

**STATE OF NEW HAMPSHIRE  
BEFORE THE  
PUBLIC UTILITIES COMMISSION**

**City of Nashua: Taking Of Pennichuck Water Works, Inc.**

**Docket No. DW 04-048**

**DIRECT TESTIMONY OF DONALD L. WARE**

**January 12, 2006**

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1 **I. INTRODUCTION**

2 **Q: Please state your name and position with Pennichuck Water Works, Inc. ("PWW").**

3 A: My name is Donald L. Ware and I am employed by PWW as Senior Vice President,  
4 Operations and I serve in the same position with PWW's parent company, Pennichuck  
5 Corporation ("PNNW") and its other water business subsidiaries Pennichuck East Utility,  
6 Inc. ("PEU"), Pittsfield Aqueduct Company, Inc. ("PAC") and Pennichuck Water  
7 Service Corporation ("PWSC"). I shall refer collectively or generically to these entities  
8 as "the Pennichuck Companies."

9 **Q: What is your educational background and work experience?**

10 A: A resume of my qualifications is attached as Attachment DLW-1.

11 **Q: What is the purpose of your testimony?**

12 A: My goal is to describe PWW's managerial and technical expertise and how that expertise  
13 benefits not only the customers of PWW but also the customers of PEU, PAC and PWSC  
14 in addition to other water customers in New Hampshire. In doing so, I will describe  
15 PWW's organization and how it is integrated with PEU, PAC and PWSC from an  
16 operational standpoint. I will also describe in greater detail the varying parts of PWW  
17 that are subject to this condemnation proceeding, the efforts that PNNW has made  
18 through PWW and its other subsidiaries to assist smaller water utilities in New  
19 Hampshire, the extent to which the Pennichuck Companies are dependent on the  
20 resources of PWW to do so, the advantages of privately-owned and operated systems in  
21 terms of efficiency and quality of operation, and PWW's success in meeting the  
22 challenges to provide water services to its customers.

1 **II. PENNICHUCK ORGANIZATION AND OPERATIONS**

2 **Q: Describe the functional organization of PWW, PEU, PAC and PWSC and how they**  
3 **are able to meet technical and operational challenges.**

4 A: As Mr. Correll describes in his testimony, the Pennichuck Companies collectively own  
5 and or operate more than 130 water systems throughout New Hampshire and  
6 Massachusetts. The larger mass of those operations permits the Pennichuck Companies  
7 to maintain a superior level of in house expertise, expertise that is typically not available  
8 to smaller water systems. PWW employs a staff of professional engineers, water  
9 operators licensed in water treatment and distribution, a financial staff and an  
10 administrative staff. That staff in turn provides services not just to PWW, but also to  
11 PEU, PAC and PWSC. This experienced and diverse in house staff allows each of these  
12 companies to respond quickly and efficiently to most any operating challenges.

13 **Q: Describe the engineering and operational staff and their capabilities.**

14 A: PWW employs two professional engineers, with expertise in the areas of water supply,  
15 water treatment and water distribution. These engineers are supported by a staff of CAD  
16 technicians and inspectors. This staff has a total of 131 years working specifically in the  
17 water utility field. The engineering staff uses this deep operating experience and system  
18 specific knowledge to evaluate quickly and develop solutions for the complete range of  
19 problems typically faced by a water utility. The engineering staff completes the design,  
20 develops the bid packages, administers the contracts, inspects the construction and  
21 creates the as-built plans for almost all of the capital projects for PEU, PAC and PWW.  
22 The use of in house staff, with extensive operating knowledge of water systems, results in  
23 very cost effective design services for the customers of the three utilities. At the  
24 Pennichuck Companies, total in house engineering costs (design, bidding services,

1 construction administration, inspection and as-builts) typically run between 5% and 8%  
2 of the total project cost. To hire a consultant to complete the same functions would run  
3 about 15% of the total project cost.

