, Fire District North Conway Water Precinct and others of larger size. But we did want to cover the entire range of type of systems that might be seen and might need service under this agreement. We felt that Tom Duffield in particular added that dimension with the very small systems which will be needed for some of the work under this contract. Together CDM with PF Moran and Tom Duffield on our team will do that small system emphasis to make sure that all those services that are needed on that size system won't be delayed.

Karen White

Thank you.

Chairman McCarthy

Any questions? If not, I'd like to thank you all for your presentations. We'll take a short – 5 minute recess before we hear from the next round.

Meeting of the water committee back to order at 8:35 p.m. and ask Mr. Sansoucy to introduce the next presenter.

George Sansoucy

Yes ladies and gentlemen, aldermanic committee it gives me great pleasure tonight to introduce to you a national company, actually an international company Earth Tech has responsively bid the operations of the proposed Nashua and/or regional system. Earth Tech is an international company. A wholly owned subsidiary of Tyco Corporation. Tonight they have with them Bob Markowitch is the Business Development Manager. Bob you're hailing from Michigan?

Robert Markowitch

New Jersey.

George Sansoucy

New Jersey. Okay. He is the team leader for Earth Tech for the proposal. With Bob, he'll take the mike. With Bob is Peggy Block. Peggy is the Human Relations Director. She'll be fielding any questions related to employee issues and would be directly responsible for employee transitions during the transition phase. Included is Jim Columbo. Jim is a Vice President on the eastern region for contract operations and will be one of the management teams here in Nashua. With Jim is Denny Tulenson. Right Den? Did I get it right?

Dennis Tulenson

Yes, that's right.

George Sansoucy

Den's from Menna. Do you know where Menna is? It's Menna, Ohio. It is this side of Cleveland. It's one door next to the last county where we took the Ashtabula Water Company and you didn't bid that one did you?

Dennis Tulenson

No we didn't.

George Sansoucy

No, you missed the bid on that. We took the water company beside it. We didn't take yours. Denny is technical support and start up services. Right Den? Fred Costanzo. Is that right Fred?

Frederick Costanzo

That's right.

George Sansoucy

Fred is the gentleman on the streets. He is here in Nashua. He is the person you will be dealing directly with day to day. So welcome here Fred. Dennis Messier is with them. Dennis is actually – we know Dennis from years. Dennis operates the Newington Wastewater Treatment System on contract to the Town of Newington for Earth Tech. Earth Tech has the contract and it is the original contracts that went to Whitman & Howorth. Whitman & Howorth were absorbed into Earth Tech. An engineering firm in Boston. Dennis came through those ranks. He's local here. He is an alderman or a council in the City of Somersworth?

Dennis Messier

A councilor.

George Sansoucy

He's also the Chief of Operations in Newington. So welcome Earth Tech. You have the mike.

Robert Bell

Thanks for having us. We appreciate the opportunity to present our proposal and touch on some of the highlights. We hope not to keep you too long. I'll keep it limited and get into the questions and answers. I guess I'd like to start with for those of you who are unfamiliar with Earth Tech, and I know you heard Mr. Sansoucy talk about who we are, but just a little bit of who we are. Earth Tech is a global company as they said. We are currently doing a little over a billion dollars a year in revenue. Actually close to 1.5 at this point. When you hire a contract operation firm, you don't just hire the people that work in your community or the people you see sitting here. You hire a service organization. Earth Tech is made up of 8,500 people. So while all 8,500 won't work in Nashua or on Nashua, you have the ability to draw upon the services of those 8,500 people through Mr. Costanzo as the project manager. He would have the ability to tap into those folks to help here in Nashua. We have a little over 180 closer to 200 facilities under operation and have, in fact, done 3 facilities of very similar measures as you are going through – takeovers. Hubert Heights, Ohio, which is actually not too far from Menter. We did the exact same thing that you are going through. It was a community that used condemnation to take back their water facility. We've been operating for about 10 years now. We went through the transition phases there. The same thing you're going to experience here. Wixham, Michigan was another one. Did the same thing. Took back their privately owned system, made it a public system and Earth Tech has been working with them.

As he alluded to, we are also an engineering and environmental firm. We've been here in New England, and I say here in New England, since the early 1900's as the former Whitman & Howorth. As Whitman & Howorth, Earth Tech designed closed to 45 water treatment facilities in New England and probably 75 wastewater if not more. I won't spend any time on a global. I included a global map for you just to show you we are everywhere. In China we built a 50 mgd water treatment facility that will be operating for the next 30 years. Down in South America we've got water facilities in I won't belabor the issue.

Transitioning experience. I just talked about Wixham and Hubert Heights, and another one is South Huron Valley. We've been transitioning from public to private or in this case, from private to private for the last 25 years and have a successful model established to make sure that nothing falls between the cracks. Jeff was talking about from CDM some of the issues there are with transitioning, having a matrix, having a laid out plan, making sure that you have a – everything down to the smallest item tracked, accounted for, and measured. It's the only way to make sure it is a smooth transition and that nothing gets missed.

The team we have here, I tried to be nice by saying that we have more than 40 years, but we probably add up to 40 years with just 2 of us and it's more like 140 if we talk about all of us that have been through it. Smooth and effective communications. Peggy is going to talk a little more about this. The items we have down here for the completion of new hirer process, transitioning employees over, recognition of the employees concerns, and we are flexible. We want to work as a partner with you and obvious with your overseer or firm, whoever you chose to do that. We do have experience in this type of transition. We've been through it. Every facility has been a transition. Other than a couple of design builds that we did where they were designed build operates, we actually built a facility and brought in a new staff and took over the operation right from day one. Other than that, every facility has been a transition.

Acquisition assistance. I think is one of the things I heard as a key point I heard from CDM, and I know I read it in your RFP, and I've heard it from some of the other folks concerned with making sure this gets through the PUC and end up having assistance in getting that. The four bullets I put there are what we are here to stand up for. We're going to participate; we're going to be dedicated to helping you achieve your goal; we'll make the commitment right here tonight that we'll have somebody there with you at all the meetings to go through what needs to be done and make this happen. I believe we have the experienced personnel. Some personnel aren't here tonight. One of the resume I included for you is Mr. John Daniels out of our Concord, Massachusetts office. John helped write a lot of the regulations, not here in New Hampshire, but in Massachusetts and has a lot of experience in dealing with the regulatory agencies and going through this type of process. John is on board to help you through that.

Project startup. Mr. Costanzo will be serving as the startup manager as well as your project manager. You're sitting at the water facility and having all of the departments report up to him. Fred's got over 16 years of experience in water treatment facilities in varying sizes from 35 mgd or larger all the way down to the little tiny ones of a couple thousand gallons a day. So I think Fred will bring excellent experience and just what you are looking for to get the job done. He'll be supported as it says by support personnel. Mr. Tulenson is one of them as well as a host of others in the resumes I've included for you. As I said, you are hiring a service organization not just a couple of employees. We've ensured adequate funding to make sure that the startup is a success. While I can't talk about the dollar figures, I will tell you that we've dedicated close to 22,000 man hours of start up personnel to make sure that all the jobs are accomplished. Everything is done within the first couple of weeks so that the project just runs smoothly from day one. If there is some things in our plan, which we will be glad to sit down and discuss and present to you that aren't to your liking. Again, I want to say we are flexible and we want to work in partnership with the City to make sure that the plan is acceptable to all.

Jeff from CDM who sat right over there covered some of the things which I thought were great. I wanted to get up and say Jeff just covered everything we want to talk about and maybe I won't have to belabor the issue and bore you and we could just move on to something else. Just quickly. Vulnerable assessment. If you are not familiar with that after 911, the federal government decided that water plants and wastewater plants have vulnerabilities that can affect the citizens of the country. As such, each plant is required to do a vulnerability assessment. Mr. Costanzo happens to be certified in providing those vulnerability assessments and would provide that here in Nashua.

Initial inventories. He talked about is there pumps on the shelf? Are there adequate chemicals? Do we have the valves to replace a valve in the street? During the startup, we would do an assessment of all the

inventories. Come up with a plan. Line up the subcontractors. Line up the vendors. Make sure we had everything in stock to handle any emergencies that came down the road and put a report together for you on that.

He also talked about condition assessment. The minute we can get into the facility that condition assessment would start. A maintenance plan. We are committed to a computerized preventative maintenance plan so that you can track all of the maintenance in the facilities and make sure that all of the equipment is operating up to spec. Make sure that it is within manufacturer's standards and warranties. A meter conversion program. I think this one is particularly important. We look to do a meter conversion over to an automated system and do meter change outs where they are older than 10 years and necessary. This is particularly important to you. I was listening to bonding. You want to be sure that you are bringing in all the revenue you can possibly bring in. If the meters are faulty or providing inadequate readings, you are either producing water you're not getting paid for or you are losing revenue. So I think that is one of the things that we would like to attack right away.

Routine operations and maintenance. The operations program some of the things we do initially and the startup people would do would be to come in and write what we call SOP – Standard Operating Procedures. I heard a little talk about training and which we would provide to our people. This assists new folks off the street. Hopefully they'll have water experience. You always look to hire certified operators. If they didn't, this will provide them with a tool to quickly acclimate to the job they have to do and a step by step instruction is what it boils down to.

Computerized process control. We heard about the hydraulic models. This is a model that gives us optimum efficiency in operating the facility. It is a pewter model. We sit down. We put in parameter as necessary. We look at all the chemical feeds. We look at all the pieces that go into it. This model is out what chemical feed should be at, or pump speed should be running, those types of things. It is a very good tool.

Safety programs. As you see it, there is a little bullet that says they are unique in distribution systems. Most folks, I'm sure, have some type of safety program in place. When you are out there digging in the street and you've got traffic. You've got the possibility of a wall caving in. You're using trench boxes. You need police officers. There's a whole other set of safety programs that need to be put in place. We will provide site specific for each one of those.

