

December 10, 2007

VIA HAND DELIVERY

Hon. Jaclyn A. Brillling
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350

Re: Case 02-M-0514 – Proceeding on Motion of the Commission to Investigate
Competitive Metering for Natural Gas Service

Case 00-E-0165 – In the Matter of Competitive Metering

Case 94-E-0952 – In the Matter of Competitive Opportunities Regarding
Electric Service

Dear Secretary Brillling:

Enclosed for filing are the original and 5 copies of the “Comments of EnerNOC, Inc.”, submitted in response to the “Notice Seeking Comments” issued by the State of New York Public Service Commission on October 10, 2007, in the above-referenced proceedings.

Please date-stamp the enclosed extra copy of this letter and return it to our messenger. If you have any questions, please call me.

Very truly yours,

COUCH WHITE, LLP

s/ Garrett E. Bissell

Garrett E. Bissell

GEB/dp

Enclosures

cc: Active Parties (via email and U.S. Mail; w/enc.)

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**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

**In the Matter of Competitive
Opportunities Regarding Electric
Service**

Case 94-E-0952

**In the Matter of Competitive
Metering**

Case 00-E-0165

**Proceeding on Motion to the
Commission to Investigate
Competitive Metering for Natural
Gas Service**

Case 02-M-0514

SAPA I.D. No. PSC-43-07-00023-P

COMMENTS OF ENERNOC, INC.

Dated: December 10, 2007

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PRELIMINARY STATEMENT

EnerNOC, Inc. (“EnerNOC”)¹, a demand response and energy management solutions provider, with customers located throughout New York State, hereby submits its Comments in response to the Notice of Proposed Rulemaking, I.D. No. PSC-43-07-00023-P, which was noticed for comment in the October 24, 2007 edition of the *New York State Register* and the “Notice Seeking Comment” (“Notice”) issued October 10, 2007 in the above-referenced proceedings.² In the Notice, the Commission seeks comments on whether to approve, modify, or reject standards relating to electric and gas metering equipment used in the provision of utility service in New York State. In particular, the Commission requests that parties address “the features and functions of [advanced metering infrastructure] systems that should be considered standard.”³

EnerNOC appreciates the opportunity to provide these Comments in order to assist the Commission in developing standards to be used in evaluating the Advanced

¹ EnerNOC is a leading developer and provider of clean and intelligent energy solutions to commercial, institutional, and industrial customers that has approximately 918 megawatts (“MW”) of dedicated demand response resources throughout the United States. In New York, EnerNOC has been certified as Meter Data Service Provider (“MDSP”) by the Commission. In addition, EnerNOC is a certified Responsible Interface Party (“RIP”) and Curtailment Service Provider (“CSP”) with the New York Independent System Operator, Inc. (“NYISO”). As a RIP, EnerNOC actively participates in the NYISO Special Case Resource Program (“SCR”). EnerNOC also assists customers with participation in Aggregated Load Reduction Program offered by the New York State Energy Research and Development Authority (“NYSERDA”). EnerNOC has previously participated in these proceedings through its membership and association with the Demand Response and Advanced Metering Coalition (“DRAM”).

² Cases 94-E-0952 *et al.*, In the Matter of Competitive Opportunities Regarding Electric Service, Notice Seeking Comment (August 1, 2006), p. 1.

³ *Id.* at 2.

Metering Infrastructure (“AMI”) systems proposed by the investor-owned utilities subject to the Commission’s jurisdiction. It is EnerNOC’s position that the development of such standards will help to ensure that those ratepayers that ultimately bear the costs of implementing AMI systems will derive the maximum potential benefit from such systems. Although EnerNOC applauds the efforts of the Department of Public Service Staff (“Staff”) in preparing the proposed standards of features and functions for AMI systems (“Proposed AMI Standards”), as described herein, certain modifications and additions to the Proposed AMI Standards are necessary to ensure that ratepayers receive the full benefits offered by the implementation of AMI systems in New York.

