

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 09-M-0074 - In the Matter of Advanced Metering Infrastructure.

**COMMENTS OF THE NEW YORK INDEPENDENT SYSTEM OPERATOR,
INC. ON THE PROPOSED FRAMEWORK FOR THE BENEFIT-COST
ANALYSIS OF ADVANCED METERING INFRASTRUCTURE.**

The New York Independent System Operator (“NYISO”) is pleased to reply to the New York Public Service Commission’s April 14, 2009 “Notice Seeking Comment” on the Department of Public Service (“DPS”) Staff’s “Proposed Framework for the Benefit-Cost Analysis of Advanced Metering Infrastructure.”

While the NYISO does not directly serve retail load, it does have an interest in this proceeding. As operator of New York’s bulk electricity grid, administrator of the state’s wholesale electricity markets, and reliability planner for state’s bulk power system, the NYISO believes Advanced Metering Infrastructure (“AMI”) offers benefits to the wholesale power system.

The NYISO supports Staff’s generic benefit-cost framework and agrees that AMI has the ability to provide timelier price information to retail consumers and allow consumers and load serving entities to better utilize electricity, which will improve the wholesale power market. AMI can be a tool for expanding and improving demand response, energy efficiency and small distributed generation programs. The NYISO also believes that AMI will be a component of the smart grid, adding millions of additional data points for monitoring the electric system. A robust advanced metering infrastructure employing the minimum functionality requirements adopted by the New York Public Service Commission (“the Commission”) in February 2009¹ would provide the technology gateway necessary to better manage the end-use of electricity.

Operational benefits to electric utilities can be estimated with reasonable certainty, but quantifying the full, long-term benefits of AMI to energy markets is less

¹ CASE 09-M-0074 “Order Adopting Minimum Functional Requirements for Advanced Metering Infrastructure Systems and Initiating An Inquiry Into Benefit-Cost Methodologies.” Issued and Effective February 13, 2009

certain. Today's investments in AMI and their associated functionality will serve as the platform for future innovations in electric energy management. And while the universe of future innovations is not known, the potential of innovation should be a consideration in evaluating investment decisions. Providing customers with advanced meters along with retail rates that dynamically reflect the underlying cost of electric energy, at least in times of peak demand, can provide incentives to shift demand that does not need to be on-peak to off-peak hours. The use of feedback devices such as in-home displays and web-based customer usage information can increase customer response to demand side management programs and dynamic retail rate structures. There is evidence that such feedback devices may encourage energy efficiency in addition to peak load reductions². Feedback can come in many forms. Already, companies are developing web based applications that interface with utility systems, allowing consumers to analyze their energy consumption. Independent software developers are creating cell phone applications that allow consumers to track energy prices and usage, and to control devices, from anywhere. The value of these innovations hinges on the ability to link these applications with a new type of meter.

Market Benefits

The NYISO's Independent Market Advisor has recommended retail rate reform as the preferred method for eliciting greater response from consumers in response to underlying wholesale electric market costs.³ Demand elasticity is an essential component of efficient markets because it allows the markets to clear at a price that reflects the value of electricity to consumers. The ability of customers to discipline the behavior of sellers has broad market implications. Extending real-time demand response capability to the retail customer, which is possible through significant deployment of AMI infrastructure and retail rate reform, can fix "the flaw that makes market power a major issue in so many power market that are otherwise well structured."⁴

2 Neenan, Bernie. EPRI Project Manager, *Residential Electricity Use Feedback: A Research Synthesis and Economic Framework*. February 2009

³ 2008 *State of the Market Report, New York ISO Electricity Markets*. May 2009

⁴ *Power System Economics*, Chapter 1-7, Stoft, IEEE Press/Wiley-Interscience

Demand response resources already participate in NYISO markets through the Day-Ahead Demand Response Program (“DADRP”), Emergency Demand Response Program (“EDRP”), Installed Capacity-Special Case Resource Program (“ICAP/SCR”), and the Demand-Side Ancillary Services Program (“DSASP”). In 2008, 3,711 participants were enrolled in these programs providing a total of 2,108.3 MW of demand response capability — a 37.2% increase over the 2007 MW registration level. Demand response resources in NYISO reliability programs represented 6.5% of the 2008 summer peak demand of 32,432 MW. The metering and technical requirements of these programs, however, limit the practicality of enrolling smaller loads including residential customers.

