



March 5, 2010

BY HAND-DELIVERY and ELECTRONIC FILING

Mark D. Marini, Secretary
Massachusetts Department of Public Utilities
One South Station, 2nd Floor
Boston, MA 02110

RE: Fitchburg Gas and Electric Light Company, d/b/a Unitil
Responses to Department's 5th Set IRs
Docket: DPU 09-31

Dear Secretary Marini:

Enclosed on behalf of Fitchburg Gas and Electric Light Company, d/b/a Unitil ("Unitil" or the "Company"), please find the Company's Responses to the Department of Public Utilities' fifth set of information requests for filing in the above-referenced docket. Copies are being provided as directed.

If you should have any questions, please do not hesitate to contact me directly. Thank you for your consideration in this matter.

Sincerely,

/s/ Gary Epler

Gary Epler
Attorney for Fitchburg Gas and
Electric Light Company

Enclosure

cc: Laura Bickel, Hearing Officer (five copies)
Service List

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**Commonwealth of Massachusetts
Department of Public Utilities
Fitchburg Gas and Electric Light Company d/b/a Unitil
Docket No: D.P.U. 09-31**

Department's Fifth Set Information Requests

DPU 5-1:

Refer to Unitil's letter to the Department of February 19, 2010, at 1, which states that the Company plans to conduct its smart grid pilot program this summer (2010). Please identify and provide a complete description of all actions the Company must complete in order to implement its smart grid pilot program, including, but not limited to:

- a. marketing and enrollment of the proposed 96 Massachusetts customers;
- b. deployment of customer information technology (including development of the proposed web portal);
- c. installation of metering and communications technology; and
- d. the development, filing with the Department, and regulatory approval of an evaluation plan.

As part of the description, please provide the steps that the Company intends to take to complete each identified action item and a timeline for each step.

Response:

The Company is presently ready, willing and able to complete the preparatory tasks and implement its proposed pilot program as of June 1, 2010, subject to a timely approval of the pilot program by the Department, and the subsequent approval of filed Tariffs in both Massachusetts and New Hampshire. The Company has actively pursued the necessary start-up activities in anticipation of securing approval from both the Department and the New Hampshire Public Utilities Commission in a timely manner. This seemed reasonable given the achievement of a settlement agreement with the parties in New Hampshire in December, and given the favorable nature of the discussions and correspondence in this proceeding in Massachusetts. The Company received approval of the Pilot Program in New Hampshire on February 26, 2010.

To date, the Company has completed the process for evaluation and selection of technology vendors; has completed the marketing survey and the development of all marketing materials; has developed and circulated a RFP for installation services to a list of interested bidders; and has held a number of internal meeting to review integration issues relating to billing, customer service, and web development. Below is a project timeline showing current status and key milestones needed to initiate the pilot in time to assess impacts during this summer 2010 on peak and critical peak periods:

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Department of Public Utilities
Fitchburg Gas and Electric Light Company d/b/a Unitil
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Dec.28, 2009	Completed marketing survey of 75 Massachusetts customers
Feb. 1, 2010	Completed evaluation and selection of technology vendors (Tendril & Honeywell)
Feb. 19, 2010	Released RFP for installation services (See DPU 5-1 Attachment 1)
Feb. 19, 2010	Shared draft rate and tariff information with parties in both states.
Feb. 24, 2010	Received three (3) notices of intention to submit bids on Installation Contractor RFP
Feb. 26, 2010	Completed all marketing materials (email, brochure, distribution lists) and recruitment tools (recruitment script, recruitment log)
Feb. 26, 2010	Final Order approving proposed TOU Pilot Program in NH.
PENDING	
Mar. 8, 2010	Launch marketing campaign and begin recruitment
Mar. 10, 2010	Complete bench test of AMI endpoints with TOU registers, submit data output to billing for integration evaluation
Mar. 12, 2010	Due date for Installation Services RFP
Mar. 26, 2010	Close negotiations, select installation contractor
Mar. 29, 2010	Submit draft evaluation plan to regulators
Apr. 1, 2010	File final Tariff and rates with MA DPU
Apr. 1, 2010	Receive shipments of Tendril Home Area Networks, and Honeywell thermostats
Apr. 1-2, 2010	Training for installation contractor and customer service on TOU rates and pilot technology, installation and operation
Apr. 5, 2010	Customer recruitment completed. Hand off list to installation contractor for scheduling site appointments
Apr. 9, 2010	Installation contractor completes scheduling of site appointments
Apr. 9, 2010	Receive shipment of GE KV2C analysis meters
Apr. 12, 2010	Begin Installations at Customer Homes

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Apr. 12, 2010	Complete Demo of Customer Website
Apr. 30, 2010	Approval of evaluation plan in both states
May 1, 2010	Billing system tested and approved
May. 1, 2010	File final Tariff and rates with NH PUC
May 14, 2010	Complete Installations at Customer Homes (5 weeks)
June 1, 2010	Pilot begins
Sept. 1, 2010	Pilot ends
Nov. 1, 2010	Project Report completed

a) Marketing and enrollment of the proposed 96 Massachusetts customers

The Company completed its planned marketing survey of Massachusetts customers in December, 2009. The survey captured information on customer motivations for participating in a smart grid program, the need for incentives, and other key demographic information. The survey was also helpful in refining the Company's assumptions as to what monthly usage characteristics are representative of air conditioning customers.

Based on the results of the marketing survey, and in conjunction with the Company's consultant, GDS Associates, final marketing materials were developed and are included as DPU 5-1 Attachment 2. Marketing will consist of a multi media approach, using physical mailers and emails. This approach was refined based on the results of the marketing survey which indicated that approximately 25-30% of customers previously identified as potential central air conditioning (CAC) users, actually had CAC. It was determined to double the number of mailings to 5,000 (2,000 MA, 3,000 NH) and to supplement this effort with email marketing to customers who have logged on to Unitil's www.myunitil.com web site in the past 12 months. It is the Company's intent to launch the marketing campaign to customers beginning on Monday, March 8, 2010.

The Company has also developed tools for the recruitment and enrollment of qualified customers. These tools include a script for screening interested customers (provided as DPU 5-1 Attachment 3) and assessing relevant technical and demographic information, and an electronic recruitment log for recording responses. The web sign up page has been developed and tested, and can be accessed at www.unitil.com/esmregister. The web tool also includes a back-end system for managing registered customers, tracking the status of each (accepted, disqualified, new, etc.) and adding notes.

It is the Company's intent to complete recruitment of customers by April 5, 2010, or earlier, so that a list of qualified customers can be provided to the installation contractor. As

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outlined in the scope of work in the Contractor RFP (Attachment 1), the contractor is responsible for contacting each customer and arranging a mutually agreeable time for the site installation. At the time of the site installation, the contractor will review the program with the customer, procure the customer's signature on an agreement (TBD), and leave educational material behind. Once the contractor has left the property with the equipment installed, and a signed agreement, customers are considered to be officially enrolled in the program.

b) Deployment of customer information technology (including development of the proposed web portal)

The Company's pilot includes two components that would constitute customer information technology. The first is the web portal which will be accessed by participants of the Simple TOU program. The web portal will be accessed through Unitil's existing www.myunitil.com web site and will provide access to next day daily reads, and tools for identifying opportunities for energy efficiency or load shifting. A demo web site is expected to be completed by April 12, 2010. Internal discussions have been held with the web development team and lead time in developing this web portal is not a concern. Critical path items relating to the development of a web portal are the clear definition of TOU data output from the AMI endpoints, and the spatial design and presentation of the web site. This work is in progress.

The second component of customer information technology is the Tendril Home Area networks which will provide real time (15 second) information on kW demand and the cost of power. This information is provided through Tendril's in-home display which is part of the contracted order and set for delivery prior to April 1, 2010. Information is supplied through ERT meters and a translate device which converts the signals to the ZigBee platform on which the Tendril system functions. The meter technology to facilitate this communication has been specified and ordered. The Tendril equipment has also been specified and ordered and technical representatives from Tendril are working with the Company to facilitate the installations. Actual installations will be conducted by the contractor, as defined in the scope of work included as Attachment 1.

c) Installation of metering and communications technology

The Company has completed evaluation and selection of all metering and communications technology. Analysis meters will be GE KV2C meters – the Company has experience with these meters in the past and has already placed an order. For the Tendril HAN systems, the Company originally anticipated that ZigBee endpoints would be commercially available by this time. ZigBee endpoints are not commercially viable at this point, thus for the Enhanced Technology component of the pilot, the Company will install Itron Centron ERT meters to communicate with the Tendril systems. This solution was developed

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collaboratively with Tendril's technical representatives. The Itron meters have not yet been ordered, but are a short lead time item.

The Company evaluated several options for communications relative to the direct load control segment of the pilot. Specifically, paging systems, wireless internet, and ZigBee communications were evaluated and the Company ultimately selected Honeywell and their paging system-based thermostat for the pilot. This determination was made on the basis of price, Honeywell's experience with other utility applications, the robustness of the Cannon head end management system, and issues with the commercial viability of the ZigBee and internet based communication systems.

Deployment of all communications technology is included in the installation contractor's scope of work, as outlined in Attachment 1. The Company anticipates that site installations will begin on April 12, 2010 and run through May 14, 2010. This 5-week period allows for approximately 10 installations per working day.

d) The development, filing with the Department, and regulatory approval of an evaluation plan

The Company, in conjunction with its consultant representative GDS Associates, is in the process of developing an evaluation plan, which will be filed with the Department upon completion and approval by Company management. The Company is targeting submittal of the draft evaluation plan on March 29, 2010, and approval of a final evaluation plan on or around April 30, 2010 to allow for discussions with regulators in both states and the incorporation of any revisions arising from those discussions.

The plan will address the following key topics: program design, technology, sample design, and methodology. The plan will also address pre-and post survey techniques that will be used to assess customer satisfaction with the program elements, motivations for effecting behavioral change, and actions taken to shift load from peak periods. The Company will communicate with Department staff to insure all Departmental expectations are addressed throughout the project

Person Responsible: George R. Gantz

Date: March 4, 2010



Request for Proposals

Turnkey Installation Contractor

Unitil's Residential Demand Response Pilot Program

February 19, 2010

Prepared by:

Unitil

6 Liberty Lane West

Hampton, NH 03842

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1. Invitation to Bid

1.1 Introduction and Background

The purpose of this proposal is to solicit competitive, sealed proposals to establish a contract with a qualified vendor for the turnkey installation services for Unitil's Residential Demand Response Smart Grid Pilot Program. The pilot program involves the installation of analysis and "smart grid" components and associated customer education at 228 residential customer sites throughout Unitil's New Hampshire and Massachusetts electric service territories.

The pilot program will evaluate the effectiveness of three distinct demand reduction strategies and will be initiated in June 2010. 76 customers will be recruited into each of the three separate and distinct program components discussed below.

- *Simple TOU Program* – Enrolled customers will be set up on a time-of-use rate structure and will receive basic educational materials only with no additional enabling technology.
- *Enhanced Technology Program* – Enrolled customers will be set up on a time-of-use rate structure and will receive the same educational materials, but will also receive an in-home wireless control system with a suite of energy management tools, a utility integration portal, and flexible control devices (smart thermostats and outlets). This package will allow for both utility and customer-automated load control and demand response. The Enhanced Technology Program will not include direct demand control by Unitil through the customer's thermostat.
- *Smart Thermostat Program* – Enrolled customers will stay on the existing fixed rate billing structure. Unitil will provide a controllable thermostat that offers digital programming features and customer feedback. Unitil will have the ability to cycle the customer's heating and cooling load during critical peak periods, up to eight (8) times during the three-month pilot period. Thermostat cycling will be accompanied by local notification at the thermostat unit. Customers will be able to override the changed setting.

All 228 program participants will be provided with analysis meters that will record interval usage and load data. The analysis meters will replace the existing residential AMI meters and will also be used for billing purposes. Participants in the *Enhanced Technology Program* will additionally be provided with a home area network (HAN) residential energy management system requiring a two meter installation, one analysis meter and another radio frequency meter. Participants in the *Smart Thermostat Program* will be provided with a digital thermostat that allows for one way communication using a paging system. Equipment specifications are included in Section 2.3 of this RFP. The scope of work included in this RFP also includes on-site customer education of

equipment functions and capabilities as well as general information regarding the dynamic time of use rate structure. Scope of work is further detailed in Section 2.1.