POINT I

THE STANDARDS FOR FEATURES AND FUNCTIONS OF AMI SYSTEMS MUST ENSURE THAT RATEPAYERS RECEIVE THE MAXIMUM BENEFIT FROM SUCH SYSTEMS

AMI systems are capable of providing a wealth of benefits to various constituencies. Among the parties that will derive benefits from the implementation of AMI systems in New York are utilities, Energy Service Companies (“ESCOs”), grid operators and transmission organizations, demand response providers and load aggregators, energy management consultants, and most importantly ratepayers. The range of benefits provided by the implementation of AMI systems include, among other things, enhanced customer service by utilities and ESCOs, expedited service initiation and restoration, ability of ESCOs to offer more innovative and flexible rates, facilitation of participation in demand response and peak load reduction programs, and the potential for price reductions during peak

periods. Significantly, if properly implemented, AMI will permit consumers to better understand their own energy consumption patterns and the relationship between their energy consumption patterns and the underlying cost of energy. By providing such vital information, AMI will provide consumers the opportunity to modify their behavior in response to market signals.

However, in order to ensure that ratepayers receive the maximum potential benefit from their investment in AMI systems, the Commission must establish minimum standards for the features and functions of AMI systems to which all investor-owned utilities must adhere. Moreover, prior to spending any funds to implement an AMI system, each utility should be required to demonstrate compliance with the approved AMI standards – with a failure to do so resulting in a potential imprudence penalty. In the absence of proper AMI standards, the implementation of AMI systems potentially could result in greater harm than good. For example, the implementation of AMI systems without proper standards could effectively freeze technology innovation, restrict access to information, and provide a competitive advantage to the utilities because technology of the approved AMI system could be unreasonably restrictive and prevent use of other technologies and systems widely available for use in the market. Such a result would likely cause AMI to be viewed by ratepayers as an unnecessary expenditure from which they derive little to no benefit. Accordingly, in order to avoid such a result, EnerNOC urges the Commission to adopt the Proposed AMI Standards with the modifications described below which will ensure that those ratepayers that bear the ultimate cost of AMI system implementation receive the maximum potential benefit provided by such a positive technological step forward.

POINT II

THE COMMISSION SHOULD ADOPT THE FEDERAL ENERGY REGULATORY COMMISSION DEFINITION FOR ADVANCED METERING INFRASTRUCTURE

On August 1, 2006, the Commission issued its Order Relating to Electric and Gas Metering Services (“August Order”) in this proceeding, defining “advanced metering” to include “metering systems capable of recording and reporting consumption and other measurements at more frequent intervals than the customers billing cycle (general monthly) and may encompass several different components: meters, communications technology, automated meter reading systems, and data warehouses.”⁴ However, the Commission definition does not provide the necessary framework from which to develop AMI system standards. Instead, EnerNOC recommends that the Commission adopt the definition of AMI provided by the Federal Energy Regulatory Commission (“FERC”). FERC defines AMI as:

a metering system that records customer consumption [and possibly other parameters] hourly or more frequently and that provides for daily or more frequent transmittal of measurements over a communication network to a central collection point. AMI includes the communications hardware and software and associated system and data management software that creates a network between advanced meters and utility business systems and which allows collection and distribution of information to customers and other parties such as competitive retail providers, in addition to providing it to the utility itself.⁵

⁴ Cases 94-E-0952 *et al.*, In the Matter of Competitive Opportunities Regarding Electric Service, Order Relating to Electric and Gas Metering Services (August 1, 2006), p. 1.

⁵ Federal Energy Regulatory Commission, Assessment of Demand Response & Advanced Metering 2007 – Staff Report, p. A-1, available at <http://www.ferc.gov/legal/staff-reports/09-07-demand-response.pdf>.

The FERC definition clearly articulates the breadth of what an AMI system encompasses as well as who the intended beneficiaries thereof are – utilities, competitive providers, and customers. Moreover, the FERC definition establishes a framework that identifies the areas of interest that should be addressed by standards for AMI systems, namely: (i) the capability to provide interval data, (ii) a proper communication network, (iii) the collection of data, and (iv) equal access to data by utilities, customers, and competitive providers (including load aggregators, demand response providers, energy management providers/consultants, and other third parties authorized by the customer to receive access to the customer’s data). As such, the FERC definition provides both greater clarity and specificity of the necessary functions and features of AMI. Accordingly, EnerNOC requests that the FERC definition of AMI be adopted by the Commission.

