

**STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION**

DE 12-262

ELECTRIC AND GAS UTILITIES

**2013-2014 Core Electric Energy Efficiency and Gas Energy Efficiency Programs
Order Approving Unitil Energy Systems' Combined Heat and Power Pilot Measure**

ORDER NO. 25,555

July 29, 2013

I. BACKGROUND

On October 15, 2012, the Commission opened this docket to review energy efficiency programs filed by the regulated electric and gas utilities (Core Utilities). The Commission ultimately approved energy efficiency programs for the 2013-2014 program years in Order No. 25,462 issued February 1, 2013. In the initial energy efficiency filing, Unitil Energy Systems (UES) proposed a Combined Heat and Power (CHP) measure within its Commercial and Industrial (C&I) program. This measure was withdrawn prior to hearing. At hearing, Staff and UES sought Commission permission to provide additional information on the program and re-file it at a later date as a pilot measure. The Commission granted that request in Order No. 25,462 and on May 14, 2013, UES filed a motion requesting approval of its CHP pilot measure.

In its request, UES stated that it had circulated its proposed pilot among participants in this docket and that it had responded to Staff discovery requests on the issue. Briefly, the pilot measure is designed to “reduce demand for electricity while capturing waste energy for use in building conditioning or industrial processes.” Motion at para. 5. In support of its request, UES

states that the pilot will help it develop a market for CHP systems, investigate the demand for the technology, analyze the installation, and review appropriate incentives such as rebates.

UES stated that Staff, the Office of the Consumer Advocate, the Department of Environmental Services, Liberty Utilities, Public Service Company of New Hampshire, and The Jordan Institute assent to UES's request. The Commission has not received any objections to UES' request.

On July 9, 2013, Staff filed a detailed recommendation on UES' request. Staff stated that the CHP program is an established technology supported by the U.S. Environmental Protection Agency (EPA). The main objective of the pilot is to reduce electrical usage. UES proposes a modest budget of \$100,000, with \$25,000 expected to be spent in 2013 and the remainder spent in 2014. Staff stated that UES has provided an illustrative CHP project as having a Total Resource Cost ratio of 1.5, which is above the minimum threshold of 1.0. Staff attached to its recommendation the illustrative calculation UES submitted in response to Staff discovery requests. As part of the measure, UES will also encourage air conditioning and cooling load reduction, but only if it is cost effective.

Staff stated that the standard Core Energy Efficiency program performance incentive will apply to this pilot and Staff stated that a performance incentive was reasonable for this pilot. This pilot is within the Commercial and Industrial sector and the performance incentive is calculated at the sector level rather than the measure level. Staff stated it expected that the savings from this pilot to be all electric savings and that UES would earn the Commission-approved performance incentive.

Staff stated that UES is proposing a specific rebate of 35% of the installed cost of a CHP system, as is used in other custom retrofit projects in their C&I programs. Staff recommendation at 7. This rebate structure is similar to the existing C&I Retrofit Programs approved by the Commission. Staff explained that the selection criteria for projects within this measure will be transparent and that any C&I customer, regardless of the type of fuel used, is eligible to participate in UES's pilot.¹ Staff stated that in addition to the supporters noted by UES, the Office of Energy and Planning also supports the pilot. Staff recommended that the Commission approve the pilot.

II. COMMISSION ANALYSIS

The standards we apply to energy efficiency programs are found within the Electric Utility Restructuring statute, RSA 374-F, in particular RSA 374-F:3, X, Restructuring Policy Principles - Energy Efficiency. The measures contained within the programs should be designed to reduce market barriers to investment in energy efficiency, provide incentives for appropriate demand-side management, and not reduce cost-effective consumer conservation. *Electric Utility Restructuring*, Order No. 23,574, 85 NH PUC 684, 691 (2000). We have approved utility-sponsored programs that target cost-effective opportunities that may otherwise be lost due to market barriers. *Id.* In Order No. 25,462, the Commission approved the Core Utilities' proposed energy efficiency programs for 2013 and 2014 and allowed UES to re-file its CHP pilot measure.