4 The Pennichuck Companies' operations are divided along functional lines with an  
5 administrative division and an operational division. The administrative division is  
6 overseen by the Company's Vice President of Administration (Bonaly J. Hartley), with 27  
7 years of experience, and consists of customer service, information systems and human  
8 resources groups. See the Direct Testimony of Bonaly J. Hartley. I oversee the  
9 operations division, as Senior Vice President of Operations, which consists of the  
10 engineering, water supply and distribution groups. I have 23 years of water utility  
11 experience, and I have served on a number of state, regional and national committees  
12 concerning drinking water. The three managers of the engineering, water supply and  
13 distribution groups have a total of 69 years of water utility experience among them. This  
14 group of highly trained and skilled employees supports Pennichuck's sole focus in  
15 providing water service.

16 **Q: How are the PWW systems managed and to what extent is PWW's management**  
17 **integrated into the management of the systems owned or operated by PEU, PAC,**  
18 **and PSC?**

19 **A:** PWW employs all of the operations and administrative staff for these four companies.  
20 The administrative overhead of operating all of the Pennichuck Companies is divided up  
21 among the subsidiaries using a formula approved by the staff of the New Hampshire  
22 Public Utilities Commission (NHPUC). (A copy of the current cost allocation formula  
23 and the agreement governing the sharing of services between PWW and its affiliates is

1 included with the testimony of Donald L. Correll as Attachment DLC-1.) Unlike the  
2 administrative staff, the PWW operating employees directly charge their work time and  
3 tasks to the Pennichuck subsidiary for whom they are performing work.

4 **Q: How is field work allocated among operations staff?**

5 A: To minimize travel time, the daily operations work is carefully planned out and routed  
6 optimally. Customer service each day schedules appointments using employees whose  
7 skill sets match the required operational activities. At the end of each day the computer  
8 routes the scheduled appointments for the next day to minimize the travel time and  
9 overlap of services of the field employees. The routes are optimized without regard to  
10 the utility providing service. A field employee could start with a final reading for a PEU  
11 system, migrate to a pull and test of a meter in a PWW system, migrate to a line flushing  
12 in a PWSC system and end with a service box repair in Pittsfield. The ability to have one  
13 employee move from one system to another, based on the most judicious routing of time,  
14 skill sets and travel, insures the most efficient service to all Pennichuck Companies'  
15 customers.

16 **Q: Describe the joint use of assets such as computer systems, offices, vehicles, inventory**  
17 **and supplies, and how that affects the cost and benefits to the customers of PWW,**  
18 **PEU, PAC and PWSC.**

19 A. All the costs associated with computer systems, office space, vehicles, heavy equipment,  
20 management labor and other assets are divided among each of the subsidiaries based  
21 upon an approved formula. The existence of multiple subsidiaries allows the spread of  
22 overhead costs, including management costs that would otherwise be borne by a single

1 smaller utility. The size of the combined operation also leads to greater purchasing  
2 power, since suppliers bid more aggressively for the business of a larger, stable utility.

3 **Q: What expertise, levels of service, and other benefits do customers of PWW, PEU,**  
4 **PAC, and PWSC receive as a result of the current consolidated operational**  
5 **structure?**

6 A: As stated previously, none of the smaller water systems (including the community water  
7 systems owned by PWW) could afford to maintain the current level of professional staff  
8 except through an affiliation with a larger utility. The smaller utilities would, on a stand  
9 alone basis, be forced to hire outside expertise -- consultants at a significantly higher  
10 price -- to complete much of the analysis and tasks that are currently performed by  
11 PWW's in house staff. The smaller water systems, and even the Nashua core system,  
12 benefit from the economies of scale of the combined Pennichuck Companies by sharing a  
13 common staff and obtaining the greater expertise and the lower expense that such a  
14 structure creates. When looking at the benefits of size, the total customer base in PWW,  
15 PEU, PAC and PWSC currently receiving service from PWW exceeds 47,000 customers,  
16 approximately double the size of the Nashua core on a stand-alone basis. Also, utility  
17 regulatory requirements are complicated, and these smaller systems benefit from  
18 consolidating record keeping and reporting obligations, using PWW's combined staff and  
19 significant expertise. This means that PWW customers can be served at a lower cost as  
20 part of this consolidated structure.