POINT III

MODIFICATIONS SHOULD BE MADE TO THE PROPOSED AMI STANDARDS

EnerNOC applauds Staff’s efforts in preparing the Proposed AMI Standards. A review of the Proposed AMI Standards reveals that Staff was cognizant of the potential drawbacks arising from poorly considered and hasty implementation of AMI systems. Although Staff has provided a good building block through the Proposed AMI Standards, several minor modifications and additions to the Proposed AMI Standards are necessary in order to ensure and increase the potential benefits resulting from implementation of AMI systems.

A. The Proposed Standard Requiring American National Standards Institute (“ANSI”) Compliance Should Be Further Clarified To Reference Certain Applicable ANSI Standards

In the Notice, Staff proposes a standard requiring that AMI systems be ANSI compliant. As set forth below, in order to ensure proper storage of meter data, ability to transfer meter data, and open access to meter data, this requirement should be expanded to require compliance with certain specific ANSI standards. Specifically, the proposed standard should require compliance with ANSI C12.19 and C12.22. ANSI C12.19 addresses the storage of meter data and ensures that such data is able to be transferred from one computer application to another. Similarly, ANSI C12.22 ensures open standards and protocols and provides for the ability to share meter data meeting the requirements of ANSI C12.19 over a combination of network media. Significantly, FERC has recognized that these ANSI standards are standards that ensure the functionality of AMI systems.⁶ Furthermore, the Public Utility Commission of Texas (“PUCT”) recently held, in part, that AMI systems must demonstrate compliance with ANSI C12.19 and C12.22 prior to implementation.⁷ Thus, in order to ensure the functionality of AMI systems in New York, the Commission should require compliance with ANSI C12.19 and C12.22.

⁶ *Id.* at 34.

⁷ Public Utility Commission of Texas, Project No. 31418, Rulemaking Related to Advanced Metering, Order Adopting New § 25.130 and Amendments to §§ 25.121, 25.123, 25.311 and 25.346 as Approved at the May 10, 2007 Open Meeting, pp. 89-90.

B. The Proposed Standard Regarding The Provision of Interval Data Should Be Modified to Require The Capability to Provide At Least 5 Minute Interval Data

In order to ensure that AMI systems have the ability to meet technological development and the demands of system users flexibility must be preserved. In particular, AMI systems must be implemented in a manner that maintains and increases participation in demand response and load management programs. Accordingly, EnerNOC requests that the Commission require AMI systems to provide data in at least 5 minute intervals.

If properly implemented, AMI systems should allow greater participation of consumers in demand response and load management programs. The result would be a significant benefit to all consumers in New York. It is beyond dispute that demand response and load management programs reduce overall system demand during peak periods. In addition, such program reduce overall system demand during periods of high energy prices and provide necessary load relief in times of system emergencies. As such, these programs are critical to meeting the goals of the Energy Efficiency Portfolio Standard Proceeding.⁸

The key to ensuring that consumers are able to capitalize on the implementation of AMI systems is to require the system to provide the data necessary to accommodate the services and programs that are provided currently and in the future. As the Commission held in Opinion No. 97-13, “access to usage data is a critical component of an

⁸ Case 07-M-0548, Proceeding on Motion of the Commission regarding an Energy Efficiency Portfolio Standard. EnerNOC encourages the Commission to review the report submitted by Working Group IV on December 5, 2007 in the Energy Efficiency Portfolio Standard Proceeding for greater detail on the benefits of demand response as well as for further information regarding how demand response is supported by the implementation of AMI systems.

effective competitive retail market.”⁹ The Commission established “it is imperative that potential competitors have access to historic and current usage data to market and bill their products and services.”¹⁰ In its 2005 Report, the Staff recommends that the Commission further emphasize customer access to and use of metering data.¹¹ EnerNOC supports the development of standards that increase such access and use.

Unfortunately, the proposed standard that requires that AMI systems be able to record usage data at a minimum of hourly intervals will not accommodate participation in all the available demand response and load management programs.¹² An AMI system with hourly data intervals would require load aggregators and demand response providers to install duplicative meters at the customer’s location in order to facilitate participation in the available demand response and peak load management programs in New York (*e.g.*, NYISO Demand Side Ancillary Services Program (“DSASP”)).¹³ This additional and duplicative expense may make participation in these programs untenable for many consumers and thus effectively preclude participation for many consumers.

⁹ Case 94-E-0952, In the Matter of Competitive Opportunities Regarding Electric Service, “Opinion and Order Establishing Regulatory Policies for Competitive Metering” (August 1, 1997) p. 17.

¹⁰ *Id.* at 3.

