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Submitted via E-Mail

Aida Camacho-Welch
Secretary of the Board
Board of Public Utilities
44 South Clinton Avenue, 9th Floor P.O. Box 350
Trenton, New Jersey 08625-0350

October 7, 2021

RE: STRAW PROPOSAL ON ADVANCED METERING INFRASTRUCTURE (AMI) DATA TRANSPARENCY, PRIVACY & BILLING, DOCKET No. EO20110716

Dear Secretary Camacho-Welch:

The American Council for an Energy-Efficient Economy (ACEEE) welcomes this opportunity to provide comments in response to the "Straw Proposal on Advanced Metering Infrastructure (AMI) Data Transparency, Privacy and Billing," ("Straw Proposal") issued by the New Jersey Board of Public Utilities("BPU" or the "Board").

ACEEE is a nonprofit research organization based in Washington, D.C. that conducts research and analysis on energy efficiency. ACEEE is one of the leading groups working on energy efficiency issues in the United States at the national, state, and local levels. We have been active on energy efficiency issues for more than four decades and have actively participated in the Energy Efficiency Transition stakeholder engagement process in New Jersey. ACEEE has tracked progress on AMI deployment, and its relationship to energy efficiency and demand response for over a decade, including our 2019 publication "Leveraging Advanced Metering Infrastructure to Save Energy."[1]

ACEEE is pleased to see that the Straw Proposal recognizes the "enormous potential for AMI to facilitate carbon reductions, lower costs for customers, open paths to competitive third party innovation …" and also the need to require minimum filing requirements to "ensure that consumers and their authorized third party service providers can fully capitalize on their AMI investments, and implement the EMP [Energy Master Plan]."Our research finds that AMI deployment is necessary but not sufficient to unlock important use cases for clean energy without clear data access rules, shared definitions of key use cases, investments in complementary communications and other forms of infrastructure, and financial incentives for utilities to *utilize*, not just deploy, the AMI resource.

[1] Gold, R. and D. York. 2019. Leveraging Advanced Metering Infrastructure to Save Energy. https://www.aceee.org/research-report/u2001

The Straw Proposal lays out a strong set of policies and minimum filing requirements to support such utilization of the AMI resource. In these brief comments, we highlight two areas where the Straw Proposal could be strengthened to support the principle of "Using AMI to Drive Efficient Achievement of New Jersey's Clean Energy Goals, and Positioning New Jersey Grid to Appropriately Account for Clean Energy Attributes." We first summarize our recommendations and then provide additional details below.

1. ***Develop Energy Efficiency Use Cases:*** Include use cases to support advanced energy efficiency program delivery, including customer targeting, meter-based pay for performance, and grid-interactive efficient buildings
2. ***Tie Performance to Financial Outcomes*****:** Consider tying performance to financial outcomes through performance incentive mechanisms or conditioning some cost recovery on performance on key use cases

Develop Energy Efficiency Use Cases

ACEEE supports the Straw Proposal's clear inclusion of required use cases for the minimum filing requirements (MFRs), including mandatory data access and communication protocols for each, as well as potential qualitative and quantitative benefits for each. Our research found seven primary use cases for AMI to drive energy savings, of which the Straw Proposal captures four:

- Enhancing the quality of insights on energy use from near-real-time feedback
- Providing time-varying pricing that reflects fluctuating energy costs at different times of day and year (including, for example, peak time rebates)
- Producing granular data needed for advanced measurement and verification of customer energy and demand savings (M&V 2.0.)
- Enabling conservation voltage reduction (CVR) on electricity distribution networks to reduce demand and energy use

Improving distribution system planning, which the Straw Proposal acknowledges, is also a crucial use case, but there were limited such examples in our research. Our research found three additional use cases, each of which relates to advanced energy efficiency program design. These use cases support market animation and using AMI data to enable procurement of and programs for those resources best positioned to meet system energy, capacity, and flexibility needs at least cost. We encourage the Commission to consider including these in the MFRs so that the next round of energy efficiency programs fully benefits from the AMI resource:

- *Targeting customers for programs best suited to their energy use profiles:* A key use case for interval data is to use it to maximize program design and cost-effectiveness through customer targeting to increase savings or lower the cost of serving or recruiting customers. This works by pre-screening customers with particular characteristics as the focus of marketing efforts to identify those who (1) are able to participate (e.g., are using the relevant end uses), (2) are likely to participate, or (3) are likely to save more than others when they do participate. Interval data is

particularly helpful for targeting characteristics such as discretionary kWh, peak-period usage, baseload kWh, load-shape characteristics, and more precise determinations of heating and cooling kWh. Pacific Gas & Electric is using such targeting for its programs, and estimates that such targeting can increase average participant savings by 53% and 76% across a range of residential and small and medium-size business programs.[2] Such techniques may be in use at some or all of the utilities, but defining this as a use case will ensure both that they are taking advantage of this resource, and that they are sharing necessary data with implementation partners and trade allies as appropriate to improve program effectiveness.

