

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

<b>Re: Implementation of the Alternative Energy Portfolio Standards Act of 2004 Standards for the Participation of Demand Side Management Resources -Technical Reference Manual</b>	: : : : :	<b>Docket No. M-00051865</b>
<b>Implementation of Energy Efficiency and Conservation Program</b>	: :	<b>Docket No. M-2008-2069887</b>

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**REPLY COMMENTS OF  
ENERNOC, INC.**

**On Proposed Update to the Technical Reference Manual**

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Pursuant to the Secretarial Letter issued February 20, 2009 in the above-captioned proceedings, EnerNOC, Inc. hereby provides its Reply Comments regarding the TRM update.

**I. Communications**

All communications, correspondence, and documents related to this proceeding should be directed to the following:

Aaron Breidenbaugh  
Senior Manager, Regulatory Affairs and Public Policy  
EnerNOC, Inc.  
75 Federal Street, Suite 300  
Boston, MA 02110  
Mobile: (617) 913-9054  
Tel: (617) 224-9900  
Fax: (617) 224-9910  
[abreidenbaugh@enernoc.com](mailto:abreidenbaugh@enernoc.com)

## **II. Background**

EnerNOC is a leading demand response (“DR”) and energy management services provider throughout the United States. EnerNOC currently manages over 2,500 MW of demand response resources capability from over 1,600 customers across over 4,600 sites nationwide. We actively participate in a range of reliability-based demand response programs, economic price response programs, and ancillary services markets. EnerNOC employs over 350 persons at offices in six states, as well as the province of Ontario

EnerNOC has been an active Demand Response Provider (“DRP”) in the demand response programs of three Independent System Operators (“ISOs”) or Regional Transmission Organizations (“RTOs”), e.g. New York ISO, ISO New England, and the PJM Interconnection. We also have signed contracts with a variety of utilities to provide demand response services, including Southern California Edison, Pacific Gas & Electric, San Diego Gas & Electric, the Tennessee Valley Authority, Tampa Electric Company, Public Service Company of New Mexico, Xcel Energy (Colorado), Salt River Project, Idaho Power, Allegheny Power, Baltimore Gas and Electric, Delmarva Power and PEPCO.

EnerNOC’s demand response activities are implemented via automated, aggregated, and intelligent management of end-user lighting, HVAC, distributed generation, and industrial process equipment. Every one of EnerNOC’s thousands of sites is connected to our Network Operations Center (the “NOC” in EnerNOC) and communicates real-time load data over a secure Internet connection, allowing our operations staff to monitor and verify facility load reductions is real time. This customer visibility allows us to ensure that customers are delivering their contracted reductions and where they are not to take efforts to “coach” them, or to dispatch technicians to take corrective action.

As a result, EnerNOC dispatched emergency demand response resources in its network over 100 times during 2008 and delivered performance that averaged over 100% during the year, based on nominated versus delivered capacity.

## **III. Comments**

EnerNOC recognizes the challenge facing both the Commission and EDCs as they work to meet the energy savings and peak demand reduction goals of Act 129. Indeed, the Commission just determined that the electric distribution companies (“EDCs”) must reduce their peak load, measured over the average of the 100 highest hours by 1,193 MW by May 31, 2013. This is a tremendously ambitious goal and it is our hope that the EDCs are able to leverage the substantial capabilities that companies such as EnerNOC can offer.

We have some concerns that the TRM does not yet address which, if left unaddressed might make it difficult or impossible for third-party Conservation Service Providers (“CSPs”) to work effectively with the EDCs.

We appreciated the opportunity to participate in the Commission’s recent Working Group process with respect to the Proposed Update to the Technical Reference Manual. Although some of our concerns were addressed through clarifications provided at the meeting, others remain.

EnerNOC believes measurement and verification (“M&V”) to be a critical determinant of the success of any program as it enables utilities and regulators to measure the performance of DR resources. A well-designed M&V methodology benefits all stakeholders by aligning the incentives, actions and interests of end-user participants, utilities, regulators, aggregators, grid operators and ratepayers.

