STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DE 09-137

UNITIL ENERGY SYSTEMS, INC.

Petition for Approval of
Distributed Energy Resources Investment Proposal and Proposed Tariff

Order Approving Settlement Agreement on
Time-of-Use Pilot Program

ORDER NO. 25,079

February 26, 2010

Appearances: Gary Epler, Esq. on behalf of Unitil Energy Systems, Inc.; the Office of Consumer Advocate by Meredith A. Hatfield, Esq. on behalf of residential ratepayers; and Suzanne G. Amidon, Esq. on behalf of Commission Staff.

I. PROCEDURAL BACKGROUND

On August 5, 2009, Unitil Energy Systems, Inc. (UES or the Company) filed a proposal for approval to invest in distributed energy resources (DER) as authorized under RSA 374-G. With its petition, UES filed the supporting testimony and schedules of George R. Gantz, Senior Vice President of Distributed Energy Resources for Unitil Service Corp. (USC); Howard J. Axelrod, President of Energy Strategies, Inc., a consultant for UES; Cindy L. Carroll, Director of Customer Field Services for USC; and Justin C. Eisfeller, Director of Energy Measurement and Control at USC.

UES' filing contained a proposal for an annual, two-stage regulatory review process for DER projects. In addition, the filing included a proposed cost recovery method and tariff for such projects and a proposed screening model for evaluating costs and benefits. Finally, the filing requested approval of specific DER projects: a solar domestic hot water system at Crutchfield Place, a low income multi-family property in Concord owned by the Concord

Housing Authority (Crutchfield Place); a solar photovoltaic facility at the Stratham Fire House in Stratham (Stratham); an investment contributing to a solar photovoltaic facility and microturbine for School Administrative Unit 16 in Exeter (Exeter SAU); and a time-of-use/demand response (TOU) pilot program to be conducted jointly with UES' Massachusetts affiliate, Fitchburg Gas and Electric Light Company (FG&E), in New Hampshire and Massachusetts.

On August 19, 2009, the Office of Consumer Advocate (OCA) filed a letter stating it would be participating in this docket on behalf of residential ratepayers. On September 4, 2009, the Commission issued Order No. 25,010, which suspended the proposed tariff and scheduled a prehearing conference for September 18, 2009, and a technical session for September 22, 2009.

Revolution Energy LLC d/b/a Seacoast Energy Partnership (Revolution) filed a petition for intervention on September 15, 2009, which was granted at the pre-hearing conference. On September 17, 2009, Orr & Reno PA filed the appearance of Susan S. Geiger, Esq. on behalf of UES. The New Hampshire Office of Energy and Planning (OEP) filed a petition to intervene on September 23, 2009, which was granted by secretarial letter dated October 13, 2009.

On September 24, 2009, Commission Staff filed a report of the technical session held on September 22, 2009, which included a partial procedural schedule applicable to the TOU pilot program. According to Staff, the parties had agreed to put the review of the TOU pilot program on a faster track than the other three projects in order to accommodate Commission approval in time for project implementation in the summer of 2010. Staff filed a detailed proposed procedural schedule for the TOU pilot program on October 6, 2009 and the Commission approved that schedule by secretarial letter dated October 13, 2009.

On November 24, 2009, Public Service Company of New Hampshire filed a late petition for intervention. The Commission issued Order No. 25,049 on December 3, 2009, further suspending UES' proposed tariff in order to allow the filing to be fully investigated. On December 23, 2009, Staff, UES and the OCA, filed a settlement agreement on the TOU pilot program. The hearing on the settlement agreement was held on January 6, 2010.

II. TIME-OF-USE PILOT PROGRAM

In its filing, UES testified that it designed the TOU pilot program to investigate the costs and benefits associated with three distinct demand reduction programs designed to address usage by customers with central air conditioning. Two of the programs will investigate TOU rates incorporating on-peak and off-peak rates and an extra-high rate, called the critical peak price (CPP), which reflects the supply costs during periods of extreme electricity demand. Customers participating in these programs will receive the right to use a web portal that will provide access to their electricity usage as well as tools to mange that usage. The third program is a non-TOU program that involves the installation of a utility-controlled thermostat that requires no intervention from the customers.

UES said that it will conduct the pilot jointly in its Massachusetts and New Hampshire service territories in order to achieve maximum efficiency at the lowest cost to the ratepayers of both states. Each of the three programs will have 76 participants, 24 in Massachusetts and 52 in New Hampshire, for a total of 208 participants across the three programs. The impact of the TOU rates and enabling technologies will be calculated by comparing interval data from the pilot participants to the interval data from the control group. In addition, participant surveys will be conducted at the outset and at the completion of the pilot project. The surveys will be used to assess customer reaction to the programs, customer behavior, and feedback for improving the program for full program roll out.

According to UES, the simple TOU program will provide participating customers with basic educational materials that describe the program and illustrate how they can benefit financially by managing their electricity usage. Under this program customers do not have the benefit of electronic technologies to aid them with the control of end-use equipment. CPP notification will be handled by electronic mail or a telephone call. UES said that the simple TOU program is designed to test how well customers respond to TOU pricing when given educational materials and advance warning of CPP events only.