The deployment of AMI would potentially increase the pool of resources available to participate in the NYISO’s demand response programs by providing interval metering and communications infrastructure that would otherwise be cost prohibitive to install solely to support participation in NYISO wholesale market demand response programs. AMI could also be used to improve the management of demand side resources through real time monitoring of resource availability and response at their locations across the state. AMI systems can improve the deployment, measurement and verification of demand side resources. Realizing these benefits would, to a great extent, be conditioned on third party meter data access and latency characteristics of the AMI system.

Much of the market benefit from AMI may not come from wholesale market programs, but from customers simply adjusting their demand in response to prices. In order to assess the potential of dynamic retail pricing, the NYISO is conducting a study to simulate the impact of demand elasticity on the wholesale markets. This analysis, conducted in conjunction with the Brattle group, employs the Pricing Impact Simulation Model (“PRISM”) and a Location Based Marginal Pricing (“LBMP”) market simulator. The NYISO will share the results with the Commission and DPS Staff when they are ready. The estimated completion date for the study is July 2009.

Operational benefits

In its “Proposed Framework for the Benefit-Cost Analysis of Advanced Metering Infrastructure,” DPS Staff specifically identified three areas of operational benefits for the NYISO and its Market Participants: 1) Shortened Settlement Process; 2) Elimination of Manual Billing and Auditing Processes; and, 3) Reduced Cost of Collateral for Market Participants.⁵

The NYISO has already shortened the settlement cycle significantly. During the years since the NYISO’s inception, the settlement cycle has been reduced from thirty-six months to nine months. Further shortening of the settlement cycle will, however, require reducing the time it takes to make metering data available to the NYISO. In 2008, NYISO market participants incurred \$10.8 million in interest expenses as a result of delays inherent to the settlement cycle which were attributable to metering data latency. Deployment of an advanced metering infrastructure that would provide the NYISO with timely, accurate metering data for dispersed resources and consumption information for its wholesale suppliers in time for the initial invoice for market activity could significantly reduce interest expenses for NYISO market participants. In addition to shortened settlements, timelier, accurate metering data could eliminate portions of the billing processes that pertain to meter data estimation, administration of the metering true-up process, and the administration of the accounting and invoicing processes associated with the resettlement of accounts affected by meter data updates. As the settlement cycle shortens and billing processes become more streamlined, the length of time market participants’ pledged collateral is required will be shortened and, as a result, collateral costs will diminish.

While increased billing accuracy created by AMI can benefit wholesale electricity market participants, as described above, it may also benefit retail customers. AMI can provide significant information on the electricity usage of customers, particularly those customers whose rate design and billing structures are based on load profiles. Improving load profiles, or eliminating them altogether, can much more closely correlate costs with

⁵ DPS Proposed Framework for the Benefit-Cost Analysis of Advanced Metering Infrastructure. April 14, 2009. p 4.

actual usage patterns. Better correlating costs with usage provides an opportunity to more accurately allocate costs across retail consumers.

Planning Benefits

Access to more granular end user energy data could improve both the short term and long-term load forecasts developed by the NYISO. Short-term load forecasts could be refined with the application of forecast variables at a more granular end use level, using more up-to-date assumptions. Long term load forecasts may be able to leverage the more detailed information on individual customer energy usage patterns.

In conclusion, the NYISO reiterates its support of DPS Staff in its efforts to assist the Commission in furthering New York's transition to an advanced metering infrastructure. The NYISO's mission — the reliability of New York's electric grid and efficiency of its electricity markets — will be served by enhanced metering.

Respectfully Submitted,

s/Michael Swider

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