Unplanned maintenance. Another issue I heard him talk about. When you're digging up the pipeline that is broke, it makes a whole lot more sense to change that valve that is 5 feet away right now than fix the pipe, cover the road up, pave it, take care of everything, and 10 days later that valve failed because of the stress that you did on the line before it. We'll develop a plan, a procedure I guess that we would present to the City on how to deal with those unplanned activities.

Rapid response to minimize impact. We would expect Mr. Costanzo. We were looking at real estate today to live here in the community or very close to the community as well as most of our folks so that if there's an accident, a car hits a fire hydrant – you need it fixed right now. It can't wait til tomorrow. It can't wait for 2 hours from now. You need staff rapid response - 10, 15 minutes on the scene, close the valve, and then start the job. We plan on keeping the City informed through monthly, weekly, and quarterly reports as well as annual reports.

Engineering services. This was one of the things I heard a question about a civil engineer. We were asked to address this. Earth Tech's major engineering office for the northeast is located in Concord, Massachusetts. We have close to 300 engineers as well as scientists in environmental folks on site. They would be available and willing to provide services here as necessary. WE would also plan on having a full time PE on staff to deal with the hydraulic models to make sure that everything we are doing in operating the plant as well as your distribution system has a PE looking over our shoulder to make sure we are compliant with all the rules and regs.

Nashua specific experience. I just wanted to mention that as Whitman & Howorth and Earth Tech we've done probably 10 projects here within the community. A few of those happen to be for Pennichuck Water. We did the upgrade from the 20 to 30 million. We did the line system upgrade. We did chlorine to hypochlorine change out. We did quite a bit for them. We've done some work here in town for your

housing authority and some of the other stuff from our engineering side.

Staffing plan. When we looked at your RFP and the limited access we had to the facilities, we tried to develop an operating plan that would be cost effective, efficient, and provide you with secure safe water. We think we did that. As I said the startup has close to 22,000 hours. I think we have adequate staffing. I've included an updated org chart where you can see we have a total of 40 staff to operate the facility's distribution system, satellite facility, and treatment plant.

In capital repairs. As an engineering company, we've been doing capital repairs, design construction activity for over 100 years. We'll bring that here to the town. Maintenance with program will be provided. Obviously system reliability is paramount. People want fresh drinking water and they want it when they open the tap.

Asset protection. Asset protection goes hand in hand with the system reliability. We'll develop a long term asset management plan. That is projecting out over the UL. It is a 6 year contract so over the life of 6 years how we see each piece of equipment when replacement would be necessary, what it takes to maintain that equipment, and what your billings will be, and recommend that through a capital improvement asset management program.

Some things in our proposal I think will serve innovative. The booster and well automation. Increase reliability and lower cost of operation to you folks in the long run. You chose to choose to take the utility payments yourself. The City will pay all the electricity and all of that. Earth Tech would be willing to assume that after a short time of operation so that we can get a handle on what it is if you'd like to roll that in. I think that is one of the innovations we've provided within our proposal. That is shifting the risk for the consumption. Right now you pay the bill. Not that we don't plan on operating efficiently, but one of the ways you can shift a little more risk on to your operator is to have them pick up those utility costs. So it is something to think about. We're going to provide you with a performance bond guaranteeing our performance within the parameters designated by the contract that will ultimately be negotiated. We're providing that bond at no additional cost to you folks.

The hydraulic modeling, as I said, will have a full time engineer on staff. Who will take care of that? Then we've recently become involved with the reliability based maintenance management system. Mr. Tulenson will speak a little more about that. It is a new system. We've just started integrating it to some of our projects. With that, I'll sit down and be quiet and hope that you folks have looked at our proposal and have lots of questions for these folks. I think Peggy will start and talk a little bit about transition of employees and what we offer there.

Marguerite Block

Thank you. I guess I'd like to start by just telling you I have the absolute job of any of these folks here because I get to work with the people and help the people. That to me is the best part of going to work every day. I've had the privilege of leading the human resources function for a private contract operations for in excess of 20 years we'll just say just so that you don't try to add that up with that 40 that you suffered through there. This experience has taught us through the years and taught me that one of the most important portions of this is the process by which you bring people from other companies, public utilities, public entities into the world of private contract operations. Doing this, we have learned through experience and I heard a question I believe it was Mr. Shaw had asked about what has gone wrong in the past. We have learned our lessons as we've gone through the years of how to effectively assist those employees through this rather traumatic process for them. I understand why this is an important piece of your issues and your concerns here. The people are an important part of it. We want to make sure that their process is as seamless and as painless is as absolutely possible. Obviously I don't do this by myself. I have the privilege of working with some excellent teams in various areas. The human resources areas that involve everything from helping the people understand who and what we are, getting them enrolled, understanding the benefits, talking to the employees individually, in groups, with their families so that they have an opportunity way in advance to have all of t hose communications that we were talking about earlier so that they know what is to be expected and what kind of information they even want to know. Sometimes they don't even know what questions to ask. We are there and we work with them. We work with them – the transition period for us from the people's side will start traditionally 30, 60, 90 days or more depending on how soon we have access to start talking with these people. It continues well after the

actual startup. We don't just come in and say how do you do and shake their hands, and walk away and kind of leave them on their own and not know where to go. We are there. We have a team that will be there to support them. I will be here a good portion of the time. Like I say I get to do all the fun stuff so I get to spend time in these beautiful communities. We will be there for them.

Part of my job is also the labor relations side. The union negotiations. That is a process that, again, through the years of working with many, many different unions and negotiating a lot of contracts have found that when you work with a union in a partnership, you have much better results and the employees come out better for it as opposed to having war infarctions. WE don't want that kind of thing to happen.

Health and safety is another marvelous team that we work with. They come in, again, very early on even before startup. Start working with the employees and making sure they have the proper PPE, have the training all the way through the early days that continues on for the entire life of the project with the employees for the entire time they are with us. Training and development for these employees which is a key function. Many employees are happy where they are and they want to stay where they are. We will encourage them to continue developing whatever technical expertise they have. That is wonderful. But others really want to be able to move ahead. That is something that we can offer them to work with them, to give them opportunities for development and training, learning new roles, and expanding on the existing roles that they have. I think regardless of whether the startup is 100 employees or 1 employee, the process has to be the same. Each individual is critically and equally important. We treat them that way. That's been our proven method and a very successful process for doing that.

Dennis Tulenson

I'll just talk real quickly about the one aspect of our innovative proposal, reliability based maintenance. I'll give you a little background on that. We run a very large hazardous waste incinerator up in Swan Hills Alberta. It is about a 2 hour 2 ½ hour drive north of Edmonton. It's I think the world's larges hazardous waste incinerator. It takes anything you can imagine and is properly handled. Because of that, they have very large stuff there. Large blowers, large boilers, a lot of conveyors, container movement equipment, and all that stuff had to just be kept running. We installed a very comprehensive maintenance package that looked at every piece of information gathered there. Every plant collects a lot of data, and a lot of people don't do anything with any of that data. What this system does is records all those pieces of information, compares them to each other, and starts looking for trends towards failure so you can catch those failures well before they occur. It could be drops in flows, increases in pressure, losses in heat that simply get unnoticed as they are jotted down, put in into a log book but when this program starts trending those things and comparing inter-relational information even catch those failures well before it occurs. With this system that you are purchasing, and it's going to be a valuable and expensive assets here in this City, at your desire we can install this kind of system here to extend the life, predict those system failures out in the streets and onto the streets, and also inside the plant itself.

Unidentified Male Speaker

I know a lot of you are thinking how can we do this? How does this get done? That's basically why we are here. It is a very large task. It takes a lot of planning. It takes a lot of people. I've been fortunate enough to work with a lot of people sitting here tonight. Once you worked with these people and find out the assets of Earth Tech and working with Earth Tech, the transition starts to become very easy and very smooth. The planning obviously as soon as we find out what we are going in, there is a tremendous amount of planning that has to be done. In the situation that we have here, obviously it's a little bit different because we don't have a lot of detail as to what we need. There's going to have to be a lot of ground work done prior to us getting here, finding contractors in the area, setting up labs to do the testing that needs to be done on a daily basis, finding out from the State and federal government exactly what those tests are, and how often they have to done, how many vehicles we need, what kind of equipment we need to work in the street, right down to pens, pencils and paper clips that we are going to need in the office besides the desks, and people. People – again working with Peggy it comes a lot simpler. She has an understanding. I know Peggy's worked on a lot more transitions than I have. I have been involved in about 4 or 5 different ones. I've worked both in the public sector going one way, and the private sector going the other way. The main concerns are the people in making sure their concerns are met, that their questions are answered, that they know that the job that they are doing today is going to be the same job they are doing tomorrow, and hopefully we can work with these people. Like Peggy said, the people that

want to progress who want to make movements through the system that we can work with those people, and develop the other people that want to stay doing what they are doing just making more efficient at what they have.

Listening to CDM here was very interesting. I've worked on numerous projects, and working with I call them contract administrators. Some administrators that weren't as progressive as CDM sounds tonight. Hopefully the City will move in that direction to pick someone who is progressive and is thinking forward to get things done. To keep the system, number one probably where it is at today, and keep the system moving forward with the things like automated meter reading, skadda systems if they haven't been installed. There is so much technology out there for the system today, to make the system better, to make it more efficient and more reliable for your customers. Again, like I say listening to CDM and taking their lead of whoever that is would be great. That's about all I have to say right now.