Recipients of this RFP are invited to propose strategies which will meet the requirements as listed in this RFP. Throughout this RFP, references to the term “Bidder” refer to or provide instructions to parties submitting proposals; references to the term “Vendor” or “Contractor” refer to the successful Bidder.

1.2 General Instructions

1.2.1 Intention to Bid

Recipients of this RFP are asked to inform Unitil of their intention to bid. Recipients that express intention to bid will be included in all correspondence (if any) during the bidding process. Please provide full contact information and expression of intention within three business days of issuance of this RFP to the Unitil representative contact given below in Section 1.2.2.

1.2.2 Questions during Submittal Phase

All questions on the RFP shall be submitted by email to Unitil’s consultant representative Matthew Siska (matt.siska@gdsassociates.com). Unitil’s response to all questions will be emailed out to all Bidders. Unitil reserves the right to hold one or more conference calls (if required) during the submittal phase for all Bidders to join. The primary purpose of the conference calls during the bid process would be to resolve open questions.

1.2.3 Submission of Bids

Proposals responding to this RFP shall be submitted by 5:00 PM Eastern Standard Time on Friday, March 12th, 2010 (the due date) to:

Justin C. Eisfeller, P.E.
Director of Energy Measurement and Control
Unitil Service Corp.
325 West Road
Portsmouth, NH 03801
Eisfeller@Unitil.com

Proposals may be delivered in electronic format (email), however three (3) hard copies are required, each complete with all supporting data, placed in the mail on the due date to be delivered one business day after the due date. All Proposals will remain the property of Unitil. Proposals received after the due date shall remain unopened and will not be considered for selection. Unitil does not currently plan to grant extensions of the proposal due date, but reserves the right to do so. In the unlikely case that an extension is granted, notice of such extension will be provided to all Bidders at least one week prior to due date.

1.2.4 Modifications or Withdrawals of Bids

A Bidder may modify or withdraw its bid by written declaration, provided that the declaration is received by Unitil at the above address prior to the time specified for the submission of bids (the due date). Following withdrawal of its bid, a Bidder may submit a new bid, provided that such new bid also is received by Unitil prior to the due date.

Unitil may modify any provision of the Request for Proposal at any time prior to the due date. Such modifications may be made in the form of addenda, which will be issued simultaneously to all prospective bidders that have declared their intention to bid. No addenda will be issued within seven calendar days of the due date.

1.2.5 Award or Rejection

Issuance of this RFP does not constitute a commitment by Unitil to award a winning bidder or purchase services offered in response to this RFP. Unitil reserves the right to reject any or all bids. Unitil will not reimburse Bidders' costs to respond to this RFP.

1.2.6 Execution of the Order

If requested by Unitil, the successful Bidder must assist Unitil in preparing the Purchase Order, which shall be governed by the Terms and Conditions set out herein, or others as mutually agreed by the parties. The successful Bidder must duly execute the Purchase Order within ten (10) days after receipt and return it to Unitil. Failure of the successful Bidder to duly execute and return the Order, together with any other required documents will constitute a breach of contract by such Bidder and entitle Unitil to award the Order to any other Bidder, in addition to all other rights and remedies of Unitil.

1.2.7 Complete Bid

Bidders are requested to submit bids that are complete and unambiguous without the need for additional explanation or information. Unitil reserves the right to make a final determination as to whether a bid is acceptable or unacceptable solely on the basis of the bid as submitted, and proceed with bid evaluation without requesting further information from any Bidder. If Unitil deems it desirable and in its best interest, Unitil may, in its sole discretion, request from any Bidder or Bidders additional information clarifying or supplementing any submitted bid.

1.2.8 Post-Bid Meeting

Unitil reserves the right to invite any or all Bidders to make an in-person presentation on the proposed plan for Turnkey Installation of Unitil's Smart Grid Pilot Program. Unitil may request Bidder's assistance in arranging visits to other utilities where Bidder has performed similar services.

1.2.9 Bid Inconsistencies

Any provisions in Bidder's proposal that are inconsistent with the provisions of this Request for Proposals, unless expressly described in the proposal as being exceptions or alternates, are

deemed waived by the Bidder. In the event the Order is awarded to Bidder, any claim of inconsistency between the proposal and this RFP will be resolved in favor of this RFP unless otherwise agreed to in writing by Unitil.

1.2.10 Schedule of Events

The following represents key milestone dates:

<u>EVENT</u>	<u>DATE</u>
RFP Release Date	February 19, 2010
Deadline for Receipt of Written Inquiries	March 3, 2010
Written Response Distributed	March 5, 2010
Proposal Due Date	March 12, 2010, 1:00 PM EST
Installation Period	April 1, 2010 – May 14, 2010
Pilot Period	June 1, 2010 – August 31, 2010

1.3 Form of Proposal

The following elements are required in Bidders' proposals:

- Executive Summary
- Project Schedule
- Commercial Proposal
- Management Proposal
- Exceptions to RFP
- List of Subcontractors and Suppliers
- Sample Documentation
- References

All proposals shall identify each of the requirements contained in this RFP, whether the requirement is included in the standard offering, and a price adder for all requirements that are not part of the standard offering.

1.3.1 Executive Summary

Bidder shall provide an executive summary for the proposed services. This document should not be more than one page in length. Pricing data shall not be included in this summary. The executive summary should include but is not limited to a high level outline of the process for contacting and scheduling appointments with customers including identification of technical turndowns, the installation and data recording process, proposed timeline, and any other information the Bidder deems appropriate.

1.3.2 Project Schedule

Bidder shall provide a preliminary project schedule indicating major completion milestone events and interdependencies between events, if any. Schedule shall show events that depend on assumed performance by Unitil. Bidder's note that these milestones will be utilized to develop payment schedule as detailed in Section 3.10 Payment.

1.3.3 Commercial Proposal

The Commercial Proposal shall contain all information related to proposed costs and contract terms and conditions, including related exceptions taken by Bidder to requirements stated in this RFP. A requirement of this RFP is that all project costs be tracked separately for activity in Massachusetts and New Hampshire. Proposed costs should be provided on a fixed fee basis by scope item and State as outlined in Attachment B. Bidders are encouraged to provide additional detail regarding time allotments and assumptions underlying the fixed fee proposals, as appropriate.

1.3.4 Management Proposal

Bidders shall provide a Management Proposal that addresses the following as a minimum:

- Organization chart showing organization structure, staffing plans, and key individuals that will be involved with the project.
- Key personnel resumes.
- History of the company's installation and project management experience, including previous engagements for similar services.

The Management Proposal may be a physically separate hard copy document

1.3.4.1 Safety

In the electric utility industry, safety is a top priority. Each proponent must demonstrate their commitment to safety in their Management Proposal by providing as much detail regarding policies, procedures, personal protective equipment, and staff.

Each proponent's commitment to safety will be reviewed for compliance by Unitil's Safety Department and will become an integral part of the evaluation process. All material provided will be treated as confidential and used for the sole purpose of submission evaluation.

Although each proponent's safety policies, procedures, training, manuals and processes will be evaluated in detail through the evaluation process, Unitil reserves the right to discuss changes to these during the negotiation stages.

1.3.5 Subcontractors

If Bidder plans to enter into contracts with subcontractors in order to complete this project, a list identifying the subcontractors with a comprehensive description of their offerings shall be submitted with the bid. Further, Bidder shall describe the location of each subcontractor and the portion of the project for which said Subcontractor will be responsible.

Bidder shall remain entirely responsible for the quality, completeness and timeliness of its contractors and subcontractors. Bidder shall fully disclose existing legal relationships and/or litigation between its subcontractors and their clients, and between Bidder and its clients or customers.

1.3.6 References

Bidders shall provide a list of utilities and/or clients for whom the same or similar services were provided. Bidders shall provide at least three recent references that may be contacted. Unitil reserves the right to contact any and all references listed.

1.3.7 Proposal Options & Alternatives

This RFP is the basis for the initial screening of proposals by Unitil. Bidders are encouraged to submit a clear, complete and concise proposal for comprehensive installation services that complies with all the requirements set forth in this RFP.

Bidders may propose alternatives to RFP requirements with which Bidder is not in full compliance. If such alternatives are proposed, it is Bidder's obligation to explain in detail the proposed alternatives. Bidder must also explain how the proposed alternative will be a suitable working solution to the original RFP requirement.

1.4 Procurement Terms & Conditions

Contractual terms and conditions of Unitil's Turnkey Installation Contractor procurement will be negotiated with the selected supplier(s) after initial selection. The text in Appendix 3 – Contract Terms & Conditions is provided with this RFP as an illustration of expected Unitil contract terms and conditions. Bidders should review terms and conditions and identify to Unitil in their proposals any exceptions that will be taken. Other terms and conditions may be included, as appropriate.

1.5 Proposal Evaluation Criteria

The lowest price proposal will not necessarily be selected. Unitil will evaluate proposals using an internal scoring method that weights various parameters to give Unitil insight into the strengths of each proposal relative to Unitil's needs. Unitil's internal scoring method values the following proposal attributes (order of presentation does not reflect priority):

- Vendor qualifications

- Experience providing same or similar services
 - Perspectives expressed by reference utilities/clients
- Proposal attributes
 - Responsiveness to stated Unitil needs
 - Organization and clarity
 - Proposed schedule within stated timeline
 - Project management and resource plans
 - Firm bid amount (Attachment B)

Vendors will be selected for further discussion based on Unitil's judgment, developed using the scoring method. Unitil reserves the rights to alter its internal scoring method and to exercise whatever judgment it deems in the best interests of Unitil in selecting the successful Bidder.

2. Project Details

2.1 Scope of Work

Unitil seeks firm quotes for the turnkey installation of project components in the price proposal format presented in Appendix B. Unitil's goal is to initiate the installation on April 1, 2010 and complete installations by May 15, 2010. Unitil will procure all equipment from selected vendors and provide to the contractor prior to April 1, 2010. The scope of work in this RFP includes the following:

Basic Services

- Contact each customer and schedule a mutually agreeable time and date for on-site installation. Unitil will provide a list of pre-qualified customers who have registered for the program. While Unitil will make every effort to screen customers for eligibility, it is the ultimate responsibility of the Contractor to assess conditions that would merit technical turn downs.
- Attend training sessions on the time-of-use pricing design, installation and operation of Tendril Home Area Network (HAN), and on the installation and operation of Honeywell's UtilityPro Thermostat.
 - Unitil anticipates that the training will consist of two, eight (8) hour sessions that will be held in Unitil's Portsmouth NH office.
- Installation and pre-testing of equipment relevant to each program component:
 - Simple TOU Program: Analysis meters only

- Enhanced TOU Program: Analysis meters, RF meters and Tendril home area network (HAN) system
 - Smart Thermostat Program: Analysis meters and Honeywell UtilityPro thermostats
- Educate customers on operation and capabilities of equipment, including setting thermostat schedules, and reviewing functions of the Tendril web-portal and associated devices (refer to Section 2.3 of this RFP for more information on device types and functionalities).
- Educate customers on the program design, including time-of-use rate structure and methods customers can use to shift load to off peak hours. Written educational materials will be provided by Unitil to be left with the customer. Contractor is responsible only for conveying the content of the material and answering questions that may arise.
- Collect basic on-site data including:
 - Name, address, phone number and account number of customer
 - Signed agreement affirming participation in the program and acknowledgement of terms and conditions. Unitil will provide the agreement prior to the site visits.
 - Serial number of equipment installed
 - Quantity of equipment installed
 - Number, size (tonnage), and SEER (if available) of air conditioning units
- Service calls to address customer issues arising during the course of the project, including but not limited to:
 - system operation issues (no heat, no cool, not functioning properly)
 - damage claims
 - removals
 - all other support as needed
 - internet access and password information or resets
 - other technical support
 - move in and move out customers

Optional Services

Unitil reserves the right to execute the optional services presented below upon review of the price for optional services. Pricing for optional services will be separate from pricing for basic services as outlined in Attachment B.