UES testified that the second TOU program will offer customers the same TOU rate structure and advanced warning of CPP events as with the simple TOU program, but under this second program, the Company will provide customers with an in-home wireless control system that includes a suite of energy management tools, a utility integration portal, and flexible control devices such as smart thermostats and outlets. According to UES, the enhanced technology program will allow for both utility and customer-automated load control and demand response. The enhanced technology program does not include, however, direct load control by UES through the customer's thermostat.

The third program, which UES referred to as the smart thermostat program, will provide participating customers with a utility controllable thermostat that offers digital programming features and customer feedback. UES explained that the smart thermostat program is not a TOU rate program. Rather, UES will have the ability to either cycle the customer's heating and cooling load, or change the temperature on the thermostat during periods of extreme electricity demand. UES said that customers will not be notified of the change in thermostat setting, but customers will be able to override the changed setting.

UES explained that the objective of the pilot program is to provide consumers with more accurate electricity pricing information so that they may better allocate their limited resources as they make purchasing decisions. UES said it expects that the pilot programs will demonstrate technologies and processes that can save consumers money by reducing demand or shifting demand from peak to off-peak periods. UES stated that customer savings can be derived from lower-priced generation and the avoidance of transmission and distribution (T&D) charges. According to UES, the pilot programs will enable the Company to improve system reliability and security by deferring new T&D investments through price induced load management.

The Company explained that participating customers will have to pay whatever bill the TOU tariff and their usage produces. UES said that participating customers can opt out of the pilot program at any time, which should not affect the program results because UES included more customers than it needed to produce data required for the evaluation. UES said that the cost of the pilot will be split with its Massachusetts affiliate, FG&E, based on the number of participating customers in each state. Because approximately two-thirds of the participating customers are expected to be located in New Hampshire and one-third in Massachusetts, New Hampshire's share of the costs will be approximately two-thirds of $526,560, the total estimated cost of the pilot, or $312,136. UES said these costs exclude internal personnel costs or overheads.

In its filing, UES proposed to recover the cost of the pilot through its proposed distributed energy resources investment charge (DERIC). UES testified that the pilot constituted a distributed energy resource because the effect of the pilot program is to avoid investment in distribution system upgrades. In addition, UES asserted that the pilot would result in additional economic and environmental benefits, including reductions in greenhouse gas emissions.

Using its own benefit/cost analysis, the Company calculated that the overall benefit/cost ratio is 1.8 while the benefit/cost ratio for non-participating customers as 0.94. Despite the fact that the project benefit/cost ratio for these customers is less than one, UES stated that the environmental benefits and the after-the-fact analysis of participation and demand response provide a value that warranted going forward with the project.

III. SUMMARY OF SETTLEMENT AGREEMENT

UES, the OCA and Staff participated in settlement discussions that led to the filing of a settlement agreement on December 23, 2009. The settlement agreement stated that the parties and Staff agreed to place the TOU pilot on a fast track to allow the pilot to begin June 1, 2010 as requested by UES. The settling parties agreed that all other aspects of UES' August 5, 2009 DER proposal remain at issue and are not affected by this settlement.

The settlement agreement recognized that UES' pilot is designed to investigate the costs and benefits associated with three distinct demand response programs for a sample of 76 residential air conditioning customers for each program. Pursuant to the settlement agreement, UES agreed to modify its pricing proposal to provide time-differentiated default service rates—off-peak, on-peak and critical peak—that reflect actual market energy and capacity costs. As a result, the three time-differentiated rates will reflect the corresponding weighted average locational market price (LMP) for the New Hampshire zone. The critical peak price (CPP) will also collect all generation capacity costs. UES and FG&E will finalize the selection of appropriate time periods and critical peak criteria in consultation with Staff, the OCA and parties to the companion proceeding in Massachusetts (Massachusetts Docket DPU 09-31). The settlement agreement also provides that the critical peak criteria will be established based on an expected activation of between 2 and 8 times during the pilot period based on normal weather. If necessary, UES will modify the application of the criteria during the summer of 2010 to ensure that at least two and not more than eight critical periods are called.

The settling parties agreed that the pilot period will be the months of June, July and August 2010. Pursuant to the settlement agreement, UES will file final tariff pricing provisions including time periods, TOU rates and critical peak criteria for Commission approval at least 60 days in advance of the default service period beginning May 1, 2010. FG&E will similarly request approval of the tariff by the Massachusetts Department of Public Utilities.

UES will recover its share of incremental program costs as a component of its Non-G1 default service rate over one year, commencing with the default service period beginning November 1, 2010. The Company agreed to provide cost information 60 days prior to the beginning of the recovery period. The settlement confirmed that incremental joint or common costs will be allocated between UES and FG&E, equally, and incremental variable costs will be allocated on the basis of the number of customer participants.

