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December 19, 2005

Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1-A209
Washington, D.C. 20426

Re: Docket No. AD06-2-000 - Assessment of Demand
Response Resources

Dear Secretary Salas:

For filing, please find the Notice of Intervention and Comments of the New York State Public Service Commission in the above-entitled proceedings. Should you have any questions, please feel free to contact me at (518) 473-8178.

Very truly yours,

David G. Drexler
Assistant Counsel

Attachment

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Assessment of Demand Response Resources) Docket No. AD06-2-000

**NOTICE OF INTERVENTION AND COMMENTS
OF THE PUBLIC SERVICE COMMISSION
OF THE STATE OF NEW YORK**

On November 3, 2005, the Federal Energy Regulatory Commission (FERC or Commission) issued a Notice of Proposed Voluntary Survey and Technical Conference (Notice) seeking comments on various demand response (DR) and time-based rate issues raised and/or identified in the Energy Policy Act of 2005 §1252(e)(3).¹ The New York State Public Service Commission (NYPSC) hereby submits its Notice of Intervention and Comments pursuant to the Notice and Rule 214 of FERC's Rules of Practice and Procedure.

Copies of all correspondence and pleadings should be addressed to:

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¹ Section 1252(e)(3) of the 2005 Energy Policy Act requires FERC to draft and publish a report assessing demand response resources available around the country.

EXECUTIVE SUMMARY

The NYPSC supports the use of DR and time-based rates to not only enhance reliability, but also to more accurately reflect individual customers' costs and offer them greater choice and flexibility. Demand response comes in many different forms, including: reducing energy consumption; shifting consumption from high-cost to low-cost periods; replacing grid power with on-site generation (i.e., distributed generation); and, substituting electricity use with other energy sources. In general, DR can be encouraged by setting up systems and programs that allow customers, energy service companies (ESCOs), and utilities to benefit from responding to market prices for electricity.

Demand response programs have long been in effect in New York. The NYPSC has encouraged the development of DR through a number of strategies, including: moving toward more time-differentiated retail commodity pricing for larger customers; furthering customer usage of advanced meters; helping customers reduce energy consumption and use energy more efficiently; developing standby rates that encourage efficient use of on-site generation; encouraging advanced metering; and, promoting participation in voluntary DR programs.

Several of the NYPSC's strategies to encourage DR are funded through a System Benefits Charge (SBC), which is an

incremental charge on electric delivery service. The SBC provides funds for customer outreach and education, the installation of advanced meters, and equipment necessary to respond to prices and for energy efficiency.

We also note that the New York Independent System Operator, Inc. (NYISO) has played a key role in promoting DR. The NYISO administers three DR programs at the wholesale level, which are discussed in detail below in section B.1.

DISCUSSION

A. Advanced metering and communication systems

1. How should the Commission define advanced meters and communication systems for the purpose of reporting to Congress?

The term "advanced meters" should refer to metering and metering systems that are capable of recording and reporting consumption at more frequent intervals than the customer's billing cycle, which is generally done on a monthly basis. This can include meters that record and store data for later retrieval, as well as automated meter reading (AMR) associated with basic meters without the capability to store data, but the ability to read the data more frequently than once a month. Advanced meters may also allow for the recording and metering of inputs other than consumption, including power factors, power

quality or other measures, such as voltage, reverse flow, and reactance.²

2. Are advanced meters necessary to implement demand response and time-based rate programs? Can sufficient demand response be fostered from non-communicating, non-hourly meters?

Demand response and time-differentiated rates generally require the use of advanced meters. These may be fairly simple meters to facilitate time-of-use pricing or more sophisticated to facilitate hourly pricing. However, as with AMR meters noted in the previous answer, the necessary data reading and storage capabilities can be accomplished by means other than the meter itself. For example, a typical AMR meter can be read remotely, but only provide data regarding cumulative usage over the period it is read. In order to gather hourly consumption data, the AMR meter would need to be read hourly.