- At the conclusion of the pilot, schedule an appointment and visit the homes of the 76 participants in the Smart Thermostat program to collect run time and temperature data from the thermostat units via USB download. Return data to Unitil in electronic form.
- At the conclusion of the pilot, schedule an appointment and visit the homes of the 76 participants in the Enhanced Technology program to retrieve the equipment deployed during the original site visit. Contractor to return equipment to Unitil.

* Note that all thermostats installed during the pilot, both in the Smart Thermostat and Enhanced Technology segments, will become the property of the customer and will NOT be removed at the conclusion of the pilot. Replacement of these units will be at the customer's expense and should not be included in price proposals for these optional services.

2.2 Number and Assumed Geographic Dispersion of Participants

Unitil (Fitchburg Gas and Electric Light Company) serves approximately 25,000 residential customers in Massachusetts in the communities of: Fitchburg, Townsend, Lunenburg, and Ashby; there are also a few customers in Ashburnham, Shirley and Leominster.

In New Hampshire, Unitil operates two distinct service territories providing electric service to an approximate 63,000 residential customers. Unitil's Seacoast service territory for electricity includes the town of Exeter and all or part of the 17 surrounding communities of Atkinson, Danville, East Kingston, Hampton, Hampton Falls, Kensington, Kingston, Newton, Plaistow, Seabrook, South Hampton and Stratham, and portions of the towns of Derry, Brentwood, Greenland, Hampstead and North Hampton. Unitil's Capital service territory for electricity includes the capital city of Concord, NH and major portions of the surrounding 12 communities including Bow, Boscawen, Canterbury, Chichester, Epsom, Salisbury and Webster, and limited areas in the towns of Allenstown, Dunbarton, Hopkinton, Loudon and Pembroke.

As indicated in the introduction, the pilot program will consist of 76 customers recruited into each of the three program segments. Members of the control group will be recruited from within the Company's existing load research sample and are specifically excluded from the scope of work contained within this RFP. The table below summarizes the distribution of pilot participants by program by state.

Sample Group	Massachusetts		New Hampshire	
Simple TOU	24	25.0%	52	25.0%
Enhanced Technology	24	25.0%	52	25.0%
Smart Thermostat	24	25.0%	52	25.0%
Control Group	24	25.0%	52	25.0%
Total Received	96	100.0%	208	100.0%

Pilot participants will be recruited randomly from each service territory; therefore bidders should assume that the on-site installations will be evenly dispersed across the service territories outlined above. **It should be noted that the control group metering will not be the responsibility of the bidder.** Installation services related to this RFP apply only to the participants in the Simple TOU, Enhanced technology, and Smart Thermostat groups.

2.3 Equipment Details

Note: All equipment will be purchased by Unitil and provided to the bidder upon award of the project contract.

2.3.1 Analysis Meters

Analysis meters will be provided at each of the 228 participant sites to provide interval usage and demand data for the purpose of pilot evaluation. For the *Simple TOU* and *Smart Thermostat* program segments (152 installations total), installation of the analysis meters will consist of:

- Removing the existing customer meter and installing GE Model KV2c¹ electronic meters with Landis & Gyr (Hunt Technologies) TS2 endpoints. The TS2 modules will be installed by GE as part of the meter order and not by the installing contractor. Configuration of the endpoints will be coordinated with Unitil personnel.

For the *Enhanced Technology Program* segment (76 installations total), dual meters will be installed to facilitate communication with the home area network. For these sites, meter installation will consist of:

- First removing the existing customer meter and installing a dual meter socket adapter provided by Unitil. Note that the type of dual meter socket adapter will be either vertical or horizontal, ring or ringless style depending on style of meter base at the customer's site. Unitil will make this determination and provide the appropriate base prior to installation.
- Once the dual meter socket adapter has been installed, install both an GE Model KV2c electronic meter with Landis & Gyr (Hunt Technologies) TS2 endpoints, and an Itron Centron ERT meter. Configuration of meter endpoints will be coordinated with Unitil.

2.3.2 Home Area Network (HAN) Solution

The *Enhanced Technology* program segment will utilize Tendril's Residential Energy Ecosystem (TREE) platform. The TREE platform is a unified energy management platform with an open, standards-based architecture. The TREE platform can be accessed by consumers in a variety of ways including, the Tendril Vantage consumer portal, mobile devices, smart thermostats, and

¹ http://www.gepower.com/prod_serv/products/metering/en/utility_revenue_meters/kv2c_encompass_elec.htm

smart in-home displays (including Tendril Insight). These devices provide access and information about the other devices in the Home Area Network (HAN) as well as details on their energy consumption and billing information.

A setup guide for the TREE system components is included as Attachment A to this RFP and is the primary reference for scope of installation. Specific system components that will be installed as part of Unitil's pilot program are outlined below:

- **Tendril Vantage** is a consumer-facing Web portal that displays information to help consumers better understand, manage, and control the energy consumption in their home. The Vantage is accessed through the consumer's home computer.
- **Tendril Insight** is a Zigbee-enabled in-home display that reads consumption information directly from the AMR meter via the Tendril Translate AMR meter bridge. Insight provides near real-time feedback on household consumption as well as proactive notification settings to alert consumers when key conditions occur, such as reaching a specified monthly bill amount or consumption level, or a change in effective pricing. In addition, Insight receives and displays messages from the utility with regard to demand response or other critical events. [1 per site]
- **Tendril Transport** gateway serves as the ZigBee to IP translator, providing the connectivity between the network of smart energy devices in the consumer's home and the TREE server, via the Internet. Transport connects to the home user's IP router (DSL or Cable modem), providing two-way connectivity between the participating customer and their energy partner. [1 per site]
- **Tendril Translate** is a meter bridge that allows consumers and utilities to leverage their existing AMR meter investments while delivering consumers and utilities the information and control typically associated with "Smart "Grid" implementations. Tendril Translate creates an AMR-to-ZigBee bridge, receiving the ERT signal from an AMR meter and translating it into ZigBee for presentation to the consumer and the utility via the home area network. [1 per site]
- **Tendril Volt** is a 110VAC 3-prong, ZigBee-enabled electrical outlet that can be plugged into a standard wall outlet to demonstrate load control and analyze consumer response to utility-generated demand response events. Volt supports user-overrides (opt-outs) and supports the future TREE functionality of disaggregated consumption information and control. [1 per site]
- **Tendril SetPoint** is the Tendril ZigBee Smart Energy compliant OEM Smart Energy Thermostat. The SetPoint is wired to a traditional HVAC unit providing consumers control over the largest energy consumer in the home. SetPoint provides a mechanism for demonstrating load control and analyzing consumer response to utility-generated demand

response events. SetPoint provides consumer control via demand response opt-outs and supports the future TREE functionality of customer remote control. [1 per site]

2.3.3 Smart Thermostat

The *Smart Thermostat* program segment will utilize Honeywell's UtilityPRO™ thermostats. Further information available online at <https://buildingsolutions.honeywell.com/Cultures/en-US/Markets/Utilities/>

2.4 Unsafe Systems and Turn Downs

Safety to workers and contractors is essential, but also is the safety of our customers and their property. Under no circumstance is a Technician to attempt installation of a demand response device on a system that is in a good state of repair, or not compatible. Contractor must comply with provincial regulations and codes pertaining to the detection of unsafe customer systems. Proper procedures must be followed regarding notification and system tag out. Unitil shall be notified of all incidents of unsafe systems that violate code.

It is the sole responsibility of the contractor to determine the fitness of the customers system prior to attempting an installation. If it is determined that a demand response device cannot be installed on a system the contractor is to inform the customer of the reason for the “non-installation” and document the reason in their work order management system. Contractor must be capable of reporting details of turn downs in a weekly report. The contractor will not be compensated for “non-installations” and is to make provisions for these occurrences.

Under no circumstances is the contractor to make corrections to the systems which are not caused by their actions. Customers that want to address the reason(s) for “non-installation” are to be instructed by the contractor to use their own HVAC service provider. The contractor is not to solicit work from customers, or those customers that come to them by way of program efforts.

In the event that a contractor performs an installation on a system that encounters problems post installation, the contractor is to assume the responsibility of full investigation. The contractor must dispatch a competent technician or supervisor that is capable of addressing the issue and taking any steps necessary to address the situation. A full incident report must be created and tracked until resolution. Each proponent is to provide their documented incident investigation process as well as a copy of their report.

2.5 Field Deployment Work Hours:

Field deployment hours of operations will be business days between 8:00 AM to 6:00 PM Eastern Standard Time. Unitil may extend these hours to include Saturday or after 6:00 PM as needed to accommodate customer requests and production requirements. No additional payments will be made to compensate for extended hours of operation. Customers that have special needs that cannot be met under the current agreement of hours must be brought forward

to Unitil for review. The contractor shall not solicit customers outside of agreed upon times and beyond 8PM unless the customer is expecting the technician.

The contractor's field and warehouse operations must observe all holidays that are honored by Unitil.

2.6 Customer Contact and Education

Unitil sees certain program components as somewhat invasive in that they require one or more interactions and communications with our customer base, as well as being within the residence or building. For a program of this nature Unitil is not only interested in dealing with technical, quality vendors, but with those that have customer centric policies and procedures.

Unitil will assume responsibility for marketing efforts to provide leads of "qualified" interested customers to the contractor in the form of a Microsoft excel spreadsheet. The contractor is responsible for contacting each customer and must make a minimum of three (3) attempts at contact with the goal to secure an appointment. These attempts must be documented and at least one attempt must happen after 6PM, but prior to 9PM.

All customers that have secured an appointment must be contacted within 48 hours of the actual appointment time to verify date and time of appointment. This will help reduce the number of customer "no shows". In the event that these customers have not contacted the contractor within 24 hours, the contractor is to make two (2) documented attempts to re-secure the appointment.

Once on site the technician must explain the program and the work to be performed to the customer in detail prior to commencing any work. After checking the fitness of the system and determining compatibility the contractor is to install the devices as specified for each program component. The contractor is to provide the customer with educational materials (Provided by Unitil) and review and obtain customer's signature on a basic pilot participation agreement (Provided by Unitil). The contractor is to assume full responsibility for training and educating the customer on the operation of the selected technology.

The technician is to ensure that the customer is fully aware of the program as well as functionality of the device. The contractor is to assist the customer in programming the device to the customer's needs and preferences. The contractor is to complete an installation only if there is someone 18 years or older in the building.

2.6.1 Customer Complaints

Customer satisfaction will be a very important component of this project as any negative experiences or publicity will jeopardize the project's success.

The contractor will investigate and report customer complaints and claims of damage. The contractor will complete an Investigation Report that summarizes the customer complaint/claim

and the result of the investigation. Each proponent is encouraged to submit their process for complaint and claim management.

Valid claims resulting from Contractor errors or omissions will be resolved immediately and Unitil will be notified of resolution progress. In the event that the contractor fails to promptly address situations that are known errors or omissions, Unitil reserves the right to rectify the problem and bill the contractor accordingly.

In an instance where the contractor denies a claim and the customer does not accept the denial, Unitil will review the claim with the contractor and , make payment to the customer and bill the contractor if there is sufficient information to lay blame on the contractor. If the information available supports that the contractor followed approved procedures, Unitil will assist the contractor in resolving the dispute with the customer.

The contractor will ensure that Unitil receives a copy of all claim reports within 24 hours and a written weekly report summarizing the complaints and claims with their resolution.

2.7 Reporting and Communication

Strong communication is essential to ensuring that any issue or concerns are addressed in a timely manner. The following is a basic guideline for weekly reports that may be adjusted by Unitil.

Installations to Date by Device	Weekly Installations by Device
Total Turn Downs by Reason	Weekly Turn Downs by reason
Total Appointments in Backlog by Day	Total Capacity by Day
Customer Removals and Reason	Safety Issues and Concerns
Service Calls	Inbound and Outbound Calls
Response Times	Dropped calls
Customer Service Metrics	Quality Metrics

Unitil and contractor will establish a weekly Progress Meeting to discuss as a minimum the data listed above and well as overall project progress. The contractor must have supporting reports prior to this meeting.

2.8 Agreements

The contractor will obtain a signed agreement from every customer who participates in the pilot and will ensure that they have a process to obtain an agreement. One copy will be left with the

customer and the original will be retained by the contractor and submitted to Unitil monthly. Unitil will produce the blank agreements.