- *Supporting energy procurement and meter-based pay-for-performance (P4P)[3]:* Another important use case is P4P, an emerging model for energy efficiency program design, which rewards energy savings on an ongoing basis rather than providing up-front payments based on deemed or custom measured calculations. When AMI data is available, these programs can determine performance payments based on savings quantified using hourly or daily meter data and advanced analytics.[4] With interval data, utilities can set payments associated with value to the grid or greenhouse gas reductions at different hours of the day. For example, Pacific Gas & Electric uses such structures in residential programs to pay a "kicker" for savings achieved during the summer peak period. While utilities could use average load and savings shapes to value savings during system peaks, interval data offer a more accurate view of the time value of demand-side measures like efficiency, battery storage, and demand response. Such a use case for AMI could also provide utilities and other program administrators (such as NJ Clean Energy Program) with actionable insights about how to improve programs by tracking meter-based impacts close to real time rather than months after the end of a yearlong program. Detailing a P4P use case can prioritize development of such programs, likely to be an important component of future energy efficiency portfolios, which will increasingly need to align with greenhouse gas reductions to meet EMP goals. Leveraging AMI in support of P4P requires data access for all program administrators as well as the implementers or "aggregators" who run the program, as well as investment in staff capacity and any systems required to structure performance payments and create the platform for a P4P marketplace.

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[2] Scheer, A., S. Borgeson, R. Kasman, M. Geraci, and F. Dahlquist. 2018. "Customer Targeting via Usage Data Analytics to Enhance Metered Savings." In *Proceedings of the 2018 ACEEE 2018 Summer Study on Energy Efficiency in Buildings*. www.aceee.org/files/proceedings/2018/index.html#/paper/event-data/p195.

[3] P4P rewards energy savings on an ongoing basis as the savings occur, rather than providing up-front payments based on deemed or custom measure calculations. Meter-based P4P programs determine performance payments according to savings quantified using meter data, including daily or hourly data from AMI where available. See C. Best, M. Fisher, and M. Wyman, "Case Study: Policy Pathways to Meter-Based Pay-for-Performance in CA, NY, and OR," *Recurve*, September 3, 2019, www.recurve.com/blog/policy-pathways-to-meter-based-pay-for-performance.

[4] Best, C., M. Fisher, and M. Wyman. 2019. *Policy Pathways to Meter-Based Pay-for-Performance.* Madison, WI: IEPEC (International Energy Program Evaluation Conference). www.recurve.com/blog/policy-pathways-to-meter-based-pay-for-performance.

- *Promoting grid-interactive efficient buildings that extract more grid value from customer programs by providing more flexible demand:*[5] The EMP highlights the importance of managing and reducing peak demand, and utility management of peak demand is required under the Clean Energy Act.[6] Flexible, controllable electricity loads to support reliability and lower system costs will become increasingly important as New Jersey evolves toward carbon-free electricity. Grid-interactive efficient buildings (GEBs), which are grid-connected buildings with information, controls, and communications technologies able to respond to signals from the grid to modify energy demand, can play an important role. GEBs combine a number of AMI use cases pricing, feedback, and targeting, and can enable other use cases, such as P4P and advanced M&V. To serve these multiple roles, GEBs require either interval data from AMI or building automation systems (to understand the best ways to respond to grid needs) combined with controls both for the building and for communications back to utility or other offtakers, or buyers, of the building's services. By defining GEBs as a deliberate use case, utilities can plan for such programs – and avoid duplicative investment in systems that may serve similar purposes.

Tie Performance to Financial Outcomes

Investment in AMI is expensive, but can yield crucial benefits for customers and clean energy outcomes. ACEEE's research finds that state regulators have a range of financial options for encouraging utilities to deliver on these expected benefits from AMI. These tools include 1) performance-based regulation to align investments with desired outcomes, making additional earnings from AMI conditioned on realization of claimed benefits, or 2) consideration of delay or denial of some compensation to shareholders when benefits are not delivered.[7] However, with the later approach, there is a risk that this will chill investment, as utilities will be less likely to invest where cost recovery is uncertain or not timely or where regulators place conditions on recovery.

New Jersey has experience with performance incentive mechanisms (PIMs) that tie compensation to desired policy outcomes from the Energy Efficiency Transition, and could use those tools to incentivize utilities to deliver on the principles and use cases in the ultimate order. For example, Hawaii recently adopted a performance incentive mechanism for AMI utilization, based on the percentage of total customers with advanced meters receiving at least two of three benefits: customer authorization data

[5] Grid-interactive efficient buildings (GEBs) are grid-connected buildings with information, controls, and communications technologies able to respond to signals from the grid to modify energy demand.

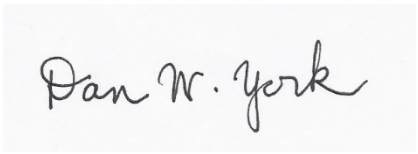
[6] Energy Master Plan at pg 147

[7] There are numerous cases, such as in Washington, Massachusetts, and Pennsylvania, where regulators have disallowed full recovery of undepreciated assets to protect ratepayer interests (Peskoe, A. 2016. *Utility Regulation Should Not Be Characterized as a "Regulatory Compact."*). In AMI specifically, Baltimore Gas & Electric's initial petition to deploy AMI (Case 9208) was rejected in 2009 due to concerns about the cost–benefit analysis. The utility resubmitted the application with an updated business case; although the utility was granted approval for the deployment, cost recovery in base rates was deferred until the investments proved cost beneficial.

sharing with third parties, use of energy usage alerts, and new enrollment in time-of-use and distributed energy resource programs.[8]

We look forward to continued engagement with the Board on these issues. ACEEE welcomes this opportunity to provide comments.

Sincerely,



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[8] Hawaii Public Utilities Commission. Docket No. 2018-0088. Order 37787. https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A21E17B53226E00118