Unidentified Male Speaker

I guess I don't have a lot to add to that except that my role in this type of a project is to ensure that Fred has all of the resources that he needs to get the job done, and that means bringing together all of the various systems that we use as an organization from human resources, from accounting, from health and safety, from operations, from maintenance, the reliability based maintenance system to make sure that we have the right people here at the time that we need them. That's my kind of behind the scenes obligation and role in this. I think we probably talked for long enough and would be pleased to try to answer any questions that anybody has.

Alderman Lozeau

To Peg, I'm sorry I don't know your last name. Peg, you mentioned union. I wasn't aware that Pennichuck was unionized?

Marguerite Block

It is my understanding that they are.

Alderman Lozeau

Have you been able to look at the benefits package that the Pennichuck is offering to its employees at this time, and would you propose a more Tyco oriented benefits package, or would you order the existing labor union, or would you even honor the existing labor union that is in place today?

Marguerite Block

Multipart question. Yes. It is my understanding that the steel workers are the union that is in place. No, we have not been given any of the information regarding what Pennichuck has in place. We have a very comprehensive benefit package, and that would be the subject of bargaining with the union. Yes, we would be recognizing the union because they would be representing the bulk of the employees that would be joining us.

Alderman Lozeau

If I could continue. You would give absolute bias towards present employees of the Pennichuck preference to those employees?

Marguerite Block

We would definitely give preference to those employees, yes.

Alderman Lozeau

Thank you.

Chairman McCarthy

Any other questions?

Michael Scanlon

Mine is based on that same question. I asked this of the other operator as well. Are you in the position to bring in your own employees? Since Pennichuck is still going to exist in some form or it appears it may, many of the employees may chose to stay with the current company. Is your company in the position to bring in employees to keep this system operating in the case that you don't enough Pennichuck employees to continue?

Marguerite Block

If that were the case, yes. We would be able to staff – obviously we would know that fairly early on and we would make sure that we are staffed at the level with the appropriate certifications.

Michael Scanlon

Thank you.

Alderman Deane

I have a question for whoever wants to answer it. What other entities does Tyco currently operate?

Marguerite Block

Well, Bob I know most of them, but I'm going to forget somebody.

Robert Bell

The list is ADT, Simplex Grinnell, several valve companies, - Peggy, help me out.

Marguerite Block

Almost everybody in the health industry has something related to Tyco.

Robert Bell

Tyco health care, which is plastics and adhesives, sprinklers.

Unidentified Male Speaker

Tyco owns over 2,000 separate companies.

Unidentified Male Speaker

We'd be glad to supply you with a list.

Unidentified Male Speaker

We could provide an annual report if you would like to look at that.

Alderman Deane

No. I was just...

Marguerite Block

Was that what you were looking for or something in a smaller world?

Alderman Deane

No. This is a good world to be living in. How long has Tyco been involved in the maintenance of water utilities?

Unidentified Male Speaker

They acquired Earth Tech in 1995. They also have Tyco Engineer Product and Services, which in fact provides different levels of water treatment type operational aspects in different parts of the world. We also have a sister company called WPT, which is actually part of our group. They provide RO units and onsite operations for small skid mounted type pure water systems for the pharmaceutical industries. That type of stuff. Actually Dasani and Aquafina are products of our sister company.

Marguerite Block

They are also involved in refineries in the Gulf Coast and are in there right now getting them back up and running.

Alderman Deane

So they supply a lot of the product that would be used below the streets is what you are telling me – the valves…

Unidentified Male Speaker

Yes they do. Valves and pipes, absolutely. There are synergies between us and our sister companies and Tyco as far as acquiring products.

Alderman Deane

Could you repeat that please?

Unidentified Male Speaker

I said there are synergies between Earth Tech and our Tyco sister companies in acquiring valves, or pipes, when we need to buy equipment we can utilize our sister companies as well.

Alderman Deane

So the cost savings and efficiencies are past along to the customer?

Unidentified Male Speaker

Yes.

Unidentified Male Speaker

To an extent. The extent we get a good break from them. Yes.

Unidentified Male Speaker

Besides staying within our own company, the buying power that Tyco has like the project I'm working on right now will save them almost $350,000 in the cost of meters over a 5 year period in the replacement program. Besides getting what Tyco has because Tyco and Earth Tech are so large in the mind power, they were able to negotiate contracts with larger suppliers of the products that use to be able to save you 10, 15, or 20 percent on different things.

Alderman Deane

Is that guaranteed?

Unidentified Male Speaker

On certain products it is yes.

Alderman Deane

Thank you.

Alderman Bolton

Following up on the question Alderman Deane asked. Are any of you familiar with previous experience that your sister Tyco Company may have had with the City of Nashua and prepared to discuss any of that?

Unidentified Male Speaker

I'm not familiar with it. If I were, I'd be glad to comment for you. I don't know if anybody else is? Unfortunately not.

Alderman Bolton

Do you think that would have been a good thing…?

Unidentified Male Speaker

Now that you've asked that questions, yes I do.

Alderman Bolton

Thank you.

Alderman Shaw

What would you say Earth Tech's most relevant experience in similar O&M contracts is and how that would benefit to Nashua? Whoever can answer that.

Unidentified Male Speaker

I can answer that. I suspect that would be our Hubert Heights operation, which has been ongoing for 10 years now. Very similar in the takeover of a privately held water utility to the City. They realized up front that they didn't have the resources, the assets, the knowledge, experience to run it themselves. So as part of the pre-takeover, and I don't recall if it was condemnation or – Bob is shaking his head so it was condemnation. They started selecting their operator 6 or 7 months ahead of time. Selected Earth Tech and we worked with them prior to the takeover. On day one when the system transferred at midnight we were there with our people, had to operate the water systems, get the meter reads, continue to get the bills still sent out. It was a very smooth transition. Very few complaints. Water wasn't lost. People paid their bills. I think it went very smoothly.

Alderman Shaw

Similar question as I have asked others. What are the 2 or 3 things that basically stand out for Earth Tech over all in terms of benefit to Nashua the things that make Earth Tech the appropriate choice?

Unidentified Male Speaker

I think one of them is regional support. We're a New England company. WE have operations not too

many here in New Hampshire itself, but more than 25 in Massachusetts. We're in Maine. We're all around you. From that aspect I think that is one of them. I think the commitment of the company to the long term, to stay in this game, to provide contract operation and engineering services for both the water and wastewater industry, commitment by Tyco to keep Earth Tech strong, provide us with a financial backing to guarantee our performance on these types of jobs.

Unidentified Male Speaker

I think there might be some parallels between some of the other projects we offer and the configuration of Nashua. It is very common in a contract operations business for companies to operate plants. It is less common for companies to operate entire water systems. Fred at the present time is managing our New London, Connecticut project where we operate the entire water system, including managing, billing, and collection which wouldn't be here. The distribution system, and the fire hydrant flushing, and the field work is critical as well as the customer interface. All of our employees clearly understand the need to be respectful and to deal with the public in a professional manner. So that's a large part of our training efforts go into that. It's places like that**...end of Tape 1, Side B...**deal with an integrated system rather than just pumping water to the edge of the fence line and it goes off some where.

Alderman Deane

Mr. Kastandzo I had a question on field notes. You know when you are working in the field – I don't know whether that would be yours or whomever, if there was a project going on and field notes were kept which are they?

Mr. Kastandzo

Yes.

Alderman Deane

They are kept...and something went terribly wrong and the district requested those field notes for review, would you turn those over to the district from that point of where the project had stopped so that they could be reviewed or would you wait until the project was completed?

Mr. Kastandzo

I would view them as a legal document that if we wrote it down in a book and it was pertaining to the project, it is a legal document. You are entitled.

Alderman Deane

Thank you.

Chairman McCarthy

Other questions?

Karen White

Have any of the operations that you've been HR director for have you have had any union strikes or any major complaints to the Labor Relations Board? Have you negotiated any defined benefits, pension packages as opposed to just 401K?

Unidentified Female Speaker

I love these multi-part questions. I can remember all the parts. I've got the 401K piece your first question was?

Karen White

Any labor strikes

Unidentified Female Speaker

Any labor strikes – absolutely no. Never had a labor strike. We've never had any major disruption. We do have the occasional grievance or arbitration, but we've never had any major labor disruption or threat of one.

As far as negotiation defined benefit programs, our company does not have that type of thing. What we do is we will provide a combination of programs to get the people to where they would have been if they had been in the defined program before. So we have creative ways of making sure that the retirement program will be comparable to what they would have had had they not been transferred to us.

Chairman McCarthy

Other questions? If not, I want to thank you for your presentation.

Unidentified Male Speaker

We appreciate the opportunity and thank you for your time.

George Sansoucy

Thank you. I want to thank our two proposals that have come tonight. I believe we have representatives from the two last night and thank them. I'm going to do about a 5 minute recap if I could. We've brought 4 people to you. Any 4 combinations could do the job for you. It is a compliment to the City of Nashua; it's a compliment to the Board of Aldermen, the water committee, and this endeavor that these national companies are willing to put their money, their time, their effort on the line to show you that there is a different way that water systems are operated elsewhere in the United States. The taking of Pennichuck is not a foolish endeavor by any means. It is the transition of a regulated water company to a municipal model. These 4 companies are active in those transitions, some in different ways, the different attitudes on how to do this but it can and will be done. As we've seen from all of our proposes Hubarheights, Ohio, the 2 Ashtabula takings. R.W. Beck did the City of Geneva with in Ashtubula and we did the county around them so that the county in the City, for example, each had a different independent engineer because we had to negotiate throughput contracts. It is done routinely. Whatever I say tonight, whatever we do tonight there will be press releases; it will not be satisfactory; it will be wrong. That is what we have to expect from a company that you're asking to essentially take 65 percent of its business and turn it over to you because the laws for which it operates under no longer serve the public interests.