While it is straightforward for a utility or third-party-provider to track facility load at regular intervals, it is more challenging to measure curtailments in response to a DR event. During a DR event, actual facility load must be compared to “business as usual” load or what the facility load would have been consuming but for the implemented curtailment measures. M&V methods are at the center of this comparison, and as a result are a key tool in determining the reliability of a given DR program.

Page 61 of the Commission’s proposed update to the Technical Reference Manual (“TRM”) suggests that “Each commercial and industrial application will be treated independently as a custom project”, and specifies a range of requirements expected of each “project application”. Based on discussions during the working group meeting of March 24, we would like to confirm our understanding that instead of “project”, the Commission intended to imply “program.” We suggest that the language be corrected to reflect that understanding. Substantial value can be gained through the aggregation of C&I demand response capacity across a portfolio. This concept alleviates the substantial risk of under-performance that might prevent participation among certain end-use customers while maintaining the firm, guaranteed commitment sought by the EDC. By nominating capacity and determining performance measurements at the portfolio level, a CSP can insulate individual customers from potentially damaging non-performance penalties while providing an EDC with a firm commitment backed by financial guarantees, benefiting all constituents.

It is also important to note that page 61 of the TRM presents criteria taken from ISO New England’s manual for “Measurement and Verification of Demand Reduction Value from Demand Resources” associated with its Forward Capacity Market (“FCM”.) While the TRM contains a single paragraph

highlighting certain application processes and a list of application requirements, the ISO New England manual contains 90 pages of detailed discussion around topics including resource definitions, eligibility criteria, implementation mechanisms, and telemetry, baseline and verification practices, among a range of other topics.

As a participant in ISO New England's DR programs, we believe their M&V methodology represents a useful mechanism that promotes the delivery of reliable DR capacity. However, given the significant differences between the ISO-NE and PJM markets, and the involved nature and administrative requirements associated with managing such an M&V process, we believe it would be wise for the Commission to instead adopt the M&V methodologies established by PJM for its DR resources, or to at least consider EDC programs that rely on the PJM protocols to be presumptively reasonable and prudent .

These methodologies are already in use in Pennsylvania and leveraging them will ensure use of a proven, established standard; it will also greatly reduce the administrative burden associated with the program on the Commission, on the EDCs and on the CSPs. It will also allow for seamless participation by customers currently enrolled in PJM's existing demand response programs. Already familiar with demand response, it is these existing customers that are likely to form the first, best, and least expensive resources that EDCs can rely upon to meet their Act 129 peak load reduction requirements. To be sure, the burdens likely to be imposed by Act 129 will be far larger than those imposed by the PJM emergency DR programs and many customers will find participation to difficult or the EDCs will find costs of inducing such participation too high. Nevertheless, it is these existing PJM DR providers that represent the "low-hanging fruit" that EDCs will first have to examine.

The PJM DR protocols for enrollment, registration and M&V have been developed over the course of years and have been refined and problems corrected with the benefit of much experience. In addition, the current PJM protocols have been developed by a group of stakeholders that includes all of the various interest groups, including all of the EDCs. Being able to leverage that vast experience will make what is already a hugely difficult and complex undertaking just that much simpler.

The PJM M&V methodology and enrollment protocols are described in great detail in PJM's Tariff, Manual 11 and Manual 19 documentation. The M&V methodology includes an array of detailed definitions, registration steps, data and technical requirements, calculation methodologies, and reporting processes, among other criteria.

The following intended to provide a high-level sampling of the process:

- Definitions of eligible demand resources and participants
- Participant registration and review process (governing 3<sup>rd</sup> party participation in certain programs)
- Resource registration requirements (including much if not all of the data listed on page 61 of the TRM, as well as other detailed requirements)
- Metering requirements and reporting of meter data
- Baseline requirements and reporting of baseline data
- Settlement rules and settlement data requirements and reporting at a market participant (or program, rather than individual site) level

We would be more than happy to work with the Commission and other interested stakeholders to further examine both the PJM M&V methodology as it applies to C&I DR and the Act 129 energy savings and peak load reduction requirements, or other potential M&V approaches.

#### **IV. Conclusion**

EnerNOC appreciates the opportunity to provide these comments and respectfully requests that the Commission adopt our recommendations.

Respectfully submitted,



Aaron Breidenbaugh  
March 27, 2009