3. In general, what are the current saturation and penetration levels of advanced meters?

There are currently over 2,700 New York electric customers registered in NYISO DR programs that utilize hourly interval

² As used herein, "power factor" refers to the fraction of power actually used by a customer's electrical equipment compared to the total apparent power supplied (i.e., voltage multiplied by current), usually expressed as a percentage. "Power quality" refers to distortions in the energy flow that can be harmful to equipment, such as power surges. "Reverse flow" pertains to the ability to measure power flow in both directions due to customer-based generation (e.g., solar panels) in excess of customer needs.

meters, and about 6,300 customers subject to mandatory time-of-use rates in New York State. However, there is incomplete data on the total number of customers in New York having advanced meters. As noted in section B.1. below, the NYPSC recently directed utilities to file draft tariffs, outreach and education proposals and plans for making meters available for implementation of mandatory day-ahead hourly pricing for their largest customer classes.³ In addition, standby rate customers with distributed generators having demands above 50 kW can elect utility hourly-integrated day-ahead commodity pricing, and all customers with demands above 50 kW can obtain meters from competitive providers.⁴

4. Does the implementation of an advanced metering system or use of advanced meters reduce utility costs?

Various opportunities exist for advanced meters to reduce utility costs, such as reducing operation and maintenance expenses for meter reading. Moreover, advanced meters may have other uses that offer the potential for additional utility cost

³ Case 03-E-0641, Proceeding Regarding Expedited Implementation of Mandatory Hourly Pricing For Commodity Service, Order Instituting Further Proceedings and Requiring the Filing of Draft Tariffs (issued September 23, 2005)).

⁴ See, Case 94-E-0952, In the Matter of Competitive Opportunities Regarding Electric service, Order Providing for Competitive Metering (issued June 16, 1999); see also Case 99-E-1470, Rates, Terms and Conditions of Electric Standby Service, Opinion No. 01-4 (issued October 26, 2001).

savings, including outage detection, load research and grid management.

5. What level of penetration is needed to achieve cost savings? For example, can advanced meters be used only for certain customer groups or would all customers need to use advanced meters to make their use cost effective?

While one objective of promoting advanced meters is to reduce costs for customers and utilities alike, the Commission should consider the associated reliability and price ameliorating benefits from modifying system loads, particularly during peak load conditions. In order to achieve these benefits, it is not necessary for all customers to employ advanced meters.

We also note that installing advanced meters alone will not suffice to elicit DR; customers must also be billed on time-differentiated rates.

B. Existing demand response and time-based rate programs

1. Describe the type of programs being used and the benefits or detriments of each programmatic approach.

In New York State, the NYISO administers three types of DR programs at the wholesale level. These are the Emergency Demand Response Program (EDRP), which is a voluntary program that pays qualified DR providers for reducing their energy consumption when the NYSIO declares a major emergency or forecasts an in-day shortage of operating reserves; the Installed Capacity (ICAP) Special Case Resources (SCR) program, which is similar to EDRP,

but is for a pre-determined contractual period; and, the Day-Ahead Demand Response Program (DADRP), which allows energy users to bid their load reductions, or "negawatts" into the day-ahead energy market just like generators. DADRP offers that are determined to be economic are paid the market clearing price. This range of options offers market participants the ability to choose which program(s) best suits their situation.

As of October 18, 2005, the NYISO's programs have resulted in over 2100 MWS of available DR. Specifically, the NYISO had enrolled 1794 participants in its SCR ICAP program, 917 participants in the EDRP, and 19 participants in the DADRP. Registered load reductions were 1120 MWS for SCR ICAP, 597 MWS for EDRP, and 395 MWS for DADRP.⁵

In addition, the NYPSC has pursued the increased use of time-differentiated retail commodity pricing. One NYS utility has had a residential Day/Night rate since the 1930s. While some large customers had access to Time-Of-Use rates in 1978, all the largest utility customers are currently billed on time-differentiated rates. Two utilities currently have mandatory hourly pricing for their largest customers, while the remaining utilities offer an hourly-integrated pricing option to their

⁵ The NYISO filed August data on its DR programs in a December 15, 2005 compliance filing, which we have not yet reviewed, in FERC Docket No. ER01-3001.

larger customers. Time-Of-Use pricing is also available to many utility customers on a voluntary basis. Moreover, ESCOs serving retail access customers have a wide range of offerings, from flat rates to various time-differentiated rate structures.

In September 2005, the NYPSC issued an Order directing utilities to file draft tariffs, outreach and education proposals and plans for making meters available for implementation of mandatory day-ahead hourly pricing for their largest customer classes.⁶ National Grid, which already has Mandatory Hourly Pricing (MHP) for its largest customers, was directed to expand its MHP to the next largest group of customers. Time-differentiated pricing programs can provide significant value to utilities and their customers by enabling customers to realize, through direct bill savings, the benefits of reducing demand during peak periods and shifting load to off-peak, less expensive time periods.