¹¹ Cases 94-E-0952 *et al.*, In the Matter of Competitive Opportunities Regarding Electric Service, Staff Report (September 7, 2005), pp. 3, 10.

¹² In adopting standards that set minimum requirements, it is likely that the AMI systems proposed by the investor-owned utilities will be designed so as to only meet the minimum requirements – in this case, AMI systems that only provide interval meter data on an hourly basis.

¹³ The DSASP will allow ratepayers the opportunity to participate and be paid for providing regulation and reserve services in the real-time ancillary services market operated by the NYISO.

In order to ensure that the AMI systems implemented both encourage greater participation in demand response and peak load management program as well as allow energy management consultants, ESCOs, utilities, and other parties to assist customers in becoming more energy efficient, the proposed standard should be revised to require that the AMI systems be capable of providing interval data in 5 minute or shorter intervals. Such a standard will facilitate participation of ratepayers in all of the available demand response and peak load management programs in New York.

Significantly, recent AMI system standards adopted in other jurisdictions support the adoption of 5 minute interval data standards. For example, the PUCT recognized the need to provide data in intervals less than one hour in order to ensure that customers receive the maximum potential benefit from AMI system implementation. In adopting its standards for AMI systems, the PUCT acknowledged that 15 minute interval data was not yet required by Electric Reliability Council of Texas (“ERCOT”) for settlement purposes, however, the PUCT correctly recognized that AMI standards should adopt capabilities “in the expectation that the market will evolve rapidly to take advantage of them.”¹⁴ Accordingly, the PUCT required that AMI systems be able to provide data in 15 minute or shorter intervals.¹⁵ EnerNOC urges the Commission to similarly adopt AMI standards which meet the needs of the market. Given that the market already requires the capability to provide 5 minute interval in order to participate in the DSASP, the Commission

¹⁴ *Supra* n. 7, p. 16.

¹⁵ *Supra* n. 7, p. 89.

should modify the proposed standard to require the capability to provide interval data in at least 5 minute intervals.

C. The Proposed Standard Regarding Real-Time Remote Access to Data Should Be Modified to Include Other Authorized Agents of the Customer And to Require Data Availability Within Seconds

The proposed standard requiring real-time remote access to data for “customers and/or competitive providers”¹⁶ should be modified to clarify the entities encompassed by the term “competitive providers.” Specifically, in order to ensure that consumers are able to receive the maximum potential benefits from the implementation of AMI systems, the term “competitive providers” should include any entity authorized by the customer to obtain access to the customer’s interval meter data. As described herein, the proper implementation of AMI systems will result in an increased number of services being offered to consumers, including services offered by load aggregators and demand response providers, energy management consultants, and MDSPs. In order to provide all the potential benefits to consumers, such entities will be required to access usage information in order to adequately provide services to consumers. Therefore, the Commission should revise the term “competitive providers” to include all entities authorized by the customer to access its interval meter data.

In addition, the Commission should modify the definition of “real-time” in the proposed standard. As drafted the proposed standard would allow a lag of up to 5 minutes in data availability to be considered as “real-time.” Instead, the Commission should define

¹⁶ *Supra* n. 2, p. 3.

“real-time” as an acceptable lag of seconds before the data is available to the customer or any entity authorized by the customer to obtain access to the customer’s interval meter data. As discussed above, in order to ensure that consumers are able to fully capitalize on the implementation of AMI systems, the systems must be designed to meet the demands of the market. Participation in the DSASP program will require near instantaneous access to customer interval data by load aggregators and demand response providers; therefore, the Commission should modify the proposed standard to require that AMI systems be designed to include sufficient bandwidth to allow actual real-time access to interval data modified to mean data availability within seconds.

D. The Proposed Standard Requiring Two-Way Communications Capability Should Be Modified to Include The Ability of Other Authorized Agents to Communicate With The Meter

A two-way communication network is essential to ensuring that ratepayers receive the maximum potential benefit from their investment in AMI systems. Two-way communication allows for communications between both the customer, or an entity authorized by the customer, and the meter and between the utility or MDSP and the same meter.¹⁷ Among the benefits of two-way communications are the ability of consumers to receive price information or other system status information, such as emergency conditions, and direct load control. Furthermore, two-way communication is necessary to encourage greater consumer participation in demand response and peak load management programs and implementation of energy efficiency measures by ratepayers because it allows for

¹⁷ Conversely, one-way communication is limited to only the ability to report customer usage from the meter to the utility or MDSP.

technology innovations, such as direct load control, to make demand response an easier, less labor intensive, action to take. In order to ensure that ratepayers are able to fully take advantage of the services offered by load aggregators and demand response providers, energy management consultants, and MDSPs, communication between the customer and the meter should include communications from any entity authorized by the customer to communicate with their meter.