2.9 Route Planning / Scheduling

The contractor will be responsible for planning and scheduling daily work for installers. Customers must be given installation appointment times that meet their schedules. It is preferred that customers be given installation times in no more than a 2 hour window. Only exception would be for those customers that provide a larger window due to their availability. In the event that a technician is running late the customer must be contacted by phone to inform the customer in advance of the appointment time. If the customer is not able to wait, they must be given another time that meets their schedule.

2.10 Sample Installation Process

The following process is a summary of the Technician's field activities to be performed, and does not exhaust all processes and duties that are required for the safe and accurate installation. Each proponent is encouraged to provide additional information for the evaluation of processes and procedures.

Verify Location

- Verify the address using route screen/sheet

Preplanning and Special Instructions

- Check route work orders for any special instructions (bad dogs, a possible medical situation, door knocking instructions, etc.)
- Plan the route out on the map
- Load your vehicle and complete the daily inventory reconciliation form

Awareness of Hazards

- Park vehicle in a designated parking spot
- When approaching a residence, check the house/business and yard for signs of animals, etc.
- Notify the Customer (knock, door bell), give ample time to answer
- Present identification, confirm appointment time
- Confirm someone over the age of 18 is present
- Apply safety shoe/boot cover (if required)

Customer Education

- Review full program details with customer and confirm their interest in program (~10 minutes)
- Review agreement with customer and inform them that their acceptance by way of signature is required (~10 minutes)
- Obtain signature from customer
- Provide customer with copy of agreement

- Review steps you will be taking to perform work
- Confirm interest in program
- Provide user manuals and educational materials for customer to review

Verify System Compatibility and functionality

- Interview customer regarding AC system functionality and history and discuss past maintenance history – confirm eligibility
- View entire system and identify hazards – confirm eligibility
- Verify system compatibility (compare against technician manual) – confirm eligibility
- Perform a system check for heat, cool and fan – confirm eligibility

Meter Installations

- Utilize industry standard practices and procedures to safely and adequately replace the customers meter with the meters identified in Section 2.3.1.

Tendril TREE Installations (where appropriate)

- Install and test functionality of TREE system as outlined in Appendix A. Utilize industry standard practices and procedures.

Remove the Old Thermostats and Install New (where appropriate)

- Eliminate power to the system and utilize “lock-out tag-out” procedures
- Verify power elimination (multi-meter)
- Place drop sheet on floor below stat
- Remove old stat and verify and mark wiring configuration
- Add any required material needed as per Technician’s manual to ensure new stat functionality. Follow detailed manual instruction.
- Install new stat as per manual
- Verify stat functionality including communications
- Change contractor settings as per manual
- Verify system function and performance as per manual
- Place old stat in package and place in a safe place, inform customer

Perform Data Collection

- Record data on the number, size, condition and service area of air conditioning systems
- Record identifying information of the devices installed
- Record customer name, address, and account information
- Other basic data as requested by Unitil

Customer Education

- Review work performed
- Program thermostat stat features as per customer requirements
- For enhanced technology segment, review product functions and programming

- Instruct customer by way of demonstration and customer performed actions on stat functionality and stat programming (~10 minutes)
- Verify that customer capable of performing all customer functions
- Instruct customer on web access and review passwords and user ID information, demonstrate on customer computer if customer requests.
- Review program support numbers and actions in the event an issue arises
- Address any other customer questions

Departure

- Ensure tools and any debris are removed
- Verify you have all information required and left customer with all information and details
- Thank customer for participation

3. Appendix: Contract Terms & Conditions

The text in this appendix is taken from Unitil's customary contract language and exemplifies the terms and conditions Unitil expects in its contract with a Turnkey Installation Contractor for its residential demand response pilot program. The final contract will be negotiated with the successful bidder(s).

3.1 Commencement of Contract Time

The successful bidder shall acknowledge acceptance of the Purchase Order from Unitil within 10 days of its issue.

The Contract Time shall commence to run on the effective date indicated in the Purchase Order. Supplier shall start to perform the Work on the date when the Contract Time commences to run.

3.2 Vendor Claims

All claims of the Vendor and all questions relating to the interpretation of the Contract, including all questions as to the acceptable fulfillment of the Contract on the part of the Vendor and all questions as to compensation, shall be submitted in writing to the Unitil Project Manager for determination.

All such determinations and other instructions of Unitil will be final unless the Vendor shall file with Unitil a written protest, stating clearly, and in detail the basis thereof, within fifteen (15) calendar days after Unitil notifies the Vendor of any such determination or instruction. Unitil will issue a decision upon each such protest within fifteen (15) calendar days and its decision will be final. Work will not be undertaken until a written final decision is rendered.

3.3 Changes in the Work

Unitil, without invalidating the Contract, may direct the Supplier to perform extra work or make changes in the work, provided that all changes or additions form an inseparable part of the work

contracted for. The Supplier shall provide a written response outlining the project implications of that change order as well as a timeline and cost estimate for completion. Supplier shall make such changes or additions only after receipt of written instructions to do so from Unitil. If such changes or additions cause an increase or decrease in the cost of the Contract, or in the time required to complete the Contract, an equitable adjustment shall be made and the Contract shall be modified accordingly by a Change Order in writing.

When a change is ordered, a change order shall be executed by Unitil and the Supplier before any change order work is performed. Any increase or decrease in the contract price and the time required for the completion of the contract work due to a change order shall be specifically set out in the change order. All terms and conditions contained in the Contract Documents shall be applicable to change order work. The amount of any increase or decrease shall be added to or subtracted from the contract price as appropriate.

3.4 Delays & Extension of Time

If the Supplier is delayed at any time in the progress of the work by any act or neglect of Unitil, or any cause beyond the Supplier's reasonable control, he shall file with Unitil a notification that an extension of the Contract period is required.

The Unitil Project Manager shall review said notice and to the extent that the Supplier can reasonably demonstrate to Unitil Project Manager that it shall be delayed in its fulfillment of these terms and conditions and other obligations of this transaction due to a cause beyond its control, a reasonable extension period shall be granted.

3.5 Termination of Right to Proceed

Unitil may, in writing, terminate this Contract in whole or in part at any time, either for Unitil's convenience or for the default of the Supplier. Upon such termination, all data, plans, specifications, reports, estimates, summaries, completed work and work in process, and such other information and materials as may have been accumulated by the Supplier in performing this Contract shall, in the manner and to the extent determined by Unitil, become the property of Unitil. If the termination is for the convenience of Unitil, an equitable adjustment for the Supplier's direct costs and profit for work actually performed shall be made by mutual agreement between the Supplier and Unitil. No amount shall be allowed for anticipated profit on unperformed services.

Default occurs if the Supplier (1) abandons the Work called for hereunder, (2) files a voluntary petition in bankruptcy or fails to obtain dismissal of an involuntary petition in bankruptcy within sixty (60) days after the filing thereof or has a Receiver/Trustee appointed, (3) becomes insolvent, (4) assigns this Contract or sublets any part of the Work hereunder without prior written permission of Unitil, (5) repudiates the Contract, (6) allows liens to be filed against property of Unitil, (7) disregards laws, ordinances, rules and regulations related to the Contract and the Work or disregards instructions of Unitil. Any expense incurred because of cost of

completion by Unitil is chargeable to and shall be paid by the Supplier. The total liability to the Supplier shall be limited to the Contract value less the value of any equipment, material or completed services retained by Unitil.

3.6 Right to Operate Unsatisfactory Equipment

If the operation or use of the materials or equipment after delivery and/or installation does not reasonably comply with the technical requirements set out in the Contract Documents to Unitil, Unitil shall have the right to operate and use such materials or equipment until such deficiency can be reasonably corrected provided that the period of such operation or use pending correction shall not impede or delay the ability of the Supplier to perform corrections.

Such operation and use shall not constitute an acceptance of any part of the work, nor shall it relieve Supplier of any requirements of the Contract, nor shall it act as a waiver by Unitil of any requirement of the Contract.

3.7 Casualty Insurance

Before commencing work under this contract the Supplier at his own expense shall submit Certificates of Insurance, providing evidence acceptable to Unitil indicating that the Supplier has obtained and will maintain insurance for the duration of the contract. The following requirements apply to all Certificates of Insurance.

- The insurance shall be written by an insurer acceptable to the Company,
- The insurance shall be primary to any coverage carried by the Company.
- The Vendor further agrees to provide the Company with an executed Certificate of Insurance before commencement of work, and with written copies of the insurance policies at any time upon the written request of the Company.
- The Certificate of Insurance shall be an original copy signed by an authorized representative of the insurance carrier(s). (Note – faxed copies may be accepted initially to be followed up by originals in a reasonable length of time.)
- The Certificate of Insurance shall provide that no less than 30 days advance notice will be given in writing to the Company prior to cancellation, termination or alteration of the insurance coverage.
- The Company shall be named as an additional insured on each General Liability Insurance Policy and any Excess Liability Policy or Umbrella Policy used to meet the required general liability limits.

The types of coverage and minimum limits are as follows:

GENERAL LIABILITY*

\$1,000,000 each occurrence
\$2,000,000 general aggregate

AUTOMOBILE LIABILITY*

Bodily injury	\$500,000 per person \$500,000 per accident
Property damage	\$500,000
or	
Combined Single Limit	\$500,000

** A blanket, umbrella, and/or excess liability policy(s) may be utilized to increase limits to the desired level(s).*

WORKERS' COMPENSATION Statutory for Massachusetts and New Hampshire

EMPLOYER'S LIABILITY Basic

(generally this is listed as \$100,000 / \$500,000 / \$100,000 or \$500,000 / \$500,000 / \$500,000)

3.8 Supplier Superintendence & Employees

The Vendor shall act as an independent Supplier, maintaining complete control over his employees and all of their subcontractors. The Supplier shall perform the work in an orderly and work like manner, enforce strict discipline and order among his employees and require strict discipline and order of his subcontractors.

3.9 Subcontractors

Unitil reserves the right to refuse to permit any person or organization (subcontractor) to participate in the work covered by this Contract, such refusal shall not be unreasonably imposed. No subcontract shall relieve the Supplier of any liabilities or obligations under the Contract, and the Supplier agrees that Supplier is fully responsible to Unitil for the acts and omissions of Supplier's subcontractors and of persons employed by them. Supplier shall require every subcontractor to comply with the provisions of the Contract.

3.10 Payment

Payment shall be made based upon completion of the performance milestones itemized by Bidder in Section 1.4.2 Project Schedule. Bidder shall propose payment amounts in order to satisfy requirements of RFP. Payment for each identified milestone shall also be contingent on successful completion of the preceding milestones.

Unitil will make payment within thirty (30) days of receipt of a request for payment if above conditions are met.

When the Bidder has completed all work in accord with the terms of the Contract Documents, the Supplier shall submit to Unitil a request for final payment. The request for final payment shall constitute a waiver of all claims by the Bidder except for claims specifically listed in the request.

Bidder's submission of its request for final payment shall constitute its warrant that the Bidder has to the best of its knowledge fully completed all work included in the Contract and has fully paid for labor, materials, equipment, services, taxes and all other costs and expenses resulting from this Contract.

3.11 Acceptance of Terms and Conditions

These terms and conditions become binding when accepted by the Vendor either by acceptance of the contract or commencement of performance. No modification hereof and no condition stated by Vendor in accepting or acknowledging this order, which is in conflict or inconsistent with, or in addition to the terms and conditions set forth herein, shall be binding upon Unitil unless accepted in writing.

3.12 Prices

Vendor agrees that prices are firm unless otherwise noted, and Vendor warrants that said prices do not exceed the prices allowed by any applicable Federal, State or Local regulation.

3.13 Compliance with Laws

Vendor warrants that in performing work under this order Vendor will comply with all applicable laws, rules and regulations of governmental authorities and agrees to indemnify and save Unitil harmless from and against any and all liabilities, claims, costs, losses, expenses, and judgments arising from or based on any actual or asserted violation by the Vendor of any such applicable laws, rules and regulations.

3.14 Patents

Vendor agrees to protect and save harmless Unitil from all costs, expenses or damages, arising out of any infringement of claim or infringement or Patents in Unitil's use of material or equipment furnished pursuant to this order.