21 **Q: If Nashua were allowed to take some or all of the assets of PWW, what would be the**  
22 **operational consequences for PEU, PAC and PWSC?**

1 A: There would be numerous consequences, which would result in both operational  
2 inefficiencies and increased costs to all customers. Some of the more significant ones  
3 would be:

4 1. Loss of engineering expertise. The remaining companies would no longer have  
5 enough mass to allow the maintenance of full time engineering staff. This would  
6 result in higher costs and slower delivery of many services to customers.

7 2. Loss of travel efficiencies. Currently the water systems served by Pennichuck's  
8 various subsidiaries are spread over a wide area, but with systems of different  
9 subsidiaries often located close to each other. When all of the water systems  
10 owned or operated by all four water service subsidiaries are integrated, the travel  
11 time between systems is minimized. Travel miles and travel time would increase  
12 if some or all of PWW's assets are taken.

13 3. Loss of emergency efficiencies. Emergency services, meaning standby staff, are  
14 necessary regardless of a utility's size or the frequency of the emergencies. The  
15 same size emergency response crew would need to be on standby duty for PEU,  
16 PAC and PWSC whether or not PWW is part of PNNW. The cost of this staff's  
17 standby time is currently spread among all the utilities on a pro rata basis, so the  
18 removal of PWW from PNNW would increase the cost of maintaining emergency  
19 staff for the remaining subsidiaries as well as for the customers of PWW on a  
20 stand-alone basis.

21 4. Loss of favorable staff ratio. The employee to customer ratio would necessarily  
22 be higher for a smaller utility than for a larger one. Consequently, the cost of  
23 providing service for a smaller utility can be expected to be higher for the

1 remaining customers since there is less of a customer base available over which to  
2 spread overhead (including management) and employee costs.

- 3 5. Loss of joint use of assets. PWW supplied services such as computer systems,  
4 offices, vehicles, inventory, and supplies cannot be acquired as efficiently or  
5 inexpensively in a smaller utility.

6 **III. PENNICHUCK ASSETS AND PLANNING**

7 **Q: Describe PWW's system by location and facilities. In doing so, please break out the**  
8 **assets of the core system, other systems hydraulically connected to the core system,**  
9 **and disconnected systems.**

10 A: PWW provides water service in eleven different communities. First are the systems  
11 hydraulically connected to the Nashua facilities. Foremost among those is the core  
12 system, which are the facilities dependent upon water from the Nashua water treatment  
13 plant. Specifically, the core system consists of the facilities that provide service to  
14 Nashua, a small portion of Hollis, and the southeastern part of Merrimack. The Amherst  
15 Village and Bon Terrain (also in Amherst) systems operate with their own well water  
16 supplies and pumping stations, but they also have available a backup connection to  
17 Nashua. The main that provides the backup connection to Amherst continues on to  
18 Milford, and is used to sell water at wholesale rates to the Town of Milford for its system.  
19 Contrary to what Nashua's witnesses may contend, the single pipe connection to Amherst  
20 and Milford do not make those services part of the core system. PWW also sells  
21 wholesale water to Hudson, Merrimack Village District and Tyngsboro, Massachusetts  
22 from its core system supply sources.

23 In addition to the hydraulically connected systems, PWW owns and operates 21  
24 independent water systems of varying sizes. These water systems are often referred to as

1 community water systems because each one serves a limited area, is physically distinct,  
2 operates independently of any larger water system, has its own source of supply from  
3 wells and uses its own pump stations. These water systems are identified in the  
4 testimony of Donald L. Correll. Two maps are attached to this testimony as Attachment  
5 DLW-2. One shows the water systems of the Pennichuck Companies and other suppliers  
6 in Nashua and the surrounding communities (the Nashua Regional Planning Commission  
7 map), and the other shows the approximate geographical location of all water systems  
8 owned and/or operated by the Pennichuck Companies.