E. The Proposed Standard Regarding The Ability to Provide Direct Load Control Should Be Modified to Allow Direct Load Control Signals to Be Sent By Entities Authorized By The Customer

Direct load control is defined as a change in electric usage by an end-use customer which results from an entity shutting down or cycling such end-use customer's electrical equipment on short notice. The ability to provide for direct load control fosters greater participation in demand response and peak load management programs as well as implementation of energy efficiency measures by ratepayers because it allows for such actions to be made with very little effort by the consumer. To ensure that consumers receive the full benefits of AMI system implementation, the proposed standard requiring the ability for direct load control must encompass the full range of entities that may be providing such a service. The full range of entities that may be providing direct load control include independent system operators, load aggregators and demand response providers, ESCOs, energy management providers/consultants, and utilities. However, EnerNOC recommends that the Commission limit the ability of entities other than the customer to provide direct

load control to those authorized by the customer or as otherwise provided for by applicable law, rule, regulation or tariff requirements.

POINT IV

THE COMMISSION SHOULD INCLUDE A REQUIRED FEATURE OF INTEROPERABILITY WITHIN THE PROPOSED AMI STANDARDS

The implementation of AMI systems will only provide maximum benefits to consumers, if the AMI systems allow for different technology to work together. In order to achieve such synergy of technologies, standards must be in place to ensure open architecture and a level playing field for all entities looking to utilize the AMI system for the benefit of consumers. As the Staff has recognized, AMI systems must be designed so that “no market advantage is gained by the party controlling the meters or infrastructure.”¹⁸ Furthermore, in adopting a resolution recommending that regulatory commissions facilitate the implementation of AMI systems, the National Association of Regulatory Utility Commissioners (“NARUC”) stated that proper AMI systems must include an “appropriate level of open architecture and interoperability...to enable cost-effective investments, avoid obsolescence, and increase innovations in technology products.”¹⁹ In other words, an AMI system is only as beneficial to consumers as the level of technology it is capable of supporting. Although several of the Proposed AMI Standards address aspects of the ability

¹⁸ *Supra* n. 11, p. 15.

¹⁹ National Association of Regulatory Utility Commissioners, Resolution to Remove Regulatory Barriers to the Broad Implementation of Advanced Metering Infrastructure (adopted by the NARUC Board of Directors on February 21, 2007), p. 2, available at <http://www.naruc.org/Resolutions/res.to.remove.regulatory.barriers.to.the.broad.implementation.of.advanced.metering.infrastructure.pdf>.

of an AMI system to support other technology, EnerNOC recommends that the Commission should include a separate standard which explicitly requires interoperability.

According to the Institute of Electrical and Electronics Engineers (“IEEE”), interoperability is the ability of two or more systems or components to exchange information and to use the information that has been exchanged. In reviewing AMI systems for interoperability, the Commission should consider not only the number of different device types but also the number of manufacturers supported by a proposed AMI system to ensure that such proposed system will support the greatest degree of compatibility with the various devices and systems that many entities will utilize in providing services that benefit consumers. If consumers are to fully capitalize on the implementation of an AMI system, the system must be able to support the systems and technology that consumers may acquire through interactions with load aggregators and demand response providers, energy management providers/consultants, MDSPs, and other entities.

CONCLUSION

Based upon the foregoing, EnerNOC, Inc. respectfully requests that the Commission: (i) adopt minimum standards that the AMI systems proposed by the investor-owned utilities subject to its jurisdiction must meet prior to being approved for implementation; (ii) adopt the FERC definition for “advanced metering infrastructure”, and (iii) modify and expand Staff’s proposed standards of features and functions for AMI systems as described herein.

Dated: December 10, 2007
Albany, New York

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served, via e-mail or first-class mail, the foregoing Comments of EnerNOC, Inc. upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Albany, New York, this 10th day of December, 2007.

By: *Denise A. Poutre*

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