3.15 Assignment

Vendor agrees that neither this order nor any interest herein shall be assigned or transferred by Vendor except with the prior written approval of Unitil.

3.16 Nondiscrimination in Employment

By acceptance of this contract, Vendor agrees to comply with all applicable Federal, State and Local Anti-Discrimination Laws, including the Civil Rights Act of 1964 and Executive orders 11246 and 11375 and amendments thereto.

3.17 Substitution

No substitution will be permitted under this order except on specific written authority of Unitil's Project Manager.

3.18 Errors in Material

Material or equipment delivered in error, or in excess of the quantity called for, will be returned at the Vendor's expense.

3.19 Vendor's Agent or Employees

If Vendor in the performance of this contract furnishes the services of himself, his agent or employee as an Erecting Engineering, Superintendent, or otherwise in respect to the operation, adjustment, repair, installation, erection or dismantling of material and/or equipment furnished hereunder or as described herein, Vendor agrees to assume all liability with respect to the services of himself, his agent or employees while on the premises of Unitil and to indemnify and save Unitil harmless from all claims, suits, actions and proceedings whatsoever which may be brought on account of injuries or damages to Vendor, his agent or employees or to other persons or property which shall occur as a result of the performance of said services.

3.20 Indemnity

The Vendor agrees to indemnify, hold harmless and defend Unitil Corp. (the Company), its parent, subsidiaries and affiliates and their respective employees, agents, officers, and directors, from and against any and all liability for loss, damages, fines, penalties, claims, actions, proceedings, expense, or cost, including but not limited to attorney's fees and litigation expenses which may be asserted against the Company or which the Company may incur or be held liable by reason of

- a.) bodily injury, including death, sustained by or alleged to have been sustained by any person or persons, including but not limited to employees of the Company, employees of the Vendor, employees of any subcontractor or any other third parties, and without regard to whether the person or persons are working within the scope of their employment; and/or
- b.) damage to property; and/or
- c.) personal injury, including but not limited to, false arrest, false imprisonment, or violation of privacy rights; and/or

d.) any unlawful employment practice of the Vendor or any subcontractor, including without limitation, employment discrimination, wrongful discharge, termination of employment or violation of state or federal statutes or regulations relating to employment practices;

resulting from the acts and/or omissions of Vendor or subcontractor, its employees, agents, subcontractors or those under its or their control, and/or arising out of or in any manner connected with the performance of this Agreement or the operations to be performed under this Agreement to the extent such injury or damage is caused by or is attributable in whole or in part to any act or omission of the Vendor, its affiliates or its or their employees or agents or those under its or their control; provided, however, that the Vendor shall not be held responsible for damage to private property when such damage results from the Vendor's having carried out in a proper workmanlike manner instructions received from a duly authorized representative of the Company as to the use to be made of, or act to be performed on, such private property.

3.21 Inspection

Materials and equipments ordered hereunder are subject to inspection and acceptance by Unitil. Such inspection and acceptance however, shall not be conclusive with regard to defects that could not have reasonably been discovered by such an inspection or latent defects, fraud or such gross mistakes as amount to fraud and shall not be deemed to alter or affect the obligation of Vendor or the Rights of Unitil under the Warranty clause above.

3.22 Unauthorized Rework

Under no circumstances is Vendor permitted to use substitute material to replace defective articles or to repair or rework them by welding or otherwise without Unitil's written permission.

3.23 Premium Transportation

Any premium transportation costs incurred by Unitil and as a result of Vendor's failure to meet the delivery schedule shall be paid for by Vendor.

3.24 Governing Law

The rights of the parties hereto and the construction and effect of this contract shall be subject to and determined in accordance with the laws of the states of New Hampshire and Massachusetts.

3.25 Arbitration

Any controversy or claim arising out of or relating to this Contract, or the breach thereof, shall be settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The arbitration shall be conducted in New Hampshire.

3.26 Severability

It is the desire and intent of the parties to this Contract that the provisions of this Contract shall be enforced to the fullest extent permissible under the laws and public policies applied in each jurisdiction in which enforcement is sought. Accordingly, if any particular provision of this Contract shall be adjudicated to be invalid or unenforceable, the provision shall be deemed amended to delete there from the portion adjudicated to be invalid or unenforceable, with the deletion to apply only with respect to the operation of the provision in the particular jurisdiction in which the adjudication is made.

APPENDIX A

Tendril Installation Instructions

TENDRIL
HOME

GETTING STARTED GUIDE

Get Ready

Tendrill Home gives you the insight and control to make smart choices about energy usage. Complete these simple steps to get connected and start saving money and resources.

- 1 • Locate your Internet router and ensure there is an open port.
- Use your computer to open a browser and verify you can connect to the Internet.

Unpack

- 2 • Unpack the Tendril Transport.
 - See the back of the Transport for its 16-character Gateway ID. Record it below:

__ : __ : __ : __ : __ : __ : __ : __ : __ : __ : __ : __

- 3 • Unpack the Tendril Translate.
 - See the back of the Translate for its 16-character Translate ID. Record it below:

__ : __ : __ : __ : __ : __ : __ : __ : __ : __ : __ : __

Unpack the rest of the Transport box, which includes the following items:

- Antenna
- Ethernet and Power cables

Initial Setup

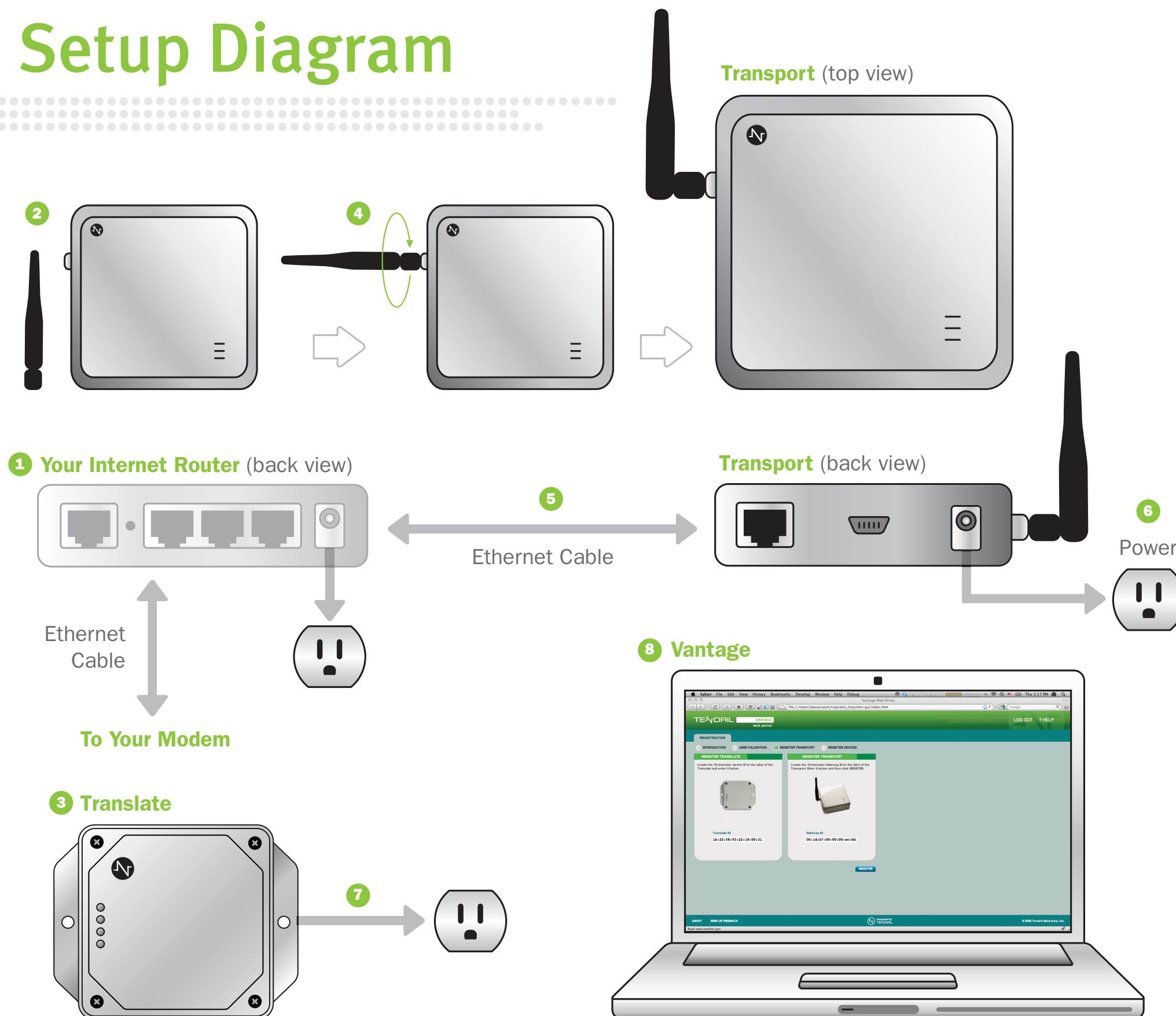
- 4 **Assemble**
Attach the antenna to the Transport.
- 5 **Connect**
Connect one end of the Ethernet cable to the port in the Transport, and connect the other end to an open port in your router.
- Power Up**
 - 6 • Plug the Transport power cord into the back of the Transport, and then into an open outlet.
 - 7 • Plug the power cord into the side of the Translate, and then into an open outlet near your meter.
- Place the Translate near the meter's wall. However, do not place the Translate directly behind the meter, or within 3 feet of the meter. The meter blocks the signal directly behind the box, so placing the Translate too close will interfere with the signal.
- Join and Register**
 - Wait for the Transport lights to turn from green to amber, and then back to green. This may take several minutes.
- 8 • Log into the Tendril Vantage web portal with the web address ("URL"), username, and password provided by your utility.
- Click **Continue** on the first screen. Fill out the user profile information on the second screen. This information is used to create graphs in the portal, comparing your usage to similar consumers.
- Enter the Translate ID into the Translate field. Then enter the Transport's Gateway ID into the Gateway ID field, and click **Register**. A window will appear, showing your device network status. Click **Continue**.
- The Transport should now appear automatically as registered. If the Translate shows as Unregistered, click **Register Devices** to register the Translate.
- Once your Transport and Translate show as registered, click **Finish Registration**.

Extras

Set up any extra devices included in your kit. For instructions, see the back of this poster.

Go! Congratulations – You have completed the initial setup.

Setup Diagram



Please see reverse side first for initial setup instructions



TENDRIL
INSIGHT
in-home display

If an Insight is included:

- Plug in your Insight.
- To adjust the screen contrast, press either the right or left button on the bottom row.
- The Insight automatically will find an available “channel” and joins your home network.
- In a browser, go to the Vantage web portal.
- Log in, click **Home Network**, then **Device Setup**.
- Click **Find New Devices**.
- Make sure there is a checkmark next to the Insight. If it appears as Unregistered, click **Register Devices**.
- If you have trouble seeing your device in the Vantage portal, refer to the FAQ about joining networks.



TENDRIL
SET POINT
thermostat

If a Set Point is included:

- **Note: installation by a licensed electrician only.**
- Once installed, press **Join**.
- Press **Scan**.
- The Set Point automatically will find an available “channel” and joins your home network.
- Press **Join**. The Set Point will join the network.
- In a browser, go to the Vantage web portal.
- Log in, click **Home Network**, then **Device Setup**.
- Click **Find New Devices**.
- Make sure there is a checkmark next to the Set Point. If it appears as Unregistered, click **Register Devices**.
- If you have trouble seeing your device in the Vantage portal, refer to the FAQ about joining networks.



TENDRIL
VOLT
outlet

If a Volt is included:

- Plug in your Volt.
- The Volt will automatically find your home network and join it.
- In a browser, go to the Vantage web portal.
- Log in, click **Home Network**, then **Device Setup**.
- Click **Find New Devices**.
- Make sure there is a checkmark next to the Volt. If it appears as Unregistered, click **Register Devices**.
- You can then plug an electrical device (such as a room fan) into the Volt, and turn the device on or off from the Vantage portal. If you have multiple Volts, write down the “EUI-64” number listed on each Volt’s box or label. In the portal, for each registered Volt, the number corresponds to the Device Identifier. You can change the **Name** field to something more meaningful. For example, change the name “Volt” to “Volt for BR Fan”.



