



Via email and Federal Express

September 17, 2015

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301-2429

**Re: Docket No. IR 15-296
Electric Distribution Utilities, Investigation into Grid Modernization**

Dear Ms. Howland:

On behalf of Utilidata, Inc., enclosed are an original and six copies of Utilidata's Comments on the Scope of the investigation in the above-referenced docket. Should you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ William M. Pratt
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Encl.

cc: Service List

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THE STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Re: IR 15-296 Electric Distribution Utilities, Investigation into Grid Modernization
COMMENTS OF UTILIDATA, INC.

Pursuant to the Public Utilities Commission's ("Commission") Order of Notice in IR 15-296, issued July 13, 2015, Utilidata, Inc. ("Utilidata") submits the following comments and information for the Commission's consideration on the scope of the investigation. As the New Hampshire Office of Energy & Planning's *10-Year State Energy Strategy Report* (September 2014) recognized, several states have been working on grid modernization, such as in the New York *Reform the Energy Vision* dockets and the Massachusetts Grid Modernization dockets. The Massachusetts Department of Public Utilities identified the following goals of grid modernization efforts: (1) reducing the effects of outages; (2) optimizing demand, including reducing system and customer costs; (3) integrating distributed resources; and (4) improving workforce and asset management.

Utilidata recommends as part of the Commission's grid modernization investigation that the scope include a review of proven grid-facing technologies such as Utilidata's Adaptivolt™ as well as appropriate Measurement and Verification ("M&V") protocols to verify that grid modernization investments considered in this investigation are prudent.

I. Utilidata

Utilidata, Inc. is a technology innovator that is modernizing the distribution grid by leveraging advanced digital signal processing ("DSP") techniques to extract better information from primary and secondary AMI voltage data, enabling real-time solutions for more intelligent

and adaptive closed-loop voltage control. Utilidata's best-in-class and patented AdaptiVolt™ Volt/VAR Optimization ("VVO") solution unlocks the significant value related to new types of data and information that can be extracted via DSP from power line assets – which can transform how electric utilities manage the grid. By feeding more intelligent primary and secondary AMI data into the solution's patented, elastic boundary decision-making process, Utilidata has redefined voltage control. The flexible AdaptiVolt™ system and its control algorithm are highly scalable, can integrate with other IT/OT technology, and have the ability to extend to thousands of circuits across multiple substations.

This innovative approach is unmatched in the industry. Utilidata's technology delivers 25–50% greater voltage reduction than its competitors, decreases tap change equipment operations by 30–50% from baseline operations, and is the only real-time VVO solution that has been shown to mitigate against the intermittent effects of distributed generation. The company has been awarded with 22 patents issued and pending, and its independent third-party validated Measurement & Verification (M&V) protocol ensures proper due diligence of the value that AdaptiVolt™ provides.

AdaptiVolt™ is currently deployed on over 110 electric circuits in North America making it the #1 deployed VVO solution in North America. Supported by strategic venture partners, including American Electric Power ("AEP"), Braemar Energy Ventures, Saudi Aramco Energy Ventures and Formation 8, Utilidata is located in Providence, Rhode Island, where it has built a world-class production, research and development facility.

As described below, Utilidata's AdaptiVolt™ solution delivers quantifiable benefits that will enable utilities to reduce effects of outages, optimize demand, integrate distributed resources, and improve workforce and asset management.

II. VVO – Proven to Cost-Effectively Optimize Demand and Reduce Outages

In addition to optimizing demand, AdaptiVolt™ can reduce the number of outages by reducing equipment failures caused by over-tapping and provide real-time identification of failing assets. Utilidata's AdaptiVolt™ technology, with its proven M&V processes, is uniquely positioned to play an immediate role in utilities' cost-effectively optimizing demand and reducing outages through its many proven and verified benefits including: customer energy savings; peak demand and energy reductions; capacity release; system voltage performance; and overall operational efficiencies. Utilidata's strong M&V processes will enable the Commission to understand exactly how much these infrastructure investments are saving the customer while providing utilities with real-time data to confirm their investments and inform future investment.