The settlement agreement provides that UES will proceed on the assumption that no participation incentive will be needed to secure sufficient enrollment for the simple and enhanced technology TOU pilot programs, but UES reserves the option to offer such incentives if enrollment is insufficient. With respect to the smart thermostat program, the settlement agreement states that UES will include an incentive that rewards customers for demand reductions during CPP periods. UES will base the size of the incentive on the expected critical peak benefits net of the cost of the smart thermostat, and will consult the Staff and the OCA and the parties to Massachusetts Docket DPU 09-31 in the development of the incentive.

UES and FG&E will work with Commission Staff, Massachusetts Department of Public Utilities Staff, the OCA and the Massachusetts Attorney General on the development of evaluation protocol to ensure that study results provide adequate and reliable conclusions and specific recommendations as to expansion of the pilot or broader scale implementation. Finally, UES agreed to develop a proposal for a TOU pilot program for its non-residential Non-G1 customers to be implemented in the summer of 2011, and to file such a proposal by November 1, 2010.

At hearing, UES, the OCA and Staff expressed support for the settlement agreement. Neither the OEP nor PSNH participated in settlement negotiations or attended the hearing.

IV. COMMISSION ANALYSIS

Pursuant to Puc 203.20, the Commission may approve a settlement agreement if it finds that the result is just and reasonable and in the public interest. N.H. Code of Admin. Rules Puc 203.20 (b). For the reasons discussed below, we find the Settlement Agreement to be just and reasonable and in the public interest. We will, therefore, approve it as filed.

At the outset, we note that in Order No. 24,819 at 14-15 (January 22, 2008), which concluded our investigation into the Energy Policy Act of 2005, we stated our intent to pursue TOU rates and advanced metering infrastructure and their possible impact on load and procurement options. Through this filing, UES has voluntarily proposed a pilot project that implements a time-of-use rate structure that allows us to further explore customer response to TOU rates and the effects of reducing demand at the critical peak period, consistent with our general direction in Order No. 24,819. Based on the evaluation of UES' TOU pilot program, we may find that the savings experienced in the program warrant further expansion of the program.

As noted above, the pilot comprises not one but three distinct demand reduction programs that target residential customers who have central air conditioning, a significant component of UES' peak load. Two of the programs will investigate the effectiveness of TOU rates as way of inducing customers to reduce or shift peak period load, while the third will investigate whether the reduction or shifting of peak load can be achieved more effectively using a non-TOU approach that involves direct load control via a utility-controlled thermostat. Because the two TOU programs are distinguished by the load control technology made available to participating customers, the pilot will also provide valuable information on whether load control technology significantly increases demand reductions.

In short, UES has designed a pilot that seeks to provide answers to several important questions that relate to the design of peak demand reduction programs. At the end of this pilot, we expect UES will be in possession of data that will make the design of a full-scale demand reduction program less a matter of speculation and more a matter of informed planning. Mindful of the benefits that may be demonstrated by the pilots for the implementation in the design of future TOU programs, we find that the settlement agreement pilot program is just and reasonable and in the public interest.

We do note, however, that the TOU rate structure applies to the default service component of the residential rate only. The distribution component will continue to be billed on a non-time differentiated basis. For that reason, customers in the pilot will not face the maximum possible cost-based peak period rate, a fact that needs to be considered when evaluating data from the pilot on peak load reduction or shifting. Also, the pilot as designed does not attempt to enable all loads to be controlled that might be shifted to lower cost hours, such as hot water heating, but nonetheless will provide information on some significant loads, such as air conditioning.

In approving the TOU pilot program as modified by the settlement agreement, we understand that only residential central air conditioning customers have access to the TOU rates.

We look forward to reviewing other electric distribution utilities' proposals to examine the potential of TOU rates and smart grid technologies to promote reductions in customers' electricity use.

Finally, we address PSNH's late-filed petition to intervene. It states that it "seeks to intervene for informational purposes" and that "[b]y participating in the instant docket, receiving non-confidential discovery responses, attending technical sessions and hearings, and receiving copies of submissions by other parties, PSNH will be able to learn how Unitil's approach will work and whether it is acceptable to the Commission, its Staff [and] the Office of Consumer Advocate." It therefore contends that permitting its intervention would be in the interests of justice.

PSNH has not stated facts demonstrating that its "rights, duties, privileges, immunities or other substantial interests may be affected by the proceeding." Furthermore, it can monitor the proceeding and receive copies of relevant documents without being made a party to the proceeding. Accordingly, its petition to intervene is denied.

Based upon the foregoing, it is hereby

ORDERED, that Unitil Energy System, Inc.'s time-of-use pilot program as modified by the settlement agreement is hereby APPROVED.

By order of the Public Utilities Commission of New Hampshire this twenty-sixth day of February, 2010.

Thomas B. Getz	Clifton C. Below	Amy L. Ignatius
Chairman	Commissioner	Commissioner

Attested by:

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02/26/10 Order No. 25,079 issued and forwarded to all parties. Copies given to PUC Staff.

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