With that we have a national presence here of people. We have new ideas. I think we've heard a lot of ideas that we are not really aware of. We don't live with them every day in Nashua because we've lived with the Pennichuck model. We've seen faces of people that have worked all over the country. I'm going to make 2 recommendations to you tonight with the hardest recommendations I've made I think in probably my entire career because we have some good people that have done a lot of hard work. My recommendations are based on what I believe we need to go forward in the short term. I want to stress IN THE SHORT TERM. The short term is from today forward through the taking process, through the political upheaval that that brings, through the criticism and critique that we must go through. WE have to stand up to that critique in your behalf to prove to the New Hampshire Public Utilities Commission that this taking is in the public interest and that we deliver the people of Nashua into the district, which I firmly believe in the district. The managerial, financial, and technical capability to take over this water company.

To that extent, I'd like to start by saying that we'll discuss the oversight contractor and my recommendation for the oversight contract and let me just finish with the short term. I lost one train of thought. The reason we put a 6 year contract together is knowing that the transition part of this is going to be very, very difficult. It is inevitable even all of you have received tremendous amount of political pressure, tremendous amount of lobbying individually, and you'll continue to receive more to try and stop this taking. The short term is the upheaval period, then the adjustment, then settling down. At that time, you're going to get another full crack at the operations and oversight bidding process. Your oversight

contractor will provide you with the opportunity to relook at the ops. contractor and vice versa. WE have engineered this or we have been the architects of this for you recognizing that what may be some of our short-term strengths might also not necessarily have great long term – in other words, short term strengths are necessary today. Then there may be ways to optimize those strengths in the future very quickly. Many of these contracts are 20 years. We feel that is not what we are trying to do here. So, I'm just trying to put that in perspective.

My first recommendation is for oversight contractor. This particular contractor has been my number one competitor for 15 years, and it is with great pleasure that I recommend R.W. Beck and the Tetra Tech team. It is interesting the reversal because Tetra Tech put them together and then backed into a backward position in this recognizing through a significant amount of query of us that the management side of this and the financial management side of this is the most important part of the oversight contractor. The information and the transition period, public utility commission period, and the development of the district, which is ultimately inevitable in this process is the most important factor in that there is less need for substantial day-to-day engineering in the next 6 years. R.W. Beck has a national presence, extremely strong. We've heard that. Your financial advisor for southwest is fully cognizant of R.W. Beck. They have indicated to Carol Anderson a strong thumbs up on this particular contract and they're aware of them and would welcome them on the team. They are only owner's reps. They are the only ones that we can bring to you that we are aware of that are pure in that regard where they don't have some form of other contract relationship amongst the various parties. I would never want to see that discouraged. Those relationships. In this instance, in the short term, the cleanliness of the business model of R.W. Beck, I personally believe, is very, very important. They have very strong rate design capability. That is rate design as a regulated rates or rate design as non-regulated through their experiences. We do not know today if the Public Utilities Commission will give us an approval that may have strings attached to it that might look to manage, monitor, or observe, or somehow keep their hands in the rate process for a short period of time upon the ownership of either the district or the City and then relinquish that one they see that that is going well sort to speak. The ability to speak both languages fluently, and the ability to design rates and/or operate and split rates because we may we are asking for systems outside of Nashua. We may have split rates some which may be regulated while rates in Nashua may not. I'm not presupposing what our Public Utilities Commission will do. There are combinations that we as a City and a district could live with if required.

They do have a strong engineering model with the Tetra Tech model. The important aspect of that model in my view is their oversight and capability of watershed management and security. Capital improvements, yes, but those of the watershed management and security issues for the short term will be as needed and as strong as the sticks and bricks and conventional engineering needs in the next 5 years.

They have strong experience with government agencies of all kinds. They bring a large presence, much larger than we are accustomed to but with that comes an economy of scale. If they are making mistakes in the operations and the oversight business, they are making it for much larger places around the country. They are learning from those places, and we benefit here in Nashua from that economist scale. They have been active before many different public utility commissions and representing both regulated and unregulated companies. I believe that should our public utility commission request their presence to independently say what we are saying about them, that they will be articulate, strong, and forthright, and very capable of standing up to any criticism that Pennichuck may try to level on them in their operation.

They bring the best management capabilities in my view because it is a pure owner's representative management situation. You will be working with them, in partnership with them, and they will be translating that as operating systems and operating directives to your operations contract and managing it through the contract. They have experience in the negotiation of operating contracts and will be providing that assistance as we go forward in the near short term phase, in the transition phase.

There's one thing that I've noticed about R.W. Beck that impresses me that is very important in the next 3 years. As I've met with them and talked to them in their team they listen. They listen to you; they've listened to us; they've listened to some of the things we've requested. Their ability to listen will be very important going forward because there are still things we don't exactly know. There are things the PUC may ask that we don't know yet, and we all have to continue to listen to make this process work.

They have strong security oversight. I think security is a broader issue. I don't believe that any less or

equal security attention that is currently being paid to the Nashua system is satisfactory in the next 3 years. They have been a very strong national security presence with Tetra Tech, and they have significant strengths in takings. Significant strength in actually starting the transition from a municipal water system, rather a regulated water system to a municipal water system.

Lastly, the one and the most significant statement made by Beck, in my view in this recommendation, is Steve Gates telling us that we want to exploit and capture the entrepreneurial spirit of the operations contractor. The public private partnership. That indicates to me that they are willing to operate as a team player exploiting the benefits of the public private partnership to the benefit of the City of Nashua to the best of their ability. I think they understand that model the best.

With that, my recommendation is R.W. Beck for the oversight. Brian, what is your pleasure at this moment.

Chairman McCarthy

What is the pleasure of the committee?

Alderman Bolton

Keep hearing.

Chairman McCarthy

Let's hear your other recommendations.

George Sansoucy

This is a tough one. This is hard and it is tough. We've had 2 great bids from 2 great contractors for operations – Veolia and Earth Tech. I want to thank both parties. In all competitions there is a winner and a loser. My recommendation is Veolia Water for the operations contractor. This comes because of the total cumulative strengths combined between the two contactors.

First and foremost, I believe Veolia offers a certain scale in the industry that is unequal to the United States. It is a scale that brings tremendous amount of strength to the team, credence. With that scale, they have been and will continue to be scuffs here and there. That just goes with the turf. This is a relatively new business that is about 30 years old in the United States - the operations business. But with scale will come a lot of benefits, I believe, to the City of Nashua and a lot of strengths in the transition. They have offered us what I believe to be the best transition team, strongest, and deepest transition team going forward in the next short term period of this transition. They have a strong employee base that can absorb many issues. Many issues that will come up. They are capable of manning the facilities if necessary with staff throughout the country, including certified operators should there be any reason to have to man this facility in the interim.

They have offered a strong educational program. They have immediately indicated in their view that there will be a continuing shortage of good solid people working in the water industry. That is a common knowledge and they look to establish education programs, training programs in the region immediately to help build a strong team of good people to operate this system over the years and for the district's use over the years.

I believe they have significant and possibly the strongest experience in the initial regulatory phase of the transition. I have worked with and testified with members of their team in the past, especially in the Hudson case for example. I found them to be extremely successful, positive, and competent in the regulatory area which may have to be required in the transition phase.

Their asset management system. I believe in the interviews and we interviewed a great length with all 4 parties. Their asset management system, their predictive maintenance system is the strongest that I have found so far in the industry. It is a proprietary system that will be afforded to the City of Nashua, and it is only proprietary in the extent that they load in the history of different types of equipment throughout the

country to help the predictive maintenance and preventative maintenance systems here for the City of Nashua. That goes to scale. They have a large number of water plants that they operate with which to draw expertise from. Their strong management oversight. I think we saw from their proposal from their staff loading that they do have a solid management oversight of their people that they draw from very well defined management system.

Their engineering support I think is very strong within the organization and with outside the organization. Within they bring us a series of engineering talent and engineers that will be in Nashua operating in Nashua. They bring the Dufresne-Henry team, which has significant depth in New England and presence in New England to the team for the City of Nashua.

They have a deep customer service support base. They pride themselves on their customer service while we have not asked them to actually do the billing in the RFP at this time. They have continued to make that presence known because they are quite proud of that. They have provided a satisfactory to excellent local super – David Ford – a City of Rochester Public Works Director. A great local presence. And a local supervisor Roy Wood from Leominster, MA. I'm not overly concerned about the distances. But a supervisor of 15 oversight systems to assist with David.

The asset management system is actually an actuarial based system. It is the only one of the systems that we saw in our interviews that was actuarial based. Based on the actual model and manufacturing type of equipment. This could save even though they downplayed the potential savings and just mentioned it. It has the potential of saving hundreds of thousands of dollars a year for the City over the long term.

They work in both the municipal and the regulated fields. They actually have the Indianapolis package; the Indianapolis system elected to remain regulated for its rates but municipalize for its ownership. This is very important because they are offering the method of reporting that they are offering in their work order system on a day-to-day basis. It would be cross coded so that if our PUC requires us to document rate systems in and outside of Nashua for the district, their record keeping systems allow that to occur. They have a strong distribution and transmission manager in the form of Paul Noran who was with consumers and did help build a number of the systems in New Hampshire for consumers. Some of which are being taken over in this taking. They have small systems experience through Dave Noran and well as large systems. They have provided us with a marginal costing as part of their proposal. A very clearly defined amount of cost that is taken off for every system that is added or deleted by the New Hampshire Public Utilities Commission. So we don't have to go back and renegotiate if the PUC says what if we don't give you New Market but you do have Bedford, and what if we don't do this, or what if we give you Litchfield because it's close and you take the outer lying ones and put them in PEU where the defined dollar per customer, amount of money that gets transacted that makes it very clear and very simple to work with the PUC in that.