9 **Q. Describe briefly the Nashua treatment plant, major pump stations, and holding**  
10 **tanks.**

11 A. The Nashua treatment plant is a conventional water filtration plant using coagulation,  
12 flocculation, sedimentation, filtration, chlorination and pH adjustment. It is capable of  
13 treating up to 35 million gallons of water per day. Treated water from the filtration plant  
14 is pumped into the two different pressure zones via the high lift and northwest pumps  
15 located in the filtration plant. The water is pumped from the high lift pumps into two  
16 water storage tanks located at the end of Fifield Street. The northwest pumps pump into  
17 a 4.5 million gallon tank located in the Kessler Farm subdivision. Water is repumped  
18 from the Fifield pressure system via the Timberline and Main Dunstable pumps into the  
19 southwest high pressure system where the water is stored in two water storage tanks  
20 located on Long Hill. Water is also repumped from the Fifield water system via the  
21 Coburn Avenue pumps into a split, below ground concrete water storage tank located at  
22 the end of Butternut Drive. Water is also repumped from the Kessler Farm system via  
23 the Souhegan Booster Station to the Amherst Village District Tank.

1 **Q: How are PWW's water delivery physical assets inventoried and tracked?**

2 A: PWW maintains records listing pipes, valves, pumps, services, hydrants, meters and  
3 wells. Records of water mains and water services list the year placed into service, the  
4 type and size of material and its location. Pennichuck has created and maintains  
5 hundreds of as-built prints detailing water main, valve and hydrant locations. Records of  
6 valves, hydrants and meters list the size, date of installation and type of each asset. Well  
7 records indicate depth, location, and quantity of water. These entire asset records  
8 originated before 1900. Over the years the asset inventory has been maintained, updated  
9 and ultimately computerized. As inventory is added or retired, adjusting entries are made  
10 to these records. PWW's engineering, water supply and operational staff relies upon  
11 these records to determine the age, composition and size of this physical inventory. A  
12 copy of these records was made available in the Pennichuck data room in response to  
13 data requests. PWW also maintains accounting records of these and other assets for rate  
14 making, regulatory and depreciation purposes. Known as the continuing property  
15 records, they are not designed to describe assets with the same specificity as the  
16 engineering records. Finally, PWW also maintains a number of drawings showing the  
17 location of pipe and other "in the ground" assets, which drawings PWW staff regularly  
18 consult.

19 **Q: In addition to "in the ground" assets which physically provide customers with water  
20 service, and the lists and drawings described above, what other assets does PWW  
21 own which are used to provide water service?**

22 A: In order to provide service to its customers, PWW maintains numerous records and  
23 information in various forms such as operating manuals, work orders, repair and

1 maintenance records, meter, service, valve, hydrant, main and other records, customer  
2 account information, engineering or design studies, tools, fixtures, test equipment, heavy  
3 construction equipment, vehicles, repair parts, computer hardware and software,  
4 laboratory and testing equipment, portable generators, pipe locators and other equipment  
5 necessary to provide water service to customer.

6 **Q. Describe PWW's current five year capital plan.**

7 A. Pennichuck's five year capital improvement plan projects the capital costs associated  
8 with the improvements that Pennichuck Water Works anticipates completing between  
9 2005 and 2009. The plan is developed in a similar fashion to the one year capital plan  
10 described below and is used as a planning tool to determine cash flow needs. The current  
11 five year plan shows anticipated capital expenditures in excess of \$55,000,000 with about  
12 \$37,000,000 of those expenditures allocated to the upgrade of the water filtration plant.  
13 The plan calls for about \$6,200,000 in water main replacements and/or cleaning and  
14 linings. The plan includes about \$2,600,000 in storage upgrades and/or rehabilitation.  
15 The remainder of the plan contemplates equipment upgrades, management information  
16 system upgrades, and service and meter installation work, all of which is part of PWW's  
17 ongoing program of maintaining its water system.

18 **Q: What other capital plans does PWW prepare and how does PWW implement these**  
19 **plans?**

20 A: PWW annually prepares a detailed capital improvement plan for the coming year. The  
21 plan is an aggregation of the capital needs developed by each department manager and  
22 reflects what the company believes is reasonably necessary to maintain and improve good  
23 customer service, water quality, water quantity and water pressure. The plan is updated

1 annually by the managers of each operating department with the goal to insure  
2 compliance with all federal and state drinking water regulations and to provide an  
3 appropriate level of service to customers.