Furthermore, the NYPSC has developed standby rates that encourage the efficient use of on-site generation. In 2001, the NYPSC worked with utilities to implement a uniform structure for standby rates that provide the incentive to DG to remain

⁶ Case 03-E-0641, Proceeding Regarding Expedited Implementation of Mandatory Hourly Pricing For Commodity Service, Order Instituting Further Proceedings and Requiring the Filing of Draft Tariffs (issued September 23, 2005).

connected to the grid and generate electricity when their marginal cost of generation is below the market price.

2. How have these types of programs changed since the early 1990s?

In general, these programs have been modified to encourage greater participation. For example, collateral requirements for participation have been reduced.

3. Have demand response and time-based rate programs increased or decreased in recent years?

The number of DR programs available to customers has not increased since 2001. However, participation in these DR programs has increased each year.

4. Are demand response programs implemented by electric utilities available to all customers, or are they targeted to specific customer groups or geographic areas, e.g., load pockets or transmission constrained areas?

As noted above in section B.1., recently-mandated hourly-pricing applies to the utilities' largest customer classes, while other rate structures are available to all customers on a voluntary basis. In addition, the NYPSC is encouraging customer usage of advanced metering, participation in voluntary DR programs, and energy efficiency through an SBC. The NYPSC established the groundwork for an SBC in 1996, to fund public policy initiatives not expected to be adequately addressed by

the competitive electricity market.⁷ The SBC is funded through an incremental charge for delivery service and is administered by the New York State Energy Research and Development Authority (NYSERDA). The SBC initiatives include various DR programs such as outreach and education to customers interested in participating in NYISO DR programs, funding incentives to install advanced meters, and funding for energy efficiency and the installation of equipment necessary to respond to prices.

To further promote energy efficiency and DR in the most critical area of the state (i.e., New York City), the NYPSC established a specific DR program as part of Consolidated Edison Company of New York, Inc.'s (Con Edison) latest electric rate plan.⁸ The rate plan includes a 150 MW target in peak demand reduction for Con Edison system-wide, and a 150 MW target in peak demand reduction designed to reduce demand in selected Con Edison constrained networks, thereby obviating the need for some transmission and distribution upgrades. The system-wide program is administered by NYSERDA and funds projects similar to those

⁷ See, Case 94-E-0952, Matter of Competitive Opportunities Regarding Electric Service, Opinion 92-12 (issued May 20, 1996); Case 94-E-0952, Opinion 98-3 (issued January 30, 1998)).

⁸ See, Case 04-E-0572, Consolidated Edison Company of New York, Inc. - Electric Rates, Order Adopting Three-Year Rate Plan (issued March 24, 2005).

described in the state-wide SBC discussed above, while the constrained network program is administered by Con Edison.

Moreover, all NYS utilities have filed State tariffs adopting the NYISO's DR programs. The NYISO's DR programs are limited to customers that have the ability to curtail required load sizes. The EDRP allows electric wholesale market participants to subscribe retail and end-users capable of producing verifiable reductions in real-time load (i.e., Curtailment Service Providers (CSPs)). Aggregation options have allowed CSPs to aggregate smaller loads to meet the load requirements.⁹

C. Annual resource contribution¹⁰ of demand response

1. Describe in general the extent of resource contribution by demand response for the geographic area you serve or represent.

As noted above in section B.1., the NYISO's programs have resulted in over 2100 MWs of available DR.

⁹ Curtailment Service Providers are grouped into four broad categories, as follows: 1) load-serving entities (LSE) serving retail end-users capable of load reduction; 2) direct NYISO customers that may claim their own reductions; 3) NYISO-approved curtailment customer aggregators of retail end users capable of load reduction; and, 4) NYISO-approved curtailment program end-use customers whose load is normally served by an LSE, but opt to participate directly with the NYISO.

¹⁰ For purposes of the notice and proposed survey, resource contribution is defined as potential peak reduction at time of system peak.

2. Identify and describe the best available sources of information on the annual resource contribution made by demand response, by region.

The NYISO's web site provides actual load curtailed by zone across the State after it calls upon DR resources. The NYISO also provides registrations for each of the programs by zone. In addition, there are periodic reports presented to the NYISO working group, which are located under meeting materials for the Demand Response Working Group.¹¹

3. Should the measurement [of resource contribution] be on the basis of enrollment or on actual quantities used?

Because the amount of resource contribution depends on the actual quantities used, and not on the amount enrolled, the best measurement of resource contribution is the quantity of resources actually verified and paid.