The AdaptiVolt™ M&V process has been reviewed and approved by peers and regulators, and meets the U.S. Department of Energy's energy conservation measurement and verification guidelines. Where such robust M&V protocols are integrated into technology deployment, the risk that a technology will not be a prudent investment is significantly reduced. For example, AEP's evaluation of AdaptiVolt™ found that the technology's energy efficiency benefits doubled the net present value of an already robust business case by delivering significant voltage reductions along with a 30% reduction of equipment operations on regulators on circuits controlled with AdaptiVolt™ technology. AEP has moved forward with its plans to deploy AdaptiVolt™ in several jurisdictions. Most recently, both the Michigan Public Service

Commission and the Indiana Utility Regulatory Commission (“IURC”) approved VVO as part of, AEP subsidiary, Indiana Michigan Power Company’s (“I&M”) Electric Energy Consumption Optimization Program (“EECO”) and deemed it eligible for accelerated cost treatment as Demand Side Management (“DSM”).¹ The IURC based its findings, in part, on the evidence that VVO is a “deliberate intervention” by I&M that produces a “change in a utility’s load shape” by allowing I&M to deliver energy within a tighter bandwidth of voltage which ultimately reduces usage as a result of greater efficiency.² Based on these proven and accepted results, Utilidata’s AdaptiVolt™ technology is being deployed on distribution systems today and can assist utilities in New Hampshire “make measurable progress” towards grid modernization objectives.

AdaptiVolt™ is an ideal investment for utilities to implement in the immediate future as it has the unique advantage of delivering immediate, verifiable benefits while also integrating with future deployment of AMI and other distributed generation technologies, such as wind generation and solar photo-voltaic solar panels (“PV”), without sacrificing reliability. For a moderate investment, AdaptiVolt™ can be surgically deployed on existing distribution infrastructure (e.g. DMS, communication networks) within three to six months and can yield immediate prudent benefits. Moreover, as discussed below, AdaptiVolt™ has been proven to enhance the effectiveness of future AMI investments when they come online.

¹ See *In the Matter Regarding the Regulatory Reviews, Revisions, and/or Approvals Necessary for Indiana Michigan Power Company to Fully Comply with Public Act 295 of 2008*, Case No. U-17353, Order Approving Settlement (December 19, 2013); see also *In the Matter of the Verified Petition of Indiana Michigan Power Company for Approval of an Adjustments to its Rates*, Cause No. 43827-DSM 3, Order of the Commission (December 30, 2013). The IURC specifically found that “[a]lthough many DSM programs are targeted at changing customer behavior, for example usage of electricity, or inciting customers to purchase more efficient appliances. However, the [Indiana statutory] definition of DSM measure does not require a change in customer behavior – only the change in customer usage. I&M presented evidence demonstrating that the EECO program would reduce energy consumption through increased efficiency. Therefore, we find that the EECO program meets the requirements for DSM [under Indiana Statute], and we approve the EECO program as part of the 2014 DSM plan.” *Id.* at 11.

² *Id.*

Utilidata therefore urges the Commission to make M&V central to the deployment of grid modernization technology in New Hampshire. Robust M&V will ensure that the costs and benefits of capital investments will be known regardless of the manner in which those costs are ultimately recovered.

III. VVO Seamlessly Integrates with AMI and other Distributed Resources

AdaptiVolt™ has been proven to improve the cost-benefit analysis of AMI and distributed energy resources, such as wind power and PV by providing real-time insight and adaptive control. At present, the cost-benefit analysis for AMI solutions is often a break-even proposition. Integrating AdaptiVolt™ with existing or future AMI deployments can improve the returns on that AMI by 0.3 or 0.4 basis points depending on the system. Consequently, AdaptiVolt™ can provide utilities with a “no regrets” investment and implementation that delivers near-term, measurable progress towards the New Hampshire’s grid modernization objectives without the risk of stranded costs associated with investments that do not integrate with existing infrastructure or future distributed generation deployments and may be found not to be a prudent investments. The Commission should require the utilities to prioritize technologies that can be deployed in the short-term and offer immediate benefits to the distribution system and to customers.

IV. Conclusion

Utilidata encourages the Commission and staff to recognize the value of the Volt/VAR management technology along with placing significant emphasis on M&V protocols in the further development of policies designed to modernize the electric grid. A strong M&V mandate for grid modernization plans can address risks to customers in these investments and

apprehension over changes in cost recovery standards with the ultimate goal of delivering significant benefits to the ratepayers. Utilidata looks forward to participation in future proceedings involving grid modernization.

Respectfully submitted,

/s/ William M. Pratt

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Dated: September 17, 2015

Certificate of Service

I certify that on this date the original and six (6) copies of the foregoing were filed with the PUC and served via electronic mail to all persons on the IR 15-296 Service List.

September 17, 2015

/s/ William M. Pratt
William M. Pratt

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