We think they provide the greatest level of depth in the support in the PUC process over the next 2 years in the transition. They appear to respond very well to us and respond to the Beck model. If you noticed the Veolia model is very strong willed model at both the engineering and operator level. The Beck model, for example, is an oversight model. I see the minimum level of clash between the two models as we go forward getting this water system started up – this model. It's most important that we all continue to realize that we are transitioning from private model to a public model. That has its bumps, and we can add bumps to it by putting together teams of people who from a cultural perspective will clash in the development of that model.

Lastly, their work in Indianapolis cannot be ignored. It is a large scale true transitional model equal to Pennichuck and equal to Nashua. Nipsco, the local Indiana utility, was required through purchases and both started to buy into utilities. At one point, the regulators required them to divest of some of their holdings. They elected to divest through negotiation their regulated water business in the city and surrounding Indianapolis. Indianapolis bought that and transitioned it directly without building a department. They transitioned it directly to a contract operator. In this case Veolia. Their experience is learned in the transition from regulated bookkeeping, regulated rates, to municipal model, and municipal accounting. It can't be ignored in their strengths.

When we discuss the money side of this, the operations is only one area that we expect savings in the

Nashua model that we will be presenting to the PUC. There will be savings that we will realize in costs for insurances. We have met with your insurance people and are continuing to meet with them. Taxes – income taxes, depreciation will be a major cost savings in the operations. Now these are operating expenses. Depreciation is actually built into your operating rates for the utility. Dividends, which is the profit sector. Interest rates and the actual operating costs. We're dealing with the one component of the operating cost in this savings picture tonight. I just want to point that out. We're dealing with just this one component.

That concludes my recommendations. Again, I want to thank the people who have worked so hard to bring their proposals, and I would like to add that the recommendation is to consider contract negotiation. Don't necessarily put your files away in the event that contract negotiations with the prime proponents, whoever they chose is not successful. Thank you gentlemen.

Alderman Bolton

If you stopped just when I thought you were going to avoid the need for this question. One of the things we are telling the PUC, or I presume we will be telling the PUC, is that we can operate the system as well as better at an efficient price.

George Sansoucy

That's correct.

Alderman Bolton

So before we actually see what the price tag is for the two firms that you recommend, presumably there's a price beyond which we can't with a straight face tell the PUC what we would like to tell them. What is your recommendation as to what maximum level we should be looking at so that when we actually look at the price proposals in each case, we can know whether they are below that level or not?

Unidentified Male Speaker

We presented a plan for you for the PUC in our first round of testimony, which we are building on in our second round of testimony. That plan relied upon a 20 percent savings of operating costs for the operations, just this portion that we are talking about tonight, based on a performa for 2006 for Pennichuck and 2006 for our contractors. My recommendation delivers tonight a 20 percent savings to the people of Nashua. We can pick hairs off of this and we can negotiate the contract, it delivers to you at least a 20 percent savings as we perform for the PUC.

Alderman Bolton

You know the price proposal?

George Sansoucy

Yes I do. Yes I do because I've had to work with them. We have met with all of these people and because this is such a complex process with the PUC, we've had a second round of information that we've had to request and we've worked with those. Yes we have. This is a...

Alderman Bolton

The price proposals fall under what that upper ceiling would be.

George Sansoucy

The upper ceiling, of course, for the PUC would be dollar for dollar. You have equal Pennichuck dollar for dollar. Pennichuck will take issue with this. We fully expect them to. Count this being here and that being over there. Bottom line is that we projected 20 percent. This package tonight delivers that 20 percent projection.

Alderman Lozeau

Skip if I may just elaborate about your recommendation and decision.

George Sansoucy

Certainly.

Alderman Lozeau

Last night at the Veolia presentation the Veolia company spent a considerable amount of time talking how they would be an outstanding member of this community. As a matter of fact, I think they even went into the classroom with waterbox. To me that was a significant part of their presentation that they expanded on that they would be an outstanding member of the community. I concur with your recommendations.

George Sansoucy

Thank you David.

Alderman Deane

Thank you. I don't concur with your recommendations. The first one, the oversight contractor, I thorough agree. I thought they give a very strong presentation. They seem very well – they justified all the people they brought in. I thought their presentation was really well done. I don't know what process you use to filter out the others who had submitted to the RFP that was put out. The Veolia presentation, although they brought in an army of people, whereas the presentation we saw tonight did not, the one concern I had was Vivendi owns a portion Veolia, correct?

George Sansoucy

Yes – 5.3 percent. That is correct.

Alderman Deane

You know when this whole process started, the biggest concern was what was going to happen to our water, and how was going to own it. Here we are now calmly looking at contracting or contemplating on contracting with a company that is tied in with the very people that we took issue with some time ago. No offense to the presentation we saw tonight, but I would like to have known who else didn't make the cut and why.

George Sansoucy

Nothing else to speak badly of anyone, but I will tell you quality basis. Only 2 oversight contactors, the 2 largest in the United States bid – Veotech and Veolia. There were no other bids on operations for 2 ops. There were 5 bids on oversight – Camp Dresser McKee and R.W. Beck did make the cut. The 3 who did not was the Barrington Wellesley Group out of New London, New Hampshire. Barrington Wellesley is a pure management firm. They have been routinely hired by public utility commissions to go in and do independent management audits of public utilities. The package they presented did not provide the oversight day to day operation. They provided 500 hours a year total to the City of Nashua in their proposal to oversee the operation and critique the management. The assumption being that the operations contractor had all of the management needed and interfaced directly with the City. While they are very strong in management and while at the end of this process I wish to give their credential to the City because they could be a very good down the road – you know have we put the right total team together looksey. They could be very good at that. I don't believe that they met the intent of the proposal to manage the system on a day to day basis for the City.

The second proposal was Connecticut Water Company. It is an interesting proposal because Connecticut Water is twice the size of Pennichuck. They don't have any single core system as the City of Nashua, but

in aggregate collectively they run a number of systems throughout Connecticut. They are very capable of coming in here and running this treatment plant and the pipes in Nashua without a problem. Connecticut Water is a very capable company. They are highly entrenched in the regulatory model and demonstrated to us very little true understanding of the municipal transitional model. Also, surprisingly, they too are now selling their watershed land for development as a business model. I don't believe that that is the philosophical direction that we would be going in the City of Nashua, although they are very capable of coming in and running pipes and wires. So I did not short list them primarily on the lack, philosophical center to where we are with the district and the City of Nashua.

The third company was a tough company. It was ARI, Alternative Resources, Inc. They are one of the early companies in developing public private partnerships. Paul Noran, the gentleman who has gone to work for Beck, most of the references that were presented to us were actually operations that were managed or which Paul Noran himself did for ARI while he worked for ARI. ARI is very capable of coming in here and doing the oversight job. The reason they were not short listed is that at a company they did not demonstrate to me that they had enough deep benched talent to handle this transition especially when it gets rough around transition time. Their proposal did not offer an onsite manager in Nashua or close to Nashua full time. It offered percentages of different people's time over the course of the year that you could pick and choose from. SO while they are very capable and understand the oversight business, we felt that the proposal was not responsive as far as its depth to the City of Nashua. That is where we are with the 4 that we have proposed Alderman Deane. Does that answer your questions sir on that account?

Alderman Deane

Yes it does.

George Sansoucy

Might I comment with you on your disagreement with me on – you said you disagreed with the Veolia recommendation?

Alderman Deane

Yes, I did.

George Sansoucy

I'm not going to argue with you at all on it because Earth Tech is a very good company. I'm packaging up the total package of qualities and depths in this. I would fully expect where you've gotten 2 dynamite proposals that it would be very easy to have half of you think one and half maybe think another. We struggled with this right through to mid day today. Listening to the proposals we had our contingent recommendation because we have 2 great contractors that have offered to you. It is a compliment to the City of Nashua. You're certainly welcome and both parties could do a great job. It's just that's my personal recommendation for the next few years. Keeping in mind that I step out of this process at the end of the taking. I have no involvement whatsoever at the end of the taking because I would not be independent for the Public Utilities Commission in evaluation. If I had any financial involvement whatsoever at the day of crossover I'm gone. I want you to have a team. The best team that I could possibly give to the City of Nashua.

Alderman Cardin

I have to agree with Alderman Deane. I think part of the reason we are sitting here tonight even discussing this is that people of this City voted to not have their water company operated out of another country. Even though it is only 5 percent, I don't know what the perception is going to be my constituents when I go back and say we've Veolia to operate and maintain our water company. By the way, they are actually owned by a foreign country. I guess I have a hard time with that. I was impressed with their presentation I think probably more so than the other O&M. I really have a hard time with that.

George Sansoucy

I want to comment on that. Your people voted to not allow the ownership of your resource to go into foreign hands. That was a valid and legitimate vote. It also voted based on the concept of developing a regional, which is a valid reason. I've been a proponent of regional for 30 years in my career. The operations are controlled by contract. We are not going to get away from foreign ownership of many parts and pieces of any contract for any contractor. If we went to their government relations, for example, we could probably find a tremendous number of foreign owners and investors in type of stock. We could argue that they are 45 percent foreign or – the reason I brought up the Vivendi issue is because you and I know that you are to consume to others that this is a foreign company. You're controlling this in the contract. They are foreign to the extent that they are incorporated in France; they trade on the Paris Stock Exchange; and the trade in the New York Stock Exchange. They are a fully diffused company worldwide company with a division operating here in the United States. The foreign owners are such small pieces of the company that they have no management control of the company whatsoever. WE asked the president of the U.S. division, Joe Burgess, to come up to Newington, New Hampshire and meet with us to see his face. What are you? What's your motto? How much control have you had from outside the United States? It was very clear that he wanted the American division; the American division is run out of America. It's like Toyota of America.