D. Potential for demand response as a quantifiable, reliable resource for regional planning purposes

1. What percentage of total resource requirements could demand response resources reliably provide?

The answer to this question varies depending on the individual control area. No study has been completed in New York to identify the maximum amount of DR that could be integrated into the resource mix while maintaining a reliable bulk power system. However, for purposes of determining the 2005-2006 capability year ICAP requirement, the New York State

¹¹ www.nyiso.com/public/committees/documents.jsp?com=bic_prlwg.

Reliability Council modeled a maximum of 1,274 MW of DR, including 975 MW of ICAP SCR and 299 MW of EDRP, being available to the New York Control Area.¹²

2. What is the current role of demand response resources in meeting regional resource adequacy requirements and ancillary services?

As mentioned above in section B.1., DR providers can play a role in meeting NYISO resource adequacy requirements as either ICAP providers (i.e., SCR program), or as participants in the EDRP.

3. Explain the risks of relying on demand response for resource adequacy.

In New York, DR providers are called upon when the NYISO anticipates that it may run short of operating reserves. The principal risk in doing so is that the DR providers may not reduce their actual load to the extent expected, thereby potentially leaving the control area short of operating reserves, which could lead to load shedding or rolling blackouts. No such problems with load shedding or rolling blackouts have been encountered to date.

¹² See, New York Control Area Installed Capacity Requirements for the Period May 2005 Through April 2006, dated December 10, 2004, p.6, available at www.nysrc.org/pdf/Doucments/12-10-04IRMstudy.pdf.

4. What is the potential impact of demand response on overall energy usage?

The impact of DR depends on the amount of capacity that enrolls and actually participates in the control area's programs.¹³ The impact may be significant during the usually brief times where the programs are activated.

5. Can time-based rate programs or interruptible/curtailment rate programs be counted as capacity resources in regional plans?

This answer turns upon the purpose for which the DR is used and whether it is directly available to the control area operator or to entities within the control area. Demand response is not a capacity resource per se, but is an alternative to providing capacity. However, if demand is reduced, then the need for physical generating capacity will be reduced. Time-of-use programs can most effectively be viewed as measures that can be used to mitigate demand, rather than satisfy it.

There are various types of interruptible/curtailment programs, both economic-based and reliability-based. Programs which are economic in nature, where usage is curtailed for

¹³ For New York, a study commissioned by NYSERDA indicated that, by 2007, a total of 14,480 MW (summer peak) in energy efficiency could be technically feasible, while between 8,489 MW and 10,294 MW (summer peak) of that amount could be procured on an economic basis. See, www.nyserda.org/publications/EE&ERpotentialVolume1.pdf.

purposes of reducing high loads and therefore moderating the marginal costs associated with those loads, may be activated during high load periods, but not for the purpose of ensuring system reliability. In these cases, DR may not provide significant system reliability benefits. However, when DR programs are designed for, and are activated to ensure system reliability,¹⁴ then DR providers, such as interruptible/curtailment rate program participants and NYISO SCR customers, can be considered to be of the same value as generating capacity.

E. Equitable treatment of demand response resources in regional transmission planning and operations

1. What is the status of including demand response within regional transmission planning and operations?

Under the NYISO's regional planning process, DR may be considered on an equal basis with generation and transmission solutions, as either market-based solutions or utility-based backstop solutions.

¹⁴ For instance, reliability implications may be raised when the control area operator is in jeopardy of running short of sufficient operating reserves to withstand the next significant contingency and must still supply all load requirements.

2. Do current North American Electric Reliability Council (NERC) standards and regional reliability council rules accommodate the use of demand response as an alternative to building more transmission infrastructure, building generating capacity, or generating/purchasing more power?

The NERC standards and rules appear adequate to accommodate DR participation. We are not aware of any present barriers to participation.

3. In regional transmission operations, such as RTOs and ISOs, what demand response resources are currently available? Under what circumstances are these resources called upon and at what level (kWs/kWhs)?

As noted above in section B.1., the NYISO has an ICAP SCR, EDRP and DADRP demand response programs in place.

