PENNSYLVANIA PUBLIC UTILITY COMMISSION
Harrisburg, Pennsylvania 17105-3265

Implementation of the Alternative Energy Portfolio Standards Act of 2004	**Public Meeting: April 23, 2015** **2404361-LAW** **Docket No. L-2014-2404361**

STATEMENT OF COMMISSIONER JAMES H. CAWLEY

Before us are updates and revisions to regulations to comply with Act 129 of 2008 and Act 35 of 2007, and certain clarifications regarding issues of law, administrative procedure, and policy. These proposed revisions are being issued for public comment. After receipt and review of public comment, the Commission will issue a final rule for approval consistent with the regulatory review process.

I wish to draw particular attention to the revisions related to the provision that would require all *new* alternative energy systems to be sized to generate no more than 200 percent of the customer-generator's annual electric consumption at the interconnection meter and all qualifying virtual meter aggregation locations.[1] Before now, the Commission did not set more restrictive size limitations on customer-generators, except in a policy statement permitting net metering of third-party owned and operated systems.[2] In our previous proposed rulemaking, we proposed 110 percent, consistent with that policy statement.

Choosing between 110 and 200 percent appears to be largely driven by a review of the output of existing customer-generator systems. On the one hand, a higher percentage provides greater flexibility to early adopters of these distributed generation (DG) systems. Economies of scale, for example, could play a role in encouraging installation of such systems. Conversely, when and if DG systems become more commonplace, these early higher volume DG systems may crowd out future DG systems if local distribution system constraints either make future net-meter interconnect applications impossible or more costly to accommodate. In that instance, a high opportunity cost could be imposed on future DG customers. I welcome further comments on what the optimal solution is regarding this issue.

Secondly, many of these DG customer-generator systems are solar photovoltaic (PV) systems. PV and wind systems require an inverter to convert direct current (DC) from the generating resource to the voltage and frequency of the alternating current (AC) distribution system. Today's "smart inverters" have many capabilities, including:

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[1] Existing net metered installations are grandfathered. For existing service locations, the customer can use electric usage data from any 12 consecutive month period occurring within 60 months prior to submission of the interconnection request. For new service locations, the customer can use an annual electric consumption estimate based on the building type, size, and anticipated usage or electric equipment and fixtures planned for the new service location. The design limit is determined at the system installation stage. Customer-generators that meet this requirement and receive net metering will not lose net metering status if the generation from their alternative energy system exceeds 200 percent of the customer-generator's annual electric consumption in any subsequent year, provided that the alternative energy system's capacity was not increased subsequent to its initial approval.

[2] *See* Net Metering – Use of Third Party Operators, Final Order, Docket No. M-2011-2249441 (entered March 29, 2012).

- The delivery of DC power into an AC system, such as photovoltaic power to the AC grid; and the delivery of AC power to a DC load, as in charging a battery from the grid.

- The generation or absorption of reactive power so as to raise or lower the voltage at its terminals.

- Delivery of power in four quadrants, that is, positive real power and positive reactive power; positive real power and negative reactive power; negative real power and negative reactive power; and negative real power and positive reactive power.

- The detection of voltage and frequency at its terminals and the ability to react autonomously to mitigate abnormal conditions: to provide reactive power if the voltage is low; to increase real power output if the frequency is low.

- In combination with a communication link, to deliver real and reactive power and to charge and discharge storage facilities in accordance with signals from the utility.

Smart inverters can improve the performance of the distribution grid and the network as a whole, or, conversely, if improperly applied, can present serious problems in terms of voltage control, the clearing of short circuits, and the creation of dangerous "islanding" conditions. As greater numbers of renewable generating resources interconnect with the grid, the influence of the smart inverter will grow.

While the rulemaking before us does not address interconnect requirements related to smart inverters, I would encourage comment on the benefits and necessity of adopting further updates to our interconnect regulations that incorporate the capabilities of these new smart inverters. A discussion of benefits should address whether adopting new regulations related to smart meters inverters can enable more market penetration of DG systems, and what safety and operational benefits to the distribution grid can result from adoption of new future regulations.

DATE: April 23, 2015

James H. Cawley, Commissioner