So your question is very valid. We are not going to get away from it as we continue into the 21st Century. But I completely agree that if they were to buy the water company, buy Pennichuck, we don't want Pennichuck owned by any of the foreign companies for any reason. I think that our fears about foreign ownership of the contractor will be adequately satisfied in the construction of the contract and the oversight contract is really the key here. The oversight contract is really the key link that runs the contract. I mean the oversight contract – you can walk into this Board of Aldermen and say these guys are really screwing up let's fire them and get somebody else in here. They are an American employee only company. They are well known to your financial advisors for Southwest. That to me is part of the key. My recommendation is putting two pieces together that fit very, very well. But your concerns are I think are clearly well noted and should be.

Alderman Rootovich

Yes. My comments are parallel to Mr. Sansoucy that there are being hired as an operation and maintenance group, and they have no ownership in the water company.

Karen White

I disagree with Mr. Sansoucy here. I don't believe that the only thing that represents (inaudible) the people of Nashua, the people of the towns forming the water district was that we didn't want a foreign company to own our water resource. I believe the example that was used a number of times – do you want to have to call Paris to get a repair on your meter or your water bill. Do you want to have to call Arabia and get someone in a foreign language. It's service too. Veolia is the direct descendent of Vivendi. They are not a new company that just sprang up. They were Vivendi Environment. The fact is that there is only 5 percent of the stock originally left when Vivendi Universal sold off. This is the company that was Vivendi Environmental. Since they've been Veolia, they have their own bad track record. I realize big companies become big targets, but I've got over 112 citations here and examples of problems they've had in New England – Rockland, Massachusetts; Lynn, Massachusetts, Angleton, Texas. One of the things that we asked at the very beginning of this process was that please all references to be carefully checked for companies that were applying.

I have to agree with Alderman Deane and Alderman Cardin on this. It's not only because they are a multinational corporation, but I believe that there is some grave concerns that haven't been answered about their business practices since they have been Veolia.

Alderman Shaw

Actually, I don't think we can get away from internationally owned and it's actually somewhat at the point that Mr. Sansoucy was making. Tyco is now based in Bermuda. They are not a U.S. conglomerate. They are an international conglomerate based outside of the U.S. It's no longer a U.S. company. Either way we look, we're looking at the same kinds of issues.

George Sansoucy

It's a mirror.

Alderman Shaw

I think it's really something we are not going to get away from. I think it probably is at least a model right now.

George Sansoucy

You're absolutely right Alderman Shaw.

Mike Scanlon

I'll agree that I don't have a problem with the Beck selection. I thought they did a very good job. I think I would also side on the side of Earth Tech as far as the operator for all the reasons I've heard tonight. The reason we are all sitting here tonight is because of their parent company originally and our fears. I do know that Tyco is now based out of Bermuda primarily for tax purposes. I don't believe it's a Bermudian company that was started there. We can all disagree whether the right thing to do.

One of the other things that concerned me about Veolia is their selection of Dufresne-Henry as their engineering. Just my limited experience with them over a project that the Town of Bedford at Joppa Hill Farm we had them do a study there. They've done some work through the PUC from some electrical issues in town. I wasn't really excited about it and just some other comments I've heard. I'm not very comfortable with them as the engineering arm. So that would be my biggest concern. I have others, but I think you've probably heard most of them.

George Sansoucy

Mr. McCarthy, I'd like to point one thing out in what you are saying Mr. Scanlon. I'm not arguing with you because I've told you you're 2 great companies. If you feel compelled to argue for Earth Tech, I will request and argue that we need to add components to the proposal and components to the team to bring it up to the total threshold of capability that I would feel comfortable presenting to the Public Utilities Commission. I just wanted to point that out. There are still elements with the transition management team of Earth Tech that I am not comfortable with in that regard.

Chairman McCarthy

Are those things we can deal with in negotiations? Understanding that you would fundamentally change the scope.

George Sansoucy

Yes. It would fundamentally change the scope. But yes, I'm sure between Beck and Earth Tech you could deal with those issues. But I just want to point out that it is not a done deal to the extent that they can find and produce the capabilities that I feel would need to be supplemented to make it a package that is satisfactory to me to go to the PUC with.

Mike Scanlon

Just as a follow up to that, I would have been working under the assumption that as you finalize the contracts that both these contracts would probably have to be tweaked to some degree during the final negotiations with this company.

George Sansoucy

Yes, absolutely.

Mike Scanlon

Obviously if Earth Tech couldn't satisfy the requirements that we would impose upon them and require of them, then certainly that would change my decision but Earth Tech seemed to be a company that could respond to the requirements that we would impose upon them. I would certainly as you said earlier; we could always go to number two if you found during negotiations Earth Tech couldn't satisfy your requirements.

George Sansoucy

That's right.

MOTION BY ALDERMAN DEANE TO ENTER INTO CONTRACT NEGOTIATIONS WITH R.W. BECK FOR THE WATER UTILITY OVERSIGHT SERVICES
ON THE QUESTION

Alderman Lozeau

Yes if I may direct to Mr. Sansoucy. Would you go forward to the PUC with only an oversight management rather than an operating company also?

George Sansoucy

We cannot. We must choose to...

Alderman Lozeau

Is there a cost associated with going forward to the PUC with either company that the City of Nashua would have to incur prior to any ruling on the takeover?

George Sansoucy

No, there is not.

Alderman Lozeau

Thank you.

Chairman McCarthy

Is there any further discussion on that motion? If not, I'm sure this is the vote of the committee.

MOTION CARRIED

MOTION BY ALDERMAN DEANE TO RECOMMEND TO THE FULL BOARD THAT A CONTRACT BE NEGOTIATED AND PRESENTED TO THE FINANCE COMMITTEE WITH EARTHTECH FOR THE OPERATION OF THE WATER SYSTEM

ON THE QUESTION

Alderman Bolton

I always disagree with people hire experts and then ignore the experts. We've heard from the person that we are trusting. Our trust may be well placed; it may not. But we've got to decide whether we are in the boat or out of the boat. Not to follow Mr. Sansoucy's advice on this I think is the wrong way to go. Particularly for the reasons I've heard. We don't know who owns Tyco. We don't have a list of all of the shareholders of Veolia. We don't know every person who has an interest in Beck. It just isn't relevant to their ability to perform under the contract whether someone was born in France, or the United Kingdom, or in Canada, or in Puerto Rico, or anywhere else. They either perform the contract and have the capability

of performing the contract or they don't. If the City of Nashua makes it a practice and if after turnover if the regional water district makes it a practice of not getting the best people because of where they were born, or who their parents are they will not be doing the best job possible. We ought not to start out that way. It just boggles my mind that we're not talking about turning over the ability to take a resource and do away with it. We're talking about who will follow the requirements put in the contract and who is best able to do it. Even before that, who is best able to present or to help present our case to the Public Utilities Commission? We ought not to be tying any hands behind our back when we go into this.

Alderman MacLaughlin

Thank you Mr. President. On the same vain if we are as a committee, and I'm not on the committee so therefore if we are as Board, unsure as to the percentage of foreign ownership of Earth Tech who tonight indicated that they are intimately familiar with the Nashua based water system having assisted Pennichuck on several projects, and having read through the resumes I see a very regional leaning of Earth Tech in terms of their persons of expertise including some communities that I have looked in. If we are unsure as to how much of Tyco is foreign owned or who their investors are. Then perhaps it is premature to make the vote this evening on that point until we've had a chance to do some research there. I'm sure Mr. Sansoucy with his arm of research is very capable of clearing that question up before we obligate the citizens of this City or the City itself to contracting with a company that may be equally subject to foreign influence. I can say that the people who I have spoken with who are in support of a public acquisition of this utility are passionate about local control. Yes, I hear Alderman Bolton's statement that of course the question is who will be the agent to exercise the operation on behalf of the City, but why would want to affiliate ourselves with a company or an entity that may bring the same level of concern that we all looked at when we voted on the whole Philly Suburban question. So my thought, and again I'm not a member of the committee, but I just offer this up, perhaps we don't need to vote on this particular question this evening until Mr. Sansoucy and his team are able to clear that matter up. Because I know if I were to vote during our next meeting when we convene as a full board how I'm going to vote on this question based on what I've heard tonight. I really feel that I need to make a completely informed decision before I obligate the City in this matter. Thank you.

Alderman Vitale

I'd have to concur with Alderman Bolton's statement that we should give great weight to our consultant's recommendation. It has been mentioned a couple of times that the reason that we are here is because there would be a foreign company that might own Pennichuck. The reason that I voted to move forward with this process is not because of that, it is because the local company would sell it to a foreign company and therefore we would lose local control. Not because a foreign company is going to run it, but because we would lose the control of it locally. That is why I move forward with this process. If we are going to be in charge of this contract for the 6 year period that is being presented, we are in control. The other part doesn't matter whether the company is foreign, if they are 50 percent, or 43 percent, or 10 percent, whatever. We are in control of that contract. If the recommendation stands that this combination of companies will be represent us moving forward, I think we should give weight to that. Having foreign companies financially you are told to invest across the board not just locally but you're supposed to have a broad spectrum of where you invest. I don't have any problem with a foreign company part. I think we should go forward with the recommendations as presented.

Alderman Shaw

I agree. It is about local control. All this sprang from the whole issue of us not having ownership or control of the resource. The operation by a local company, a State company, a U.S. company, or a foreign company really is independent. We have control over the contract. We have responsibilities. Actually, I think, if everybody stops for a minute I think this whole discussion, quite frankly, is perhaps a great insult to the larges employer in this City. BAE systems is a foreign owned company who does wonderful things for this community and has great interest in this community. If we don't want them here because they are foreign owned, that's a pretty bad thing. I think we have to be real careful about the kind of arguments that are being made in that regard. The issue has been about who owns the water? Who owns the resource? Who has control over it? The issue was having that go outside of Nashua. We're talking about control over that resource with the contractors that we will hire.