F. Regulatory barriers to improved customer participation in demand response, peak reduction, and critical period pricing programs

1. What wholesale and retail regulatory barriers exist to improving customer participation in demand response?

While not a regulatory barrier per se, the level of participation in NYISO DR programs appears to reflect customer inexperience with bidding in load reduction to the day-ahead market. Customer outreach and education is being undertaken by our Staff, NYSERA, and NYISO to inform potential market participants and familiarize them with these programs. Furthermore, participation may have been limited up to this point through either insufficient payments or modest market price credits, which until recently may not have been adequate

to fully compensate DR providers for their full costs of curtailing.

Strict environmental emissions standards may also act as a deterrent to customers entering the marketplace. DG resources are often a major component of NYISO DR programs, which play an important role in system reliability. While we support clean DG, additional emissions requirements for DG should be considered only after a thorough analysis has been performed of the potential impacts such requirements may have upon electric system reliability.

2. What regulatory barriers exist to improving customer participation in innovative time-based rate programs, such as critical peak pricing?

There do not appear to be any regulatory barriers for participation in New York's voluntary time-based rate programs. However, State law prohibits mandatory time-of-use rates for residential customers.¹⁵

3. What are the drivers and disincentives to customer interest in participating in demand response or critical period pricing programs?

The main driver appears to be cost savings realized when customers reduce load or shift load from a high priced period to a lower priced period. However, various disincentives exist, such as increased financial risk due to fluctuating, potentially

¹⁵ See, New York State Public Service Law §66(27).

volatile, hourly market prices; inexperience or lack of knowledge by customers; required capital investments for the installation of comprehensive energy management systems or the addition of alternative technologies; lack of ability to respond on short notice; and, low prices that may not cover the costs to curtail. Moreover, various DR providers have expressed an interest in supplying the NYISO with ancillary services, but have not been able to, because there are no rules to govern their participation. We anticipate these rules to be the subject of further discussions among NYISO market participants.

4. Do start-up costs limit the number of participants in demand response programs? If so, how should this issue be addressed?

In New York, start-up costs have become a major discussion point. While several notifications were made during 2005 that DR may be called upon, only one actual request for DR occurred. Participants that were contacted to respond indicated that the start-up costs incurred were significant enough to make them switch to the voluntary program. One way in which start-up costs have been reduced is through reimbursements of various engineering, installation and facility equipment costs by NYSERDA.

5. Are there regulatory or other barriers to participation of third-party curtailment service providers in ISO/RTO demand response programs? Are current settlement and payment procedures adequate for participation by these third-party entities?

While provisions have been made for participation by third party CSPs, the payments provided to them may not be significant enough to elicit their participation. These participants receive a maximum of 10% of the payment customers receive for curtailment.

6. Given that distribution companies may no longer own generation or be a supplier of last resort, has their incentive to provide demand response been reduced? If so, what alternative mechanisms or policies should be considered to provide incentives to these distribution companies to implement demand response?

In New York, load serving entities have divested essentially all of their generation assets. These utilities may act as CSPs and, as noted in response to the last question, receive up to 10% of the total payment to a customer who curtails during a NYISO-declared emergency. Area transmission and distribution constraints continue to provide distribution companies with an incentive to offer and develop company specific demand reduction programs. For example, the NYPSC established a specific demand response program as part of Con

Edison's latest electric rate plan, discussed above in section B.4.¹⁶

7. Do current retail rate structures, which are largely based on volumetric rates, create a disincentive for distribution company promotion and implementation of demand response? If they do, how can this disincentive be reduced?

The separation of delivery and commodity services, resulting from the divestiture of generation assets, has reduced the disincentive to promote and implement DR programs as utilities move away from variable cost recovery and the potential for lost revenues. The continued movement towards cost-based rate designs, which use fixed charges to recover fixed costs, and the promulgation of streamlined interconnection rules for distributed generation, can further reduce any remaining disincentives.

8. What are the drivers or disincentives to load-serving entities (LSEs) offering aggressive demand response programs?

The main drivers for LSEs participation include: the potential to defer needed distribution system upgrades and reinforcements; rate plans that offer incentives for achieving demand reduction goals; the potential to earn revenue for curtailments; and, additional reliability benefits during times

¹⁶ Case 04-E-0572, Consolidated Edison Company of New York, Inc. - Electric Rates, Order Adopting Three-Year Rate Plan (issued March 24, 2005).

of tight capacity, especially in load pockets. The disincentives could include the potential for lost revenues through reduced delivery revenues, and customer dissatisfaction over the uncertainty and costs of these programs.

Respectfully submitted,

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Dated: December 19, 2005
Albany, New York