4 Part of PWW's ongoing capital improvement plan is a ten year plan of improvements to  
5 the Pennichuck Brook watershed. The watershed capital improvement plan has been  
6 developed using the results of almost six years of detailed study. This plan identifies the  
7 major threats to water quality and quantity within the watershed and is focused on  
8 addressing those issues through joint partnerships with private land owners and with the  
9 support of grants from the New Department of Environmental Services (NHDES). A  
10 more detailed description of this work may be found in the testimony of Eileen Pannetier.  
11 Over the last six years PWW has spent over \$1,060,000 in watershed studies and  
12 improvements. As Eileen Pannetier confirms, PWW is right to be proud of its  
13 stewardship of the watershed and its efforts to improve water quality.

14 **IV. REGULATIONS GOVERNING PENNICHUCK**

15 **Q: Describe the regulatory oversight with which PWW must comply, and how that**  
16 **would change if Nashua were allowed to take PWW's assets?**

17 **A:** PWW's operations are overseen and regulated principally by the NHPUC and NHDES, as  
18 well as by the local communities in which it operates. In addition, Pennichuck is  
19 required to be part of the DIG SAFE program, its employees are protected by federal  
20 Occupational Safety and Health Administration (OSHA) regulations, and its land use is  
21 governed by local zoning and planning controls. If Nashua were to take over PWW's  
22 assets, it would not be governed by the NHPUC from a ratemaking or customer service  
23 perspective, it would not be subject to the statewide DIG SAFE program, it would be  
24 exempt from mandatory zoning and planning ordinances, and its own employees would

1 not have to comply with federal worker safety regulations promulgated by OSHA. The  
2 loss of these protections for PWW's customers, the public and utility employees is quite  
3 significant, and could well lead over time to a degradation of service quality, land use  
4 protection, and public and worker safety.

5 **Q: Describe state and federal Safe Drinking Water Act (SDWA) requirements, and any**  
6 **changes thereto, to which PWW is subject. Describe PWW's record of compliance**  
7 **with those requirements.**

8 A: The federal SDWA first came into existence in 1974. This Act put into law prescribed  
9 rules and standards for all public water systems. This Act has been amended twice, in  
10 1986 and again in 1996. With each amendment, more stringent and far reaching rules  
11 and standards have been implemented. The most recent amendment to the SDWA also  
12 laid out a framework for regulations to be promulgated well into the future. Maintaining  
13 compliance with the Act, its myriad of sampling requirements, and its ever tightening  
14 contaminant standards, presents both a technical and financial challenge for any water  
15 utility. This presents a monumental management challenge, because PWW owns many  
16 community water systems with multiple sources of supply. PWW, with its sole focus on  
17 providing safe drinking water, has successfully met this challenge. It has made the  
18 necessary investments in personnel and infrastructure to maintain SDWA compliance. Its  
19 excellent record has led the NHPUC and NHDES to ask PWW and its sister utilities to  
20 take over the operations of many small troubled water systems in New Hampshire, as  
21 described further herein.

22 **Q: Describe PWW's compliance with regulatory requirements for withdrawal from the**  
23 **Pennichuck ponds.**

1 A: Pennichuck manages the Pennichuck Brook and supplies in accordance with all state and  
2 federal regulations. Pennichuck acquired its rights to withdraw water from the  
3 Pennichuck Brook system via the purchase of flowage and water rights over a period of  
4 years between 1854 and 1900 from individuals who owned property along Pennichuck  
5 Brook. These water rights were specifically confirmed by special act of the New  
6 Hampshire legislature, enacted as New Hampshire Laws 1883, Chapter 237. A copy is  
7 attached as Attachment DLW-3.

8 **Q: Describe the adequacy of the current core water supply system from current**  
9 **resources.**

10 A: The Pennichuck core system has sufficient water supply from the Pennichuck Brook  
11 system and the Merrimack River to meet its present and reasonably anticipated future  
12 water supply needs. The safe yield of both supplies (under the most stringent withdrawal  
13 restrictions from the Merrimack River) is over 20 million gallons per day, which is well  
14 in excess of the core system's average day demand of about 12 million gallons per day.