¹ Projects will be selected via a competitive bid process. Selection criteria will include, but not be limited to: screening based on the total resource cost test, funding requirements, capital availability, willingness and ability to work with a monitoring and evaluation contractor, engineering and installation contractor experience, and other relevant elements. Projects that are selected will then be reviewed by a third party consultant before final selection. This third party typically conducts a feasibility analysis to determine the technical and economic viability of the project.

Having reviewed the proposal, we will approve it. According to the filing and Staff's recommendation, UES will devote \$100,000 to the pilot and select cost-effective projects through a transparent evaluation process. Cost effectiveness screening is based on the total resource cost (TRC) test.² UES anticipates projects having a capacity of between 20 and 75 kilowatt (kW) but notes a successful project could be as large as 100 kW. Given the budget and project size, UES does not envision conducting more than one or two projects within this measure over the course of 2013-2014.

The main objective of the pilot is to reduce electric usage, and, if successful, the expected savings from this pilot program will benefit all customers in the form of both electric load reduction and environmental pollution reduction. UES anticipates that the CHP measure will result in extensive electric savings and greenhouse gas emission reductions. These savings are the result of the customer's use of waste heat together with an electric generator. Staff noted that CHP has the support of EPA and by EPA estimates, a 5 megawatt combustion-turbine system powered by natural gas with separate heat and power system emits a total of 45,000 tons of CO₂ per year (13 kilotons from the boiler and 32 kilotons from the power plant), while the CHP system, with its higher efficiency, emits 23,000 tons of CO₂ per year. Although this example is larger than the projects UES expects to pursue, it illustrates the emissions benefits of the program. CHP is increasingly viewed as providing an excellent opportunity, in the right circumstances, to cost-effectively reduce both electric demand and total electric consumption. To evaluate whether a CHP program is right for New Hampshire, UES will collect data and evaluate the demand for the technology; determine what project size is most appropriate, what

² The TRC test takes into account benefits such as avoided energy supply and costs such as the participant's and the utility's costs.

role incentives should play, and whether the rebates encourage greater awareness of CHP, leading towards market transformation in which customers would no longer rely on rebates or other incentives to utilize CHP. Although not expressly stated, we expect UES will share this data and evaluation with the other Core electric utilities. We, as well, look forward to reviewing UES's evaluation report on this pilot in the summer of 2014.³

The program budget is modest but UES has an established C&I program that it already markets to customers. According to the approved Core program filing, UES and the other electric utilities conduct outreach through the Core program websites, hold training seminars for large commercial and industrial customers and service providers, reach out to energy service companies and third party service providers, and conduct program marketing to leads generated from referrals to customer service or energy service representatives. We believe this existing marketing framework will aid in the success of the CHP pilot.

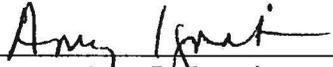
In conclusion, we find that the CHP pilot program represents an appropriate use of funds from the System Benefit Charge, Forward Capacity Market, and Regional Greenhouse Gas Initiative.

Based upon the foregoing, it is hereby

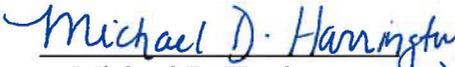
ORDERED, that UES's proposed Combined Heat and Power pilot measure for its Commercial and Industrial customers, as described herein, is hereby **APPROVED**.

³ A stated goal of the pilot is the assessment of actual performance of the installed systems as compared to the estimated energy savings and fuel usage. UES states in its request that it will conduct a post-installation monitoring and evaluation review to capture this information.

By order of the Public Utilities Commission of New Hampshire this twenty-ninth day of July, 2013.



Amy L. Ignatius
Chairman

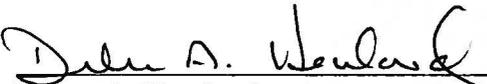


Michael D. Harrington
Commissioner



Robert R. Scott
Commissioner

Attested by:



Debra A. Howland
Executive Director