The Vantage portal helps you manage your energy usage and includes:

TENDRIL
VANTAGE
web portal

- A specific web address that you access in your browser.
- A personalized login using the information provided by your utility.
- A personal view into your energy consumption, including current use, month-to-date, and historical data.
- Charts to help you visualize consumption and costs.
- Insights into ways that you can use electric devices when rates are lower.
- Messages about “load control” events from your utility.
- The flexibility to “Opt Out” of a load control event.

Also see the product documentation – click **Help** in the Tendril Vantage web portal.

FAQs and Troubleshooting

Q: What if additional device(s) didn’t join my Home Area Network (HAN)?

A: Look at your Translate label and write down its EPAN ID. On the Insight, press the upper-right button to scroll through available EPAN IDs. When the EPAN ID from your Translate label matches the EPAN ID on the Insight, you have joined your home network. Then in the Vantage web portal, click **Find New Devices**, then **Register Devices**.

On the Set Point, press **Menu**, then **Smart Energy Setup**, then **ZigBee Network**. Press **Unjoin**, then press **Scan**. Press the up-arrow button to scroll through available EPAN IDs. When the EPAN ID from your Translate label matches the ID on the Set Point, press **Join**. Then in the Vantage web portal, click **Find New Devices**, then **Register Devices**.

For the Volt, write down the “EUI-64” number that is printed on its label. Plug in the Volt, and follow these steps:

1. Wait for the green light to stay on for three seconds, indicating that it has joined a network. (The green light then turns off.)
2. Go to the Vantage web portal.
3. Click **Find New Devices**.
4. If the Volt’s EUI-64 number (from the label) matches the Volt’s ID in the portal, the device has joined your home network. You can now click **Register Devices**.

If the EUI-64 and ID numbers are different, go back to the Volt device and press its center round button once. The Volt tries to join the next available network. For each joined network, repeat steps 1-4 until the ID number in the portal matches your Volt’s EUI-64 number.

Q: How do I change my password?

A: Navigate to the **User Profile** tab. Click the **Change Password** button below your name and address, and enter the new password you would like to use. Write down the password in a secure location.

If you forget your password and cannot log in, please call Tendril Technical Support at 866-364-4526.

Q: Where should I place my Translate?

A: The ideal location for your Translate is along the same wall as your meter, but at least 3 feet away from the meter.

Q: How do I resolve a “Gateway ID Not Found” error message?

A: Multiple things to check:

- **Check the numbers:** Make sure the Gateway ID you entered into the portal matches the Gateway ID listed on the back of the Transport.
- **Check your Internet connection:** Are you able to access other websites? If not, reboot your router by unplugging the power cable and plugging it back in.
- **Check the Transport lights:** Are both lights on the front of the Transport green? If any lights are amber, the device is still checking for a firmware update from our servers, and the device cannot be registered. Wait for the lights to turn green.
- **Check the Transport cables:** Is the Transport plugged in, and is it connected to your router with an Ethernet cable?
- **Check the browser:** Try logging out and refreshing your browser before attempting to register again.
- **Check the Transport’s Internet connection:** Check the back of the Transport, where the Ethernet cable plugs in. You should see a green light and a flashing amber light. If you do not see those lights, check your router. Make sure it is plugged in and connected to your modem. If you have an Internet connection, you should see the green and amber lights on your router, like those on the Transport. If you do not see any lights, unplug the power cable from your Transport, wait several seconds, and then plug it back in.
- **Check your router:** Make sure your router has the up-to-date firmware. Check your router documentation for instructions on how to find out what firmware is installed on your router, whether or not it is up-to-date, and how to install the latest version if necessary.

Q: Why does my Translate have a red light flashing?

A: The Translate waits for an initial signal from your meter, after which it begins taking meter reads. If the Translate does not receive that initial signal in an hour after being installed, this red light will begin to flash. **It usually takes anywhere from two to eight hours to receive the initial signal.** The best idea is to leave your Translate in a particular location overnight, and see if the red light has been replaced with a green light. If not, try plugging the Translate in again, in a new location close to the meter.

Q: How do I adjust the screen contrast on my Insight?

A: Before Registration: If the contrast on the screen of your Insight appears too light or too dark, adjust it by repeatedly pressing either the bottom left or the bottom right buttons on the Insight. Press the left button to lighten the display, and press the right button to darken the display.

After Registration: Access the contrast settings by pressing “Menu,” “Settings,” and “Contrast.” Adjust using the two top right buttons on the Insight, and press “Save.”

Q: Why doesn’t energy consumption information show up in my Vantage web portal?

A: When you first set up your equipment, it may take up to eight hours before your Vantage web portal displays energy consumption data from the meter. Wait overnight and then log back into the Vantage portal to see the first set of readings.

Tendril Support:
866-364-4526 | techsupport@tendrillinc.com



APPENDIX B

Commercial Pricing Proposal Template

COMMERCIAL PROPOSAL PRICING SHEET

<u>Scope of Work Item</u>	<u>Massachusetts</u>	<u>New Hampshire</u>
<u>1.) Basic Services</u>		
A. Administrative services, including but not limited to arrangement of site visits, attendance at training sessions, and progress reporting	\$_____	\$_____
B. Site Visits to conduct installations of analysis meters for <i>Simple TOU Program</i> , including on-site data collection and customer education	\$_____	\$_____
C. Site Visits to conduct installations of analysis meters, RF meters, and TREE systems for <i>Enhanced Technology Program</i> segment, including on-site data collection and customer education	\$_____	\$_____
D. Site Visits to conduct installations of analysis meters and Thermostats for <i>Smart Thermostat Program</i> segment, including on-site data collection and customer education	\$_____	\$_____
TOTAL	\$_____	\$_____
<u>2.) Optional Services (To be executed at Unitil's discretion)</u>		
A. Schedule and conduct site visits with Smart Thermostat program participants to download logged data from the thermostats (via USB connection) after the conclusion of the pilot. Data is to be provided to Unitil for evaluation purposes	\$_____	\$_____
B. Schedule and conduct site visits with Enhanced Technology program participants to collect all Tendril equipment except the thermostats, which are to remain. Equipment to be returned to Unitil.	\$_____	\$_____



March 2010

Dear Unitil Customer,

At Unitil we are always looking for new and innovative ways to become more energy efficient and to offer consumer cost savings initiatives. In this time of earth conscience consumerism we are offering a new program to customers in your area. The Energy Management Savings pilot program is a cutting edge technology based program that is designed to not only save you money but support the environment as well.

This pilot program includes various strategies and technologies to help reduce periods of peak demand on the electric grid. By reducing the electrical use in peak times when we have to pay a premium for electricity we will be able to pass that savings on to you the consumer.

I am eager to analyze the results of this program. I feel that energy efficiency, cost savings and simple changes to electrical usage are the key to our collective future. Anything we can do to reduce the emission of greenhouse gases and protect our environment for future generations is everyone's responsibility – especially ours. I encourage you to review the enclosed brochure and register today to speak with a program representative; not just for the cost-savings but for the environment and our future as well.

Sincerely,

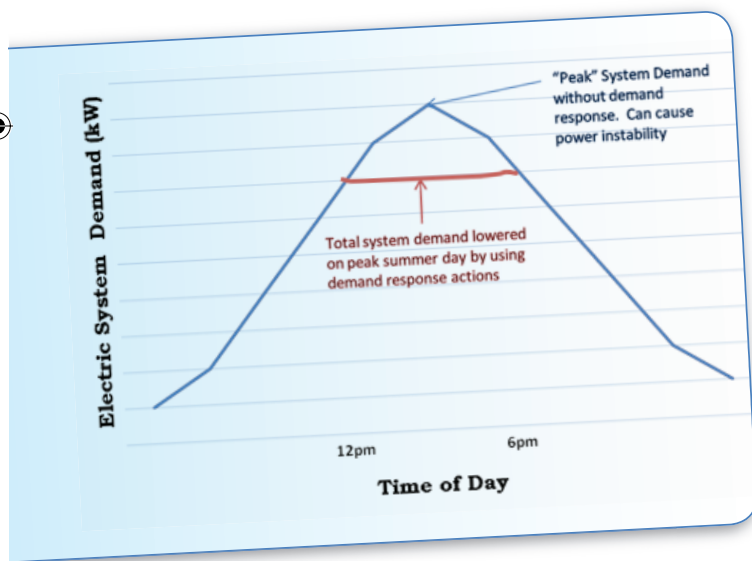
A handwritten signature in black ink, appearing to read "R. Schoenberger", written in a cursive style.

Robert G. Schoenberger
Chief Executive Officer & President
Unitil

At Unitil, we are always in search of new and innovative programs and products that offer our customers cost-savings and improve our service. *Energy Savings Management* offers you the ability to manage your daily energy usage with cutting edge technologies and save money all while reducing harmful greenhouse gas emissions and protecting the environment. You have been selected as a potential consumer that would benefit from this program and are invited to participate in the upcoming pilot program.

What is Energy Savings Management?

Energy Savings Management is a pilot program developed by Unitil to save you money on your monthly electricity bill. If the pilot is as successful as we hope, the program will be offered to all of Unitil's residential customers as part of the Company's on-going energy efficiency programs.



The pilot is also designed to test several different cutting edge "smart grid" technologies and approaches to help reduce summer peak demand. You, the customer, have the power to reduce your energy usage during periods of peak demand. When you reduce energy usage during peak demand, you conserve natural resources such as coal and natural gas used to produce electricity and prevent harmful greenhouse gases from entering the atmosphere.

What is Peak Demand?

Peak demand is a period during which there is a significantly higher than average usage (demand) of electricity. These periods occur most frequently in the summer months when homeowners and businesses are running air conditioning. In some cases, peak demand can come close to, or exceed the amount of electricity capacity that utilities are able to supply, resulting in power instability and in extreme cases, brown-outs or black outs.

Utility companies pay a premium price to purchase power to meet peak demands and pass this cost on to consumers in the form of higher fixed rates. By managing peak demand, utilities are able to avoid potential energy disruptions, reduce costs and pass the savings along to customers in the form of **lower** fixed rates.

What's the Next Step?

The *Energy Savings Management* pilot program is open to all of Unitil's residential customers with a central air conditioning system and if you:

- own your home;
- plan to be at your current residence for at least the next 9 months; and
- are interested in saving money on your electric bill while reducing harmful greenhouse gas emissions.



Register today by filling out the attached mailer or online at www.unitil.com/esmregister. For more information or to register by phone, call us at 1-800-441-8525.

**Note that registering for the program does not guarantee selection for the program as registrants are subject to eligibility requirements. Registrations must be received by April 1, 2010 to be considered for the program.*



DPU 5-1 Attachment 2

☒ **Yes, I want to know more about Unitil's Energy Savings Management Program!**

ENERGY\$AVINGS
MANAGEMENT

Name

Name on Unitil Account if different than above

Street Address

City, State, Zip

Daytime Phone #

Evening Phone #

Cell Phone #

Email Address

Unitil Account #

Please contact me:

☐ By Phone
☐ Daytime ☐ Evening ☐ Anytime on Cell

☐ By Email

☐ By Mail

Signature

Date

Please detach panel and mail to:

Unitil
c/o GDS Associates, Inc.
1181 Elm Street, Suite 205
Manchester, NH 03101

Or sign up online at www.unitil.com/esmregister

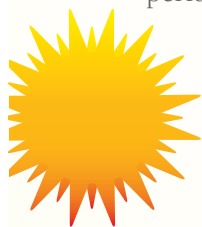


SIMPLE TIPS ON HOW TO CONSERVE ENERGY



► Plug home electronics into a power strip and turn off the power strip when not in use – this reduces “phantom” loads

► Minimize any electrical use during on-peak periods (washers, dryers, dehumidifiers, etc.)