15 **Q: Describe PWW's reliance upon Merrimack River water to service the core system,**  
16 **the status of permits for that withdrawal, and future prospects.**

17 A: Since the mid 1980's, the core water system has depended upon the Merrimack River as a  
18 source of supply. The Pennichuck Brook system, especially in dry years, does not have  
19 sufficient summer time flows to meet all water demands of the core system. Thus the  
20 flow of the Pennichuck Brook system is supplemented during the summer and fall  
21 months with Merrimack River water on an as-needed basis to keep both Bowers and  
22 Harris Ponds full. Pennichuck receives periodic extensions of its permit from the Army  
23 Corp of Engineers for withdrawals from the Merrimack River of as much as 30 million

1 gallons per day (with certain flow limitations). The current permit extends until  
2 December 21, 2009, via a five year extension of Merrimack River withdrawal permit No.  
3 NH-MASO-81-235. A copy is attached as Attachment DLW-4.

4 **V. PENNICHUCK OPERATIONS OUTSIDE NASHUA**

5 **Q: How did PWW come to acquire water systems outside of Nashua? Describe the**  
6 **NHPUC's role in those acquisitions.**

7 A: Since the late 1980's, PWW has been involved in the acquisition of small, independent  
8 water systems outside of Nashua. The initial acquisitions were part of PWW's efforts to  
9 grow its business. Over time since these acquisitions, PWW has proved itself in terms of  
10 its efficiency and effectiveness in taking over and correcting the problems associated with  
11 troubled water systems. Over the past decade, first PWW and later its affiliates, have  
12 acquired many troubled water systems at the request of the NHPUC. Each acquisition  
13 has been reviewed and approved by the NHPUC as required.

14 **Q: Are the PWW acquisitions the entirety of the Pennichuck Companies' acquisitions**  
15 **of troubled small water systems? How does the operational integration of PWW**  
16 **with other Pennichuck entities assist with the acquisition of small water systems?**

17 A: In 1998, as part of a global settlement between the Town of Hudson and Consumers New  
18 Hampshire Water Company ("Consumers"), PNNW took over the ownership and  
19 operation of 24 community water systems that had been owned by Consumers. These  
20 water systems became part of what is now known as PEU. Also, in 1998, PNNW  
21 acquired the Pittsfield system, PAC. The Pennichuck Companies currently operate PAC  
22 as a separate subsidiary. All three utilities share the same management and operating  
23 staff. As described before, due to the intermixing of communities served by the three  
24 utilities, PWW staff often perform work in two or three of the utilities in a day. The work

1 associated with pump station checks, meter reading, hydrants checks, gate operations and  
2 customer service calls are all routed each day to insure the most efficient travel path in  
3 order to minimize travel time and maximize work efforts. The existence of numerous  
4 small water systems owned by the Pennichuck Companies and the wide diversity of their  
5 locations makes it easier for PNNW to negotiate the take over of a troubled water system  
6 and to see that PWW services it effectively.

7 **Q: What comments have the Pennichuck Companies received with respect to their**  
8 **acquisition of smaller water systems?**

9 A: The Pennichuck Companies have been encouraged by both the NHPUC and NHDES to  
10 continue their acquisition of small, troubled water systems. That is described further in  
11 the testimony of former NHPUC chairman Douglas Patch. Both regulatory agencies  
12 recognize the tremendous value provided to these small systems, by having access to the  
13 necessary capital and technical expertise to keep the systems operating properly. I do not  
14 think it is overstating the point to say that both the NHDES and the NHPUC have viewed  
15 the Pennichuck Companies as a critical player in addressing state water supply issues  
16 over the years. Should Nashua acquire the assets of PWW, neither PEU, PAC nor PWSC  
17 would any longer have the resources or the business model to respond affirmatively to  
18 NHPUC or NHDES requests to acquire or provide services for small troubled water  
19 systems in New Hampshire.

20 **Q: In addition to systems which they own and operate, do the Pennichuck Companies**  
21 **provide services to any other water systems?**

22 A: Yes, PWSC has contracts either to operate or to provide discrete services to more than 80  
23 water systems in New Hampshire and Massachusetts. Most are small community

1 systems and are regulated by NHDES and NHPUC. PWSC uses PWW operations  
2 personnel who charge PWSC directly for those services; administrative tasks are charged  
3 through the cost allocation formula described above. In providing those services, PWW  
4 uses the staff routing system described earlier. Without all of the efficiencies from the  
5 joint operation of the Pennichuck Companies, PWSC could not afford to continue with  
6 these contracts, and would have to cease its operations serving these community systems.  
7 See testimony of Donald Correll on this point.

