

May 25, 2015

State Corporation Commission  
P.O. Box 1197  
Richmond, Virginia 23218

RE: PUE-2016-00022 - SCC Ex Parte: In the matter of receiving input for evaluating the establishment of protocols, a methodology, and a formula to measure the impact of energy efficiency measures

To whom it may concern:

Thank you for the opportunity to comment on the possible establishment of protocols to measure the impact of energy efficiency measures in Virginia. Opower believes that the creation of such a protocol would be valuable for the Commonwealth, and that existing protocols provide ample guidance for Virginia.

Opower is a publicly-traded enterprise software company that helps utilities elevate the customer experience. Energy providers use Opower's customer engagement platform to deliver proactive, digital communications that raise customer satisfaction, manage energy demand, and lower service costs. Opower's software is deployed to 100 utilities worldwide and reaches more than 60 million homes and businesses.

The Commission has requested comment on several questions. In this response, Opower specifically makes three points:

1. An evaluation, measurement, and verification (EM&V) protocol would provide certainty for utilities and efficiency providers, and help deliver more efficiency to Virginia consumers.
2. If it decides to proceed with a protocol, the Commission should adopt existing protocols for behavioral energy efficiency.
3. Cost effectiveness tests should include a comprehensive set of benefits, including avoided infrastructure costs.

### **An EM&V protocol would provide certainty**

A protocol would provide certainty that results derived from measures included in the EM&V protocol would be accepted as accurate results by the Commission. The Commission often demands that efficiency programs demonstrate the ability to deliver results in pilot programs in Virginia before being deployed at scale. However, utilities and vendors sometimes struggle to understand exactly what results the Commission will deem valid.

For example, consider the Commission's final order in Case PUE-2015-00138. In Washington Gas Light Company's Response to the Staff Report, the utility provided an independent evaluation, which followed a common EM&V protocol used across the country, showing efficiency savings from a pilot of the Opower Home Energy Report Program. However the Commission states in their final order, "We remain concerned by the lack of data available for this program based on actual experience by either WGL or by a Commission-regulated Virginia utility." (see page 8 at <http://www.scc.virginia.gov/docketsearch/DOCS/38%24z01!.PDF>) Absent a discussion of why the independent evaluator's findings are not valid, one possible explanation is that the Commission disagreed with the process employed by the evaluator.

There are several benefits to avoiding similar misunderstandings in the future. First, utilities spend significant resources in conducting evaluations, without the guarantee that the resources are being spent effectively. A protocol would eliminate this uncertainty and help ensure that resources devoted to EM&V are spent most effectively. Second, utilities may reasonably avoid running pilots if they are not assured that the results from the pilot will be viewed as legitimate. This would almost certainly result in innovative and effective programs not moving forward.

### **The Commission should adopt existing protocols for behavioral energy efficiency**

If the Commission does decide to create a protocol, they should embrace the significant body of knowledge that already exists in EM&V. This is especially true for residential behavioral energy efficiency. Both the State and Local Energy Efficiency Action Network and the United States Department of Energy's Uniform Methods Project have recommended a best practice for EM&V for behavioral programs. In both cases, they recommend a "randomized control trial."

Randomized control trials are the gold standard for scientific experiments, and should be used as much as possible in measuring energy efficiency results. The concept is straightforward. A population of utility consumers is split into two statistically equivalent groups. One group is provided with personalized energy usage information, while the other group is not. Throughout the program, the energy usage for the two groups is measured using billing or meter data. The difference in usage between the two groups is attributed to the personalized energy usage information.

This EM&V method has been used in more than 80 independent evaluations, in addition to being recommended by the Department of Energy. The Commission should simply adopt the residential behavioral protocol from the DOE's Uniform

Methods Project. Adopting the best practice that is already in common use across the country will provide the most rigorous results. Evaluators, utilities, and vendors will also appreciate the cost savings that come from not having to develop new measurement methods.

### **Cost-effectiveness tests should include a comprehensive set of benefits**

If the Commission decides to create a protocol, it should include guidelines on cost-effectiveness calculations. Importantly, the Commission should incorporate best practices from across the country. This will make sure that Virginia is using the most up-to-date understanding of the benefits of energy efficiency, and will streamline processes for utilities and vendors that operate in multiple states.

One important element that the Commission should consider is incorporating avoided transmission and distribution infrastructure costs into the benefits of energy efficiency. This is recommended practice in California and New England. In California, the New California PUC Avoided Costs for Energy Efficiency Evaluation ([http://aceee.org/files/proceedings/2004/data/papers/SS04\\_Panel5\\_Paper20.pdf](http://aceee.org/files/proceedings/2004/data/papers/SS04_Panel5_Paper20.pdf)) says that the benefits of energy efficiency for natural gas include, "Transmission and distribution (T&D) capacity, which captures the reduced demand related capital expenditures, line capacity losses and maintenance costs associated with energy savings."

In New England, the Avoided Energy Supply Costs in New England: 2015 Report ([http://www.ripuc.ri.gov/eventsactions/docket/4580-NGrid-TRM4-AESC\\_report.pdf](http://www.ripuc.ri.gov/eventsactions/docket/4580-NGrid-TRM4-AESC_report.pdf)) says that natural gas avoided costs include, "Avoided local distribution infrastructure costs due to delays in the timing and/or reductions in the size of new projects that have to be built resulting from the reduction in gas that has to be delivered."

### **Conclusion**

The decision to adopt a protocol for measuring the impacts of energy efficiency programs is an important opportunity for the Commission. The Commission could increase the amount of energy efficiency in Virginia by adopting a protocol, especially if the protocol includes best practices from across the country.

Thank you for the opportunity to submit these comments. We would welcome the opportunity to discuss these comments with you at any point.

Sincerely,

Richard W. Caperton

Director of National Policy and Partnerships  
Opower