Alderman Bolton

And that you can fire.

Alderman LaRose

I think what happened was how we got to this point was that Pennichuck was for sale. It just so happened **...end of Tape 2, Side a...**if say a large water company for the west coast that was totally owned American, I think we'd still be in the same position. What we want is we want to protect our water. We want to keep the system local. Alderman Shaw touched on one of things that I was going say was that if I was looking for a job and BAE was offering me employment, would I say I'm not working there because it's foreign owned? I doubt it very much.

Alderman Lozeau

Just to explain about what Alderman Shaw said that's why I was going to start with BAE Systems. I'd like to ask the committee what kind of message does this send to people that are going to bid on any RFP or any contract for the City of Nashua if because they are 5 or 6 percent foreign owned are we going to make that part of our RFP process that if you are foreign owned don't bid to the City of Nashua. We have a hard enough time finding people to bid on projects that this City does now. More than one project has gotten down to one or two bidders. That's not healthy for the City of Nashua. It's not healthy for anybody. The issue is ownership. The City of Nashua may or may not eventually own the Pennichuck. These companies come forward – both companies were great and I already touched all it sold me with the Veolia company was their relationships with the community and how they responded about that. I'd hate to send a message out here that if you're foreign owned or have any foreign stockholder that don't bother doing business with the City of Nashua. I just don't think that's right. Thank you.

Chairman McCarthy

Before I recognize Mr. Scanlon, I'd like to weigh in with my opinion and I will state again as I have numerous times most recently when I was deposed by Pennichuck's attorneys that my concern has always been about foreign ownership of the resources. In fact I'm not worried about ownership in places as far away as France; I'm just worried about ownership in Philadelphia. If that were a 100 percent United States owned company, I still would have had the same issue. When you talk about the ownership of the resources that provide our water, our water, if they are going to be owned by somebody other than the municipality that depends on them, to be owned by somebody out on in and through the supermarket who has to answer to me on the street if they screw up. I've met Mr. Debenedictis once. I predict I will never meet him again in my life.

I predict that would have been the case whether or not Pennichuck was acquired by Philadelphia Suburban. That was the issue that I had with the acquisition of Pennichuck and its resources. This contract is just that. It is a contract. We have a legal and binding document that determines what has to be provided by the successful contractor. That they are subject to by law in this country regardless of who their shareholders are and where they live. The issues about having to call Paris is an issue if the resource and the entire utility is owned by a company that does what it does to maximize its profit. When it is operated under contract, our contract can and I assume will state that there will be an office here which is where people make their complaints to. We can enforce that. We can make sure that those things have no impact on the way that the system is maintained. I would want to see us get the company which has the greatest expertise in doing that and the greatest ability to provide value to the ratepayers. I believe both of these companies provide great value. Even Given that situation I have to lean towards the recommendation that Mr. Sansoucy gives us because I believe him to be a fairly good expert on making these decisions. While I would not be uncomfortable with Earth Tech, I have to make the decision in the way that it has been recommended to us.

Mike Scanlon

A couple of points I'd like to clarify. First, I have no objection to a foreign company. We true live in a global economy and any major corporation is going to have a foreign presence and foreign ownership. Unfortunately, Veolia and Vivendi have a track record. One of the reasons, and I agree with you Brian it

wasn't necessarily because it was a French company that was buying our resource, it wasn't a local company and they didn't want to lose that control. But also one of the reasons I opposed the sale was because of the track record of that corporation and their management of water systems. I understand that we will have a contract with them but at that same time we also have an obligation to make sure that the company that we engage with we have an absolutely comfort level that this company is going to do the best job they can not only for the people of Nashua, but for everybody else in the region that they are servicing. So it's not for me that it's a French company. Unfortunately maybe it is guilt by association with me that Veolia and Vivendi are one in the same. As Karen had mentioned earlier, I've just heard too many negative or read too many negative comments about that company.

I'd also like to touch on Alderman Bolton's comment about your expert. I agree with you 100 percent. We hire experts; we pay them a lot of money. Again, you and I and I guess everybody but Karen are the elected officials. We're the ones that represent the people and the communities we represent. They entrust us to make these decisions. I guess my question would be if you're – what did we do the last 8 hours – 4 hours last night and 4 hours tonight listening to these presentations. If your intent was just to take your consultant's recommendation I would think that it would have been easier for me to have a presentation from your consultant saying these are the companies and these are my recommendations and then make a decision based on that. I'm not trying to slight you in any way by saying that. I understand what you are saying. I've put a lot of credit in what the expert's – because that's why we pay them. That's why they are experts in what they do. I also believe it is also okay to disagree with them when you have a philosophical difference, which I have. You can correct me if I'm wrong, but I believe what I heard tonight was that Earth Tech can do just as good of a job. We may have to renegotiate a little bit of what we asked for, but Mr. Sansoucy had the utmost in confidence in them that they would be able to perform the duties if they would be engaged. So I don't believe we are going against the recommendation. I believe I have a philosophical difference that I believe one company in my personal opinion may do a better job in the long run and I have a better comfort level with that company.

Alderman Bolton

Well Mr. Scanlon if I have the misfortune to be in your counsel chambers in Bedford I will not insult you. The fact is that I have not wasted my time for 8 hours or for the 10 hours I spent over the weekend reading every page of these proposals. For you to suggest that I did is wrong; it's demeaning, and you ought to remember that you are guest here. The fact is that I am somewhat skeptical. I have been somewhat skeptical of Mr. Sansoucy but as I said, we are in this. We have to give him all the ammunition we can possibly give him. If I thought he was leading us down the wrong road, you can be sure I would not hesitate to say that. I am not convinced that he is heading us down the wrong road. I am still willing to follow the advice he gives. One of the things is I'm not willing to do is not give him what he wants so that there is an excuse if things don't go well. The fact is that there is no reason in my mind that has been presented to us why Veolia should not be the selected in this case. Of the proposals that we listened to last night and this evening, frankly think theirs was better. But that is not the primary reason in my decision. They are not being hired to make proposals. They're not being hired to give us pretty colored pictured and loose-leaf binders. Their qualifications indicate that they are superior. I just do. The fact is experts are telling us that. Experts are saying this is the best chance we have to win and I have weighed all of that. The fact that you have some negative feelings to me does not counterbalance my own examination of the facts and the recommendation of an expert that frankly as much as I am skeptical of him, I give a lot more credence to him than I do to you. Thank you.

Chairman McCarthy

Any additional discussion?

MOTION BY ALDERMAN DEANE TO RECOMMEND TO THE FULL BOARD THAT A CONTRACT BE NEGOTIATED WITH EARTHTECH FOR THE OEPRATION OF THE WATER SYSTEM

MOTION FAILED

MOTION BY ALDERMAN SHAW TO RECOMMEND TO THE FULL BOARD THAT A CONTRACT BE NEGOTIATED WITH VEOLIA AND PRESENTED TO THE FINANCE COMMITTEE FOR APPROVAL REGARDING THE OPERATION OF THE WATER SYSTEM

MOTION CARRIED

George Sansoucy

If you'd be so kind Phil, would you like to bring the bids and we'll open the two bids of the two proposals.

Alderman Deane

This process still has to go through and be approved by the Finance Committee?

Chairman McCarthy

Yes.

George Sansoucy

Oh yes.

Alderman Deane

Just as long as people understand that this is just the beginning. There is still more to the process of approval than this evening of the committee as well. Thank you.

George Sansoucy

The R.W. Beck proposal as 2 on page 1 as the 2 components that we asked for in the RFP one of them being the initial tasks. These are the initial tasks of developing the operations and maintenance manuals, inventory asset manuals, and the like that we asked for that are part of the initial taking process as soon as the PUC rules that the taking can happen. These are actually costs that eventually become capitalized as one time costs in the sale and end up in the bond. Their initial proposal for the technical task was $230,000 as defined in our section 3. Then we have a task 9 which is $35,000 and an allowance of $230,000 for initial task described in section 3. On the recurring task, this is the annual operation and the price provided by R.W. Beck is $315,000 per year for the complete oversight of the company of the Pennichuck Water Works. Initial tasks are a capitalized task and are budgeted in the proforma for the bonds. The recurring task is an operation and maintenance expense that is directly comparable to the Pennichuck's overhead.

Phil, do you have more copies of Veolia? Joe, what's the page is the base proposal price in? Is it 2.1-6? Yes. That is in your books in section 1. It is the 6th page in on the bottom right 2.1.6. The base proposal from Veolia is $4,996,203 for annual operations starting in the first year. There is an annual fixed component, this is a one-time cost that would be loading into the bonds for all of the transition expenses and transition costs of $1,380,000. Those are the two bids from Beck and Veolia.

Alderman Deane

Skip, what is that here in comparison to what is it costs today for current operations?

George Sansoucy

The proforma operating costs of Pennichuck as of 2006, Pennichuck is expected to be spending $8, 400,000 per year. There are certain deducts that go with that and capital maintenance. Drop that price to $7,900,000. That is $500,000 taken off for electricity and fuel, which we fixed that price from all the bidders. In other words, we gave them an exact amount that they are currently spending and fixed that for the bidders. That makes a distinction of $7.9 million if you take that out. If you compare apples to apples, Pennichuck's total operating costs of $8.4 and add in the fixed costs that we will be paying such as our own insurance because we will own the assets. Our own electricity, which may be in the contract if they manage the electricity. But the spread is $6.4 million to $8.4 million. A $2 million savings in the Veolia proposal.

Alderman Lozeau

Yes, if I may. Did you consider the loss of tax revenues and things like that?

George Sansoucy

Taxes are fully loaded in that price in the proforma. We will be paying the taxes. They are above the $8.4 million above. This is the taxes to the towns and to the City. Right. Not income taxes.