8 **Q: How has the Pennichuck Companies' takeover of smaller water systems affected**  
9 **pricing, water quality, and quality of service?**

10 A: The previously described synergies of the Pennichuck Companies, such as lower  
11 operating costs and better access to engineering expertise and capital markets, when  
12 combined with the Pennichuck Companies' eagerness to work with towns and the state to  
13 solve service and environmental problems, have yielded very favorable results following  
14 PWW takeovers of smaller water systems. Some examples are set forth in detail below.

15 **Q: Describe PWW's efforts in the Town of Bedford to assist with its planning for an**  
16 **integrated water system, to provide water for a new school and to alleviate private**  
17 **well pollution.**

18 A: PWW has worked closely with the Town of Bedford since the early 1990's to develop the  
19 water systems necessary to support the growth and development of the Town. In the mid  
20 1990's, Pennichuck served on a Town wide water study committee along with  
21 Manchester Water Works staff. Pennichuck also worked with the Town for PWW to  
22 develop, own and operate the Powder Hill community water system. The Town was  
23 concerned about private wells in the Powder Hill development that could be polluted

1 from the Town's nearby dump and salt storage. The Town felt that a professionally  
2 managed public water system with water supplies that were tested on a regular basis  
3 would protect the Town and its taxpayers from any problems that might arise from  
4 contaminated wells. In 1999/2000 the Town built the Riddle Brook School. The plan  
5 was for the school to have its own well. After several attempts and dry holes, the Town  
6 turned to Pennichuck for help. At the same time, as a result of rapid growth, the homes  
7 in Powder Hill were stressing the wells during dry months, requiring watering  
8 restrictions, and causing resident unhappiness. As a result, PWW worked with the Town  
9 and the school to construct a two mile interconnection to a pre-existing water main of  
10 Manchester Water Works. It was PWW, and not Manchester Water Works, a public  
11 entity, that made this happen. PWW constructed the line, PWW and the Town shared the  
12 cost, and the NHPUC authorized the establishment of a tapping fee to be collected from  
13 developments benefiting from water service in northern Bedford. The presence of the  
14 water system constructed by PWW has, over the past six years, allowed this section of  
15 Bedford to grow further, consistent with the Town's plans. The partnership between the  
16 Town and PWW has allowed for other expansion of the water system within the Town of  
17 Bedford. Pennichuck and the Town continue to work together to develop innovative  
18 ways to bring public water within the Town. I do not believe that this kind of creativity  
19 and coordination with another community would be likely if Nashua were operating the  
20 water system.

21 **Q: Describe efforts in the Town of Amherst to provide improved water service.**

22 **A:** In 1991 the Town of Amherst operated its own water system in the Amherst Village  
23 District (AVD). The AVD had a single well supply and storage tank and provided

1 service to several hundred customers. In the early 1990's, NHDES ordered AVD to  
2 develop a second source of water to supplement its existing well. The cost and  
3 challenges to develop a new supply or new well were daunting. The AVD, a public  
4 entity, turned to PWW. It acquired the AVD water system and constructed an  
5 interconnection with its core water system. Since the acquisition of AVD, PWW has  
6 replaced the AVD's steel water tank, upsized and replaced a section of 8" AC pipe from  
7 the tank to Route 122, and run a second line into Amherst Village. That work has more  
8 than doubled the available fire protection to AVD and resulted in a 33.78 (84 %) ISO  
9 rating for the public water portion of Amherst. That places its fire protection within the  
10 top 6.9 % in the nation of rated communities. PWW has also worked with area  
11 developers and the Town of Milford to bring water supply into the western part of  
12 Amherst. Within the next five years PWW expects to complete the interconnection from  
13 the western part of Amherst into the center of Amherst, resulting in a two way feed of  
14 water into the Town. I do not believe that AVD could on its own have accomplished  
15 these improvements to its water system. I do not believe that Nashua would have made  
16 the substantial investment that PWW has made to assist Amherst.