► Replace incandescent light bulbs with CFLs

► Replace outdoor lighting with CFLs, LEDs or solar powered fixtures

► If replacing water heaters or appliances use *EnergyStar* brands

► Air dry dishes instead of using the drying cycle



► Wash only full loads of dishes or clothes

► Take showers instead of baths

► Unplug second refrigerators or freezers if they are not necessary

► Turn off CPU and monitor when not in use



► Insulate hot water pipes

► Install a programmable thermostat and set back temperatures at night or when not at home



ENERGY \$ SAVINGS
M A N A G E M E N T

Unitil (NYSE: UTL) is a public utility holding company with utility subsidiaries providing electric and gas service in New Hampshire and Massachusetts and gas service in Maine. Unitil has approximately 430 employees and serves approximately 170,000 customers. Its utility subsidiaries include Unitil Energy Systems, Inc., Fitchburg Gas and Electric Light Company, Northern Utilities, Inc., and Granite State Gas Transmission, Inc. Its other main subsidiaries include Unitil Service Corp. and its non-regulated business segment doing business as Usource.

UNITIL CORPORATION
6 Liberty Lane West
Hampton, NH 03842-1720
www.unitil.com

An initiative powered by:



Matt Siska

From: Unitil [esm@unitil.com]
Sent: Thursday, February 25, 2010 10:06 AM
To: Matt Siska
Subject: Are you interested in saving money on your electric bills?

Email not displaying correctly? [View it in your browser.](#)



ENERGY \$AVINGS
M A N A G E M E N T



Are You Interested in Saving Money on Your Electric Bills?

Find out if you qualify for Energy Savings Management powered by Unitil

At Unitil, we are always in search of new and innovative programs and products that offer our customers cost-savings and improve our service. We are pleased to introduce **Energy Savings Management**, an exciting new pilot program that offers customers the ability to save money on monthly electric bills. If you are interested in the pilot program and would like to know more, we invite you to register below to be contacted by a program representative who can provide further details and determine whether you qualify.

What is Energy Savings Management?

Energy Savings Management is a pilot program developed by Unitil to help you save money on your monthly electricity bill. The pilot is also designed to test several different cutting-edge "smart grid" technologies and approaches to help reduce summer peak demand.

The program will run for three months, starting in June 2010 through August 2010. If the pilot is as successful as we hope, the program will be offered to all of Unitil's residential customers as part of the Company's on-going energy efficiency programs.

Who is qualified for participation in Energy Savings Management?

The Energy Savings Management pilot program is open to all of Unitil's residential customers that meet the following criteria:

- Are a residential customer with central air conditioning system; and
- Are interested in saving money on your electric bill; and
- Desire to help reduce harmful greenhouse gas emissions.

How do I sign-up?

Register online by [clicking here](#), or contact a program representative directly by calling 1-800-441-8525.

A program representative can answer any questions you have and will ask some simple questions to help determine whether you qualify.*

*Registration for the program does not guarantee selection for the program as registrants are subject to eligibility requirements.

What is the next step?

Qualified customers will be contacted by a service contractor who will install equipment in your home. Educational materials will be provided prior to the onset of the program, and will fully detail how the program works and what steps you can take to start savings money.

You have been sent this email because you have registered your email address with Unitil Corporation. This information is protected and confidential, and will not be shared or distributed with any outside company. Please contact us at 1-800-441-8525 should you have any further questions regarding the program or the content of

this email.

[Forward email](#)

 **SafeUnsubscribe®**

This email was sent to ryan.capers@gdsassociates.com by esm@unitil.com.
[Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

Email Marketing by



GDS Associates | 1181 Elm Street | Suite 205 | Manchester | NH | 03101

UNITIL DEMAND RESPONSE PILOT PROGRAM

Recruiting Script

3/3/10

1.) Call Initiation

<u>1A) Incoming Calls:</u> Thank you for calling Unitil's <i>Energy Savings Management</i> hotline. My name is _____. Are you are calling to register for the program? _____ Excellent, I'd like to ask you a few questions about your property and also describe the program. This will take about 10-15 minutes. May I have your name and property address? ...Best phone number to be reached at? ...Email address?	<u>1B) Call backs to Registered Customers:</u> Hi, my name is _____ calling on behalf of Unitil, your electric utility, and their Energy Savings Management program. May I speak with _____? Hi _____, we received notice that you are interested in the program and would like to ask you a few questions to determine whether you are eligible and describe the program in more detail – this will take about 10-15 minutes. Is this an okay time? (Yes) Proceed to Section 2 below (No) When would be a good time for me to call back (record and schedule follow up)
--	--

2.) Qualification

Great - Now I'd like to ask you a few questions to determine whether you meet the general eligibility requirements for the program.

Q1. How did you hear about the program?

- ☐ Email
- ☐ Mailed brochure and CEO letter
- ☐ On bill message

Q2. Do you have a central air conditioning system?

- ☐ Yes
- ☐ No
 - If NO → confirm that it is truly “no” by reading definition below

- If still” NO” → *“Thanks. This program is limited to customers with central air conditioning systems so I’m sorry to inform you that you are not eligible. Thanks for your time and we appreciate your interest in the program - are there any other questions I can answer for you?”*

() DON’T KNOW (*explain central air conditioning system, see below*)

[A CENTRAL AIR CONDITIONING SYSTEM USUALLY HAS AN OUTDOOR COMPRESSOR (EITHER NEXT TO THE HOUSE, IN THE ATTIC, OR ON THE ROOF IF IT’S A LARGER BUILDING). THE COOL AIR IS CONTROLLED BY A CENTRAL WALL MOUNTED THERMOSTAT AND IS DISTRIBUTED THROUGHOUT THE HOME THROUGH DUCTWORK AND COMES OUT INTO THE ROOM FROM EITHER CEILING OR FLOOR REGISTERS].

Q3. Is it working?

() Yes

() No

- If NO → *“May I ask how long the system has been out of service, and whether you have any plans to fix it?”*
- If NO plans to fix, or not used → *“OK, thanks. This program is limited to customers with functioning central air conditioning systems so I’m sorry to inform you that you are not eligible. Thanks for your time and we appreciate your interest in the program – are there any other questions I can answer for you?”*

Q4. Do you know if your air conditioning system consists of an air handler inside and a compressor unit outside, or is it all contained in a single unit?

() Split system

() Self contained packaged unit

() Don’t Know [*prod to determine system configuration as best as possible*]

Q5. Do you know how many compressors units do you have outside? _____

A. Where is it located? Roof or Ground _____

B. If on Roof, do we need a ladder to access it? _____

Q6. Do you know how many thermostats control the air conditioning system?

- *If MORE THAN 1 → “We ask about the number of thermostats because systems with multiple zones may not be compatible with some of the technologies included in the program. I’d like to continue with the eligibility questions and check back on the compatibility issue at a later date. Is that OK?”*

Q7. Do any of the cooling thermostats also control heat?

- ☐ Yes...If yes, does the heat work?
☐ No

Q8. What is your primary heating fuel?

- ☐ Oil
☐ Natural gas
☐ Electric
☐ Other _____

Q9. What is your primary heating system?

- ☐ Forced Air
☐ Hot Water
☐ Steam
☐ Electric Baseboard

Q10. Do you know where your air handler (blower for a/c) is located?

- ☐ Yes _____
 If Attic, are there stairs?
 If attic, is there secure flooring?
☐ No {try to walk through}

Q11. Do you know the approximate age of your a/c? _____

Q12. Is this property a permanent or seasonal residence?

☐ Permanent (someone lives here year round)

☐ Seasonal (weekends, vacations or summers only, etc.)

- If SEASONAL → *“OK, this program is targeted towards permanent residences. Which months out of the year do you reside at this property? _____ [record]. Is the property occupied consistently during these periods? _____ [record].”*
- If occupied consistently during pilot period → *“OK, thanks. I’d like to continue with the eligibility questions and check back on whether this is acceptable at a later date. Is that OK?”*
- If NOT occupied consistently during pilot period → *“OK, thanks. This program is limited to customers who will live at their residence throughout the pilot period so I’m sorry to inform you that you are not eligible. Thanks for your time and we appreciate your interest in the program - are there any other questions I can answer for you?”*

Q13. Do you have any plans to move from your current residence in the next six months?

☐ Yes

- If YES = → *“I’m sorry to inform you that this program is limited to customers who plan to stay in their current homes for at least the next 6 months so you do not qualify. Thanks for your time today and we appreciate your interest in the program – are there any other questions I can answer for you?”*

☐ No

Q14. Are you planning any extended vacations over a week in length from June through August during which no one will live at home?

☐ No

☐ Yes

- If YES → “How long will you be away from home?” _____ [record].
- If 1- 2 weeks → “OK, this program is targeted to customers who will be living at their residence throughout the entire pilot period. Where this is still a relatively short vacation, you are not disqualified from participating however customers who will be home all summer will be placed at the top of the list. You may ultimately still be recruited in the program but this will not be determined until a later date. Would you still like to continue?”
- If more than 2 weeks → “OK, I’m sorry to inform you that this program is limited to customers who are not planning extended vacations during the course of the pilot so you do not qualify. Thanks for your time today and we appreciate your interest in the program – are there any other questions I can answer for you?”

Q15. Do you have high speed internet access? [ANYTHING OTHER THAN DIAL UP SUCH AS CABLE-INTERNET, DSL, T1 OR EQUIVALENT]

☐ Yes

☐ No

- If NO → “OK, I ask because some of the technologies included as part of this program require high speed internet access. I’d like to continue with the eligibility questions and check back on the compatibility issue at a later date. Is that OK?”

99-DON’T KNOW

Q16. Do you have a wireless router?

☐ Yes

☐ No

99-DON’T KNOW

Q17. Do you pay your electric bills online through myunitil.com?

☐ Yes

☐ No

☐ Occasionally

99-DON'T KNOW

3) Program Descriptions. (All customers and Call Modes)

Thanks, now I'd like to provide you with some more information on the program. The pilot program involves three separate components, each testing different technologies. You have been randomly assigned to the (identify only one: **Time of Use, or Enhanced Technology, or Smart Thermostat**) component.

2A) Time of Use Component: Currently, you pay a fixed rate for electricity – meaning the cost is the same no matter when you use it. In this program, the rate you pay will change during the course of the day based on the wholesale cost of electricity at those times. During mornings, nights, and weekends when the cost of electricity is lowest, you will pay a lower rate—approximately 7.5 cents per kilowatt hour generated versus your current supply rate of approximately 10 cents per kilowatt hour. The cost of delivering energy to your home will not change.

During weekday periods from 12noon to 6pm when both usage and cost are at their highest, you will pay a slightly higher rate – approximately 13 cents per kilowatt hour compared to your current fixed supply rate of approximately 10 cents. By adapting your behavior to use electricity more in the mornings, nights and weekends, and less during weekday afternoons, you will be able to reduce your monthly electric bills due to the lower rate during those periods.

A key part of this Time of Use program is what utility planners call the “critical peak” period. Critical peak periods are times when the demand for electricity is at its highest – typically during hot summer afternoons when businesses and homeowners are running air conditioning systems. These periods of extreme electricity demand cause instability in the electric grid and can, in extreme instances, lead to brownouts or blackouts. A primary goal of this program is to control the intensity of these peak demand events.

During the pilot, Unitil may declare up to eight critical peak periods on days of extreme demand. These periods will only occur on non-holiday weekdays from 12noon to 6pm. To encourage conservation during these peak periods, the rate for energy will be much higher - approximately 67 cents per kilowatt hour compared to your current fixed rate of approximately 10 cents per kilowatt hour. You will be informed of each critical peak

period, if any, at least 24 hours in advance using a notification method of your choosing.

2B) Enhanced Technology Track:

Currently, you pay a fixed rate for electricity – meaning the cost is the same no matter when you use it. In this program, the rate you pay will change during the course of the day based on the wholesale cost of electricity at those times. During mornings, nights, and weekends when the cost of electricity is lowest, you will pay a lower rate – approximately 7.5 cents per kilowatt hour generated versus your current supply rate of approximately 10 cents per kilowatt hour. The cost of delivering energy to your home will not change.

During weekday periods from 12noon to 6pm when both usage and cost are at their highest, you will pay a slightly higher rate – approximately 13 cents per kilowatt hour compared to your current fixed supply rate of approximately 10 cents. By adapting your behavior to use electricity more in the mornings, nights and weekends, and less during weekday afternoons, you will be able to reduce your monthly electric bills due to the lower rate during those periods.