Alderman Lozeau

No. The real estate taxes.

George Sansoucy

The real estate taxes are above the $8.4. So we are not even comparing them.

Alderman Lozeau

It's not in the calculations...

George Sansoucy

Right. That is correct.

Alderman Dion

But we will also be saving around $1 million in hydrant fees.

George Sansoucy

In hydrant fees?

Chairman McCarthy

The intention that we've always had since basically if we look at when we go to regionalization, there is issues with the differences between the hydrant fees to Pennichuck and the real estate taxes back. The motto has always been to leave both of those in place which for Nashua doesn't actually make a whole lot of difference because the hydrant fees are fairly close to what the real estate taxes are.

Alderman Dion

So then it's a wash.

Chairman McCarthy

It's very close. It's a lot cleaner to just leave it as if we were paying real estate taxes and collecting hydrant fees.

George Sansoucy

I don't want the $6.4 million to $8.4 million is more than 20 percent. I am sure when we get to little elements of the contract this and that we indicated to the PUC the 20 percent. There is margin in here for the contract negotiations.

Chairman McCarthy

There is a tax difference in the fact that the federal income tax is avoided as is the statutory return on the

rate base.

George Sansoucy

Federal is still above the $8.4. This is just operation savings on federal. There's many more savings above this $2 million. Many more. There's millions more and we're working them each piece. What is in this savings is the insurance component where we have worked with your Sue Jeffery to come up with an estimate of the City's insurance. But there are many other components above this like the income taxes and depreciation that are savings to continue to be discussed as we've developed the final costs over the next 6 weeks. We'll keep you abreast of those total savings.

Alderman Rootovich

I didn't hear what Mr. Sansoucy said. Did he say the $1.3 million rolled into the initial bonds?

George Sansoucy

Yes it is. That's a one time transition cost.

Alderman Tollner

Yes, a couple of things. I'd like a little detail on the performance measures and performance guarantees. As we tie down the costs, I'm looking at a...

George Sansoucy

We had not tied those down.

Alderman Tollner

Okay. I personally would like to see performance guarantees and what they are putting at risk in order to meet the service performance that is probably in place today as Pennichuck customers.

George Sansoucy

Yes.

Alderman Tollner

I'm also very interested in seeing what these two parties are willing to put at risk if they are not able to meet those. As far as the Board is concerned, tonight was the first time I ever heard that Alderman McCarthy was deposed by Pennichuck Water. Over the next few weeks I think we really do need to get clear communication as far as exactly what is going on from here on in so we are quite familiar with everything that is going on.

George Sansoucy

There's a new phase that is going to begin within the next 3 to 4 months. Mr. Upton, your attorney, if there is any energy left I believe at the end of the evening would like to go into an executive session to discussion with you all or if we are all too tired, please let's pick another night. He is ready to discuss with you the next phase, what to expect, who's being deposed, etc. So that is a very valid question at this point. This is like a phase that we have been working on for months. Now we are at this point and we're going into a new phase, and the contract development for you to begin to review as a board, etc.

Alderman Tollner

I don't have a problem that Alderman McCarthy was deposed. I'm sure he did a good job. I guess whether it be in executive session or whatever, as a Board I'd like to know what's going on. I think that at any given time every single member of this Board should be at the same place as anybody else for that matter as far as...

Chairman McCarthy

We the Board was provided with the procedural schedule which listed when the deposition would take place.

Alderman Tollner

That's fine. I mean what took place, what questions were asked, some of our responses. I don't want every single detail, but I mean down the road if there are questions. I don't know what's so funny?

Alderman Bolton

Do you remember all of the questions?

Chairman McCarthy

They are written down.

Alderman Tollner

You know what I think I still have the floor, do I not?

Chairman McCarthy

You do Alderman Tollner.

Alderman Tollner

I'm being serious. Some people may think it is funny. I don't. I'd like to know what's going on during this process. Maybe from a high level perspective or just a general overview so 2 months down the road half the Board may know something and the other half of the Board may not. In the end, we are all going to be in this together. I want to make sure we don't miss any pieces or communications for what has transpired. Maybe Attorney Upton is going to through that at a later date, but I think that's important.

George Sansoucy

It's your pleasure.

Chairman McCarthy

I can't give you an update on the depositions. I was deposed for approximately 3 ½ hours as well Director Hersh, as was the Mayor, as was Mr. Sousa, as was several other members of the staff, Mrs. Anderson. There are transcripts of all 20 or 25 hours of that which I will get distributed to the Board if that is what you'd like. It is difficult to summarize what's in those. I do not remember what all of the qu4stions were. There were questions about I mean they're all questions that you would have heard before. If you can describe to me exactly the level of information you want, I can work to get that. I think the best thing I can do is to provide you with a fairly substantial pile of documents. There are (inaudible) on the testimony that the City has filed, which I believe have been made available to the Board.

Alderman Tollner

I guess what I'm looking for is not 24 hours worth of information but a general update or overview whether it be an executive session. I will be interested to see what Pennichuck's attorney's hot buttons were.

Chairman McCarthy

After we have the special board meeting, Attorney Upton has requested that we meet to consult with him. So we've got that later this evening.

Alderman Tollner

Thank you.

Alderman Rootovich

I'm not going to speak for Alderman Tollner because he's more than capable to speak for himself. But I think what he is trying to say as well is that in the last 6 months I'm sure there's been various communications that have gone back and forth between Attorney Upton and the Mayor's office, and maybe some other staff members of the City. Whatever those communications are that this Board keep abreast of what's going on. I think that's a way to keep up with going on is to read those communications.

Chairman McCarthy

I will tell you that I don't think there is very much that has gone back and forth other than the formal motions and responses which have been filed with the PUC. I think we have those all posted in one place on the website do we not Mr. Sousa?

Mark Sousa

Right.

Chairman McCarthy

So they are all in fact all available.

Alderman Rootovich

I don't think that web site has been updated in 6 months. You still have things in there from Philadelphia Suburban is all in there.

Mark Sousa

I think other than the filing we just received maybe the other day, the last filing on that website was late June. That was the last time we updated it.

Chairman McCarthy

So Mr. Sousa there is nothing we've filed with the PUC that is not on the website with the exception of the things that have happened within the last day with the Motion for Summary Judgment?

Mark Sousa

Correct. It has all been forwarded to the IT Department who then files it on the web server. Other than the last I believe filing that we just receive the other day which have been forwarded, I think may not be on yet. I haven't checked. Everything should be up to date.

Chairman McCarthy

Mr. Sansoucy do you have anything else for us?

George Sansoucy

I am finished. Thank you very much.

Chairman McCarthy

Are there any other questions about the proposal?

Alderman MacLaughlin

Thank you Mr. President. I recognize and I hope that this figure that we've just been given reflects a regional cost.

George Sansoucy

Region. That's the full region. That's all the communities.

Alderman MacLaughlin

Thank you. I'm wondering therefore is there a way, and recognizing that Nashua has the largest amount of consumers or ratepayers, is there a way to break out what specifically is Nashua's share from that figure?

George Sansoucy

Yes. This proposal has $65 a customer as the marginal cost for all of the regional maintenance. So that the PUC can pick and chose. There is approximately 3,000 customers outside of Nashua at $65 a customer would be reduced from this proposal and that would Nashua's share.

Alderman MacLaughlin

Thank you.

George Sansoucy

You're very welcome.

Chairman McCarthy

Is there any other business for the committee?

Alderman Deane

I'd like to make a motion to adjourn.

Chairman McCarthy

Before we do that I would like to ask if there are members of the public that would like to address the committee?

MOTION BY ALDERMAN DEANE TO ADJOURN
MOTION CARRIED

POSSIBLE NON-PUBLIC SESSION

PERIOD FOR PUBLIC COMMENT

ADJOURNMENT

The Pennichuck Water Special Committee meeting was adjourned at _____ p.m.

Alderman-at-Large David W. Deane
Committee Clerk

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Hudson extends agreement for water

By Karen Spiller
Telegraph Staff

MERRIMACK – After seven years of operating, servicing and managing the town of Hudson's water supply, Pennichuck Water Service Corp. has been awarded a new five-year contract, the company announced Thursday.

The contract extends Pennichuck's public-private partnership with Hudson into 2010 with options through 2016.

"Pennichuck is part of our team here in Hudson," Town Administrator Steve Malizia said in a prepared statement. "They really know what they're doing when it comes to water, and their management capabilities provide relief to our staff."

Under the agreement, Pennichuck Water Service, a subsidiary of Pennichuck Corp., will operate and manage the water system that services roughly 5,400 connections to Hudson residents. mains and responding to customer feedback, Pennichuck will continue to operate the source of the water supply, collect and analyze water samples, operate and maintain five pumping stations, read meters, and maintain backflow preventers, gate valves and hydrants.

"Our nearly eight-year relationship with Hudson is the perfect example of a successful public-private partnership," Pennichuck Executive Vice President Stephen Densberger said in a statement. "The arrangement allows communities to benefit from Pennichuck's outstanding work force and its strong technology, tools and expert resources."

Pennichuck manages nearly 100 water systems throughout New Hampshire and Massachusetts.

Partnerships such as the one with Hudson mean an annual savings of 10 to 40 percent for the town, Pennichuck said, referencing a June 1999 survey of the use of public-private partnership in the drinking water utility service published by the National Association of Water Companies.

Pennichuck Corp. is a holding company involved mainly in the supply and distribution of potable water in southern and central New Hampshire through its three regulated water utilities.

Its non-regulated, water-related activities include operations and maintenance contracts with towns and private entities in New Hampshire and Massachusetts.

The company's real estate operations are involved in the ownership, management and development of real estate in Greater Nashua.