17 **Q: Describe PWW's operations in the Town of Merrimack, including its service to**  
18 **Anheuser-Busch.**

19 **A:** PWW provides water service to the southeastern portion of Merrimack between the  
20 Nashua town line and Anheuser-Busch along the Daniel Webster Highway and westerly  
21 to Pennichuck Brook. PWW worked with Anheuser-Busch a number of years ago to  
22 extend its mains to provide a supply of high quality water with sufficient volume and  
23 pressure to meet the brewery's production needs, at a time when its on site wells were

1 having significant water quality problems. When the Merrimack Village District, a  
2 public entity, was unable to supply the volume of water required, PWW stepped forward  
3 and worked with Anheuser-Busch to provide a stable, high quality source of water,  
4 allowing the brewery to remain in Merrimack. All water to PWW's customers in the  
5 Town of Merrimack flows through a 24" water main down Daniel Webster Highway.  
6 Clearly, Merrimack could not assist Anheuser-Busch under these circumstances. I also  
7 do not believe that Nashua would have gone out of its way, as did PWW, to assist with  
8 this important economic development in another community.

9 **Q: Describe how PWW came to own each water system in Derry, Plaistow, Newmarket**  
10 **and Epping.**

11 A: The numerous water systems that PWW owns in the Towns of Derry, Epping and  
12 Plaistow resulted from the company working with and acquiring community water  
13 systems which had been installed by developers to provide water service to new  
14 subdivisions. In Derry, the Town, a public entity, encouraged PWW to work with the  
15 developers of the community water systems in East Derry. The Town wanted these  
16 systems to be owned and operated by a dependable owner. In the case of the Great Bay  
17 water system in Newmarket, NHPUC approached PWW to consider taking over the  
18 operations of this troubled water system. The water system had poor water quality and  
19 poor water pressure. There were outages on a regular basis during periods of high water  
20 usage. PWW took over the operation of this system and quickly corrected the water  
21 quality and pressure problems that had plagued this water system. I do not believe that  
22 Nashua would have had the inclination to assist these communities.

23 **Q: Describe PWW's sale of wholesale water to Hudson and Milford.**

1 A: PWW has interconnections with the Towns of Hudson, Milford and Merrimack, New  
2 Hampshire, and also an interconnection with the Town of Tyngsboro, Massachusetts. In  
3 the case of Merrimack and Tyngsboro, the sales to these communities are at the  
4 prevailing tariffed rate. In the case of Hudson and Milford, PWW sells water to these  
5 communities based on a take or pay scenario. These communities take water from PWW  
6 all year and also contribute to the infrastructure needed to serve them. Because these  
7 communities provide a steady demand and do not “peak”, PWW is able to sell water at a  
8 reduced rate. These customers provide a steady, reliable source of income to PWW,  
9 thereby reducing the cost of service that must be borne by the rest of Pennichuck’s  
10 customers. I do not believe that Nashua would have attempted to assist these  
11 communities.

12 **Q: What, if any, differential exists in residential rates among PWW communities? If a**  
13 **cost of service study were conducted and were translated into rates, what would be**  
14 **the likely effect on communities outside of Nashua?**

15 A: All water systems that are part of PWW pay the same water rate. If a cost of service  
16 study were to be completed it is likely that most of the surrounding community water  
17 systems would call for higher rates than the core system. On the other hand, in the future  
18 it is quite possible that these community water systems may come to subsidize the core  
19 system rates, because millions of dollars are being invested in upgrading the Nashua  
20 treatment plant and replacing over 110 miles of older Nashua water mains. This  
21 relationship could again reverse at a later date as the community water systems age and  
22 their infrastructure requires replacement. In the end, the relationship between the PWW’s  
23 core and its community water systems is really one of mutual benefit where the fixed

1 costs of operating the company are spread among more customers. If Nashua controls  
2 PWW, it would be in its financial interest to increase rates for customers lying outside of  
3 the city limits.

4 **Q: Does that conclude your testimony?**

5 **A: Yes it does.**