To help you track the costs for electricity and the impact of your energy use decisions, you will be provided with a home energy management system. The energy management system communicates directly with your electric meter and will allow you to view the cost of electricity, and the amount of electricity you are consuming, in real time. The system also contains thermostats and outlets that will allow you to remotely control and monitor electricity usage in your home. This type of system is cutting edge in the utility industry and provides a wealth of information about your energy usage and the impacts of your decisions.

A key part of this program is what utility planners call the “critical peak” period. Critical peak periods are times when the demand for electricity is at its highest – typically during hot summer afternoons when businesses and homeowners are running air conditioning systems. These periods of extreme electricity demand cause instability in the electric grid and can, in extreme instances, lead to brownouts or blackouts. A primary goal of this program is to control the intensity of these peak demand events.

During the pilot, Unitil may declare up to eight critical peak periods on days of extreme demand. These periods will only occur on non-holiday weekdays from 12noon to 6pm. To encourage conservation during these peak periods, the rate for energy will be much higher - approximately 67 cents per kilowatt hour compared to your current fixed rate of approximately 10 cents per kilowatt hour. You will be informed of each critical peak period, if any, at least 24 hours in advance using a notification method of your choosing.

With your home energy management system, you will be able to preset rules for how to use your electricity during these critical peak periods. For example, you can preset a rule to turn off or turn up the temperature set point on your central air conditioner, the highest energy consuming appliance in your home, when the price of electricity is highest during these critical peak periods.

2C) Smart Thermostat Track: In this program, Unitil will provide you with a state of the art programmable thermostat that will be installed and pre-programmed to your temperature and time of day preferences by the installer. The thermostat operates exactly the same as a typical programmable thermostat and can be adjusted at any time, either manually or through the internet.

A key part of this program is what utility planners call the “critical peak” period. Critical peak periods are times when the demand for electricity is at its highest – typically during hot summer afternoons when businesses and homeowners are running air conditioning systems. These periods of extreme electricity demand cause instability in the electric grid and can, in extreme instances, lead to brownouts or blackouts. A primary goal of this program is to control the intensity of these peak demand events by cycling your air conditioning system.

In this program, Unitil has the ability to remotely cycle the air conditioning system ON and OFF using a radio signal that communicates with the thermostat. The air conditioning system will be cycled a maximum of **eight** times during the three-month duration of the pilot, and only during critical peak periods.

Critical peak events will always be announced by Unitil at least 24 hours in advance, and will only be called during non-holiday weekdays, from 12 noon to 6pm. During critical peak events, your compressor unit will be remotely cycled OFF for approximately 30 minutes out of every hour and

will run for the other 30 minutes. The blower unit will remain on, to keep a constant flow of air within the home. In most cases, you will not notice an appreciable difference in the comfort level of your home. You will, however, always have the ability to opt out of the control event by logging on to the access website.

As a *Thank You* for participating, you will be provided with a \$30 peak rebate payment at the conclusion of the pilot if you have not chosen to opt out of any events. You will also be allowed to keep the state of the art programmable digital thermostat.

Having heard more information on the design of the program, are you still interested in participating?

(YES) Great – I have a few more questions then I will fill you in on next steps. But before we go there, do you have any other questions about the program I can help answer?

(NO) May I ask why not?

4) Additional Questions

Q18. Regarding your motivations for participating in this pilot program - on a 1 to 5 scale with 1 being very unimportant and 5 being very important, please rate your motivation regarding the following:

- ☐ Saving money on your electric bill
- ☐ Conserving energy
- ☐ Environmental benefits, including greenhouse gas reductions
- ☐ Interested in the technology [Smart Thermostat and Enhanced Tech. only]
- ☐ Incentive payment [Smart thermostat only]
- ☐ Other

Q19. What type of home is this residence? Is it...?

- ☐ Single family detached house
- ☐ Townhouse, duplex, or row house
- ☐ an apartment or condo with 3-4 units
- ☐ an apartment or condo with 5 or more units

☐ Other (specify)
99-DON'T KNOW

Q20. About when was your home built?

☐ Before 1950
☐ 1950 to 1979
☐ 1980 to 1989
☐ 1990 to 1999
☐ 2000 to 2004
☐ 2005 to 2009
99-DON'T KNOW

Q21. Approximately how many square feet of living space are there in this home?

☐ _____ SQUARE FEET
99-DON'T KNOW

Q22. Approximately what percentage of your home is air conditioned?

☐ _____ %
99-DON'T KNOW

Q23. Approximately what percentage of your home is air conditioned?

☐ _____ %
99-DON'T KNOW

Q24. Have you made any significant energy efficiency improvements to your home in the past 2 years?

☐ Yes _____ (*record responses*)
☐ No

DE1. Thanks. Just one final question that will help us compare your answers with those of others. For each age group please tell me how many people are living in this home. (including yourself).

a. 5 years old and under? ____ [#]

- b. 6-18 years old ____ [#]
- c. 19-34 years old ____ [#]
- d. 35-54 years old ____ [#]
- e. 55-64 years old ____ [#]
- f. 65 years old and over ____ [#]

4) Follow up and Logistics

I really appreciate your interest in the program, and your time today. Based on your answers, you meet the general eligibility criteria for the program and will be placed into a pool of qualified applicants.

If you are selected, the next step is that you will be contacted by an installation contractor in the next 30 days who will arrange a site visit to install the equipment and provide you with educational materials that will help you to take full advantage of the program. If you are not selected, you will be contacted by a Unitil representative who will explain why you were not selected.

Are there any additional questions I can answer for you at this time?

[THANK and CLOSE]

**Commonwealth of Massachusetts
Department of Public Utilities
Fitchburg Gas and Electric Light Company d/b/a Unitil
Docket No: D.P.U. 09-31**

Department's Fifth Set Information Requests

DPU 5-2:

Given the actions that the Company must complete in order to implement its smart grid pilot program during the summer of 2010 (see information request DPU 5-1, above) and the Company's plans to file the final tariff and rates for its smart grid pilot program (see Unitil Letter to the Department of February 19, 2010, at 1), which will require regulatory approval, please discuss the feasibility of the Company conducting its pilot program during the summer of 2011 instead of the summer of 2010.

Response:

In regards to the feasibility of launching the pilot in summer 2010, as summarized in response to DPU 5-1, the Company believes that it has made substantial and effective progress toward the implementation of the pilot in 2010. Therefore, it is feasible for the Company to run a successful pilot this year. If the pilot were deferred until 2011, the Company would incur additional costs associated with the demobilization and remobilization of efforts, and could face higher equipment costs as the pricing received in 2010 would no longer be valid. The Company would also need to seek approval from the New Hampshire Public Utilities Commission for the pilot program delay and any consequent changes.

The Company has also considered the possibility of running pilots in both summers and using 2011 as either a second pilot period testing the same equipment and approaches, or as an expanded pilot testing the most successful aspects of the 2010 pilot as a step towards an offering to all customers. As much of the marketing, recruiting, and evaluation materials and techniques will have been developed in the 2010 pilot, costs for running a 2011 pilot would be lower and would involve mostly additional project oversight, administration and evaluation fees, installation costs (for an expanded pilot), potential increases in equipment costs, and additional hosting fees.

The Company notes that its pilot program, involving some 96 Massachusetts customers, is a very small program in scale and scope, and that significant benefits in terms of statistical validity and cost-effectiveness will accrue by virtue of conducting the same pilot program simultaneously in both New Hampshire and Massachusetts. In this context, the Company's Pilot Program activity in Massachusetts is very small, affecting a small number of customers at a minimum of cost. The Company believes the initial 2010 results could provide an opportunity to conduct a more robust program with significantly greater benefits in 2011, if the initial limited scale result warrants.

Person Responsible: George R. Gantz

Date: March 4, 2010

**Commonwealth of Massachusetts
Department of Public Utilities
Fitchburg Gas and Electric Light Company d/b/a Unitil
Docket No: D.P.U. 09-31**

Department's Fifth Set Information Requests

DPU 5-3:

Given that NSTAR Electric Company, Western Massachusetts Electric Company, and Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid do not intend to implement their smart grid pilot programs until after the summer of 2010, please discuss the advantages and disadvantages of Unitil conducting its pilot program during the summer of 2011 instead of the summer of 2010. As part of this response, discuss any evaluation issues which may arise from conducting a pilot program during a different summer period than the other Massachusetts electric distribution companies.

Response:

We believe there are a number of advantages for the Department, for the other utilities, and for the Company, of conducting our pilot in the summer of 2010. From the Department's perspective, there is an advantage in staggering the pilots over two years and leveraging the experience of the initial pilots in the later pilots. There is benefit in running pilots over two different weather samples; 2010 is just as likely to be a summer with multiple critical peak events as 2011, therefore the Department decreases its risk and increases the number of data points for evaluating the pilots. Conducting pilots during different years provides the Department with a richer base of information to use in performing their evaluation of the pilots.

From the perspective of the other utilities, there are likely to be a number of lessons learned on the Company's approach for marketing, recruitment, field installations, customer interaction, success or lack thereof of different load control strategies, and dispatch of critical peak events. The Company plans to report on successes and lessons learned on all aspects of the pilot including customer satisfaction and areas that could be improved. The Company's pilot will also attempt to identify trends among low-income populations that could be reviewed and studied in more depth during the course of the larger pilots. Lessons can also be learned on the sampling plan, data collection (e.g. analysis meters), and the methodology for evaluating results. Lastly, the Company plans to test a specific set of time of use rates in its 2010 pilot. Based on the results of the Company's 2010 pilot, it may be advantageous to the Department and the other utilities to test different time of use rates structures and time periods.

From the Company's perspective, the advantage in conducting the pilot in summer 2010 is the potential to report on and build upon the most successful elements of the program in a subsequent 2011 pilot. This would place the Company one year ahead of the other utilities in terms of integrating a dispatchable load control mechanism in its electric service territory.

**Commonwealth of Massachusetts
Department of Public Utilities
Fitchburg Gas and Electric Light Company d/b/a Unitil
Docket No: D.P.U. 09-31**

Department's Fifth Set Information Requests

Conducting the pilot in 2010 as opposed to 2011 would also allow the Company to continue with its progress in launching the pilot this year, and would avoid costs associated with demobilizing efforts now and remobilizing for a pilot next year. Additional advantages to the Company for conducting the pilot in 2010 include the ability to field test the capabilities of the system wide AMI meters, to integrate the TOU data with the existing billing system, to test the functionality of new ZigBee TS2 endpoints,¹ and to offer our customers a unique program in 2010.

The most significant disadvantage to the Company of not conducting the pilot in 2010 is the additional costs that will be incurred due to the demobilization of efforts and the expiration of pricing and contracts that have been obtained in the past two months. In addition, the delay potentially results in the lost opportunity from a delay in expanding the initial very modest pilot program to a larger scale with consequently significant economic benefits to customers.

With respect to evaluation issues that may arise from conducting a pilot during a different summer period than the other Massachusetts electric utilities, the methodology will be the same whether the pilot is conducted in 2010 or 2011, so there is no downside from an evaluation standpoint. Conducting pilots during different years actually provides the Department with a richer base of information to use in performing their evaluation of the pilots. In addition, as noted above this pilot program, involving some 96 Massachusetts customers, is very small in scale and scope, affecting a small number of customers at a minimum of cost. The Company points out that the Department and other parties may benefit by having this small limited program operate in 2010, serving in some sense as a test-bed for questions and issues to be worked out prior to the launch of the much larger pilot programs by the other utilities.

Finally, given the multi jurisdictional nature of this pilot being implemented in both Unitil's Massachusetts and New Hampshire service territories, the economies of scale from simultaneous implementation in both states would potentially be lost – or at a minimum the momentum from having already secured approval in New Hampshire will be lost. The Company notes that roughly 60% of the cost of the pilot program is being allocated to New Hampshire customers – if we proceed our Massachusetts customers will gain the full benefit of a statistically robust pilot program at less than half price.

Person Responsible: George R. Gantz

Date: March 4, 2010

¹ These endpoints have just been released into the marketplace and the Company felt there was too much risk to incorporate them into the full pilot. The endpoints will be tested using two bench test HAN versions installed in the homes of Unitil employees and reported on in the evaluation report.