

# DRAM

DEMAND RESPONSE *and* ADVANCED METERING *Coalition*

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March 4, 2005

Honorable Jaclyn A. Brilling  
Secretary  
State of New York  
Public Service Commission  
Three Empire State Plaza  
19<sup>th</sup> Floor  
Albany, NY 12223-1350

Re: Case 05-M-0090 – In the Matter of the System Benefits Charge III

Dear Secretary Brilling:

I have enclosed for filing the original and fifteen copies of the comments of the Demand Response and Advanced Metering Coalition (DRAM) for the Notice Soliciting Comments issued January 28, 2005 in Case 05-M-0090, in the Matter of the System Benefits Charge III.

These comments will be served electronically to other parties via the DPS list serve for the SBC Proceeding.

Respectfully submitted,

Dan Delurey

Executive Director  
Demand Response and Advanced Metering Coalition (DRAM)

**Comments of the Demand Response and  
Advanced Metering Coalition (DRAM) in  
Case 05-M-0090  
In the Matter of the System Benefits Charge III**

**March 4, 2005**

The Demand Response and Advanced Metering Coalition (DRAM) welcomes this opportunity to respond to the Commission's Notice of January 28, 2005 soliciting comments on the NYS Systems Benefits Charge III. DRAM is a national group focused on education and outreach relative to demand response and is comprised of advanced metering companies, communications and controls companies, demand response providers and energy-related public interest groups.

Our comments are organized according to the questions put forth, as per the request of the Commission. DRAM has declined to respond to certain questions at this time.

**1. To what extent have the goals and objectives established by the Commission been achieved?**

DRAM Response:

In the January, 2001 Commission Order extending the SBC for an additional five years, the Commission rightly and appropriately added emphasis to the need for the SBC to "accomplish the important electric demand reduction component while maintaining the momentum of ongoing market transformation programs". This move by the Commission put it ahead of other states in recognizing that it is not just end-use efficiency that optimizes the overall New York State electricity system, but that load management (now known as demand response) is also necessary. In its work across the U.S., DRAM has frequently and continually pointed to this decision by the Commission, and the actions that flowed from it, as something that other state benefit funds should emulate. It follows that we would advocate in these comments that the Commission continue to have demand response goals and objectives as the SBC moves forward.

As evidenced by SBC Program Evaluations, and also backed up by analysis of NYISO demand response programs, the SBC Program has had a positive impact on demand response. (See Attachment A) However, DRAM would submit that the surface has barely been scratched when it comes to demand response – particularly in the residential sector – and that a goal of making electric demand

reduction a full “component” of the New York System is one that must still be pursued.

Perhaps no area of electricity suffers more from the “tragedy of the commons” than demand response. The benefits of individual customers taking a demand response action not only accrue to them by way of lowered bills and enhanced energy management but to all other customers as well. This is a result of the dampening effect that demand response has on the rise of market prices during peak demand periods and the mitigating effect it can have on the exercise of market power by market participants. Beyond that, however, are the benefits provided by the technologies installed to enable demand response. Depending on the technology in question, they can give electricity providers entirely new capabilities in the areas of outage detection, management and restoration, with operational savings through customer service automation, and with the ability to offer new products and services to customers.

Perhaps of greatest interest to some stakeholders in New York State is how some demand response technologies such as advanced metering systems can lead to the growth and expansion of competitive retail markets. Across the U.S., competitive retail providers cite the importance of timely and accurate information about a customer’s usage as being a key factor in their ability to optimize their operations, lower their costs, and improve their ability to offer not only their basic products but enhanced offerings as well.

Demand response and its enabling technologies can produce a lot of different winners in a variety of different ways if the SBC continues to provide support to such activities and programs. Many parts of the system, and all of those who are part of the system, will benefit if this happens. SBC support can tip the balance for one or more of these beneficiaries such that they can create a business case that allows them to go forward with demand response.

**2. Should the SBC program continue beyond its current expiration date of June 30, 2006? If so, for what duration should the SBC be extended and at what funding level?**

DRAM Response:

DRAM believes it is the interest of electricity customers in New York State to continue the SBC Program. The program, as evidenced by evaluations of it, has been successful to date in the area of focus of these comments, i.e. demand response (See Attachment A). The transition to a more efficient and optimized New York electricity system is still underway, however, particularly as the

importance of smart technologies and demand response comes into greater focus and is better understood. Demand response has benefited from the SBC so far, but it is still an area that is in its infancy. Demand response will make greater and faster advances and see wider adoption and deployment if supported by a robust new SBC Program.

**3. Have conditions changed since the establishment of the SBC that would necessitate a change in the overall goals and objectives of the SBC? If so, what changes are recommended?**

DRAM Response:

Similar to DRAM's response to Q.2 above, DRAM contends that, since the creation of the SBC, there is new understanding of the importance of demand response and its enabling technologies – not only to making the state more energy efficiency at all levels – but in providing the infrastructure that will facilitate and accelerate a robust competitive retail electricity market. For this reason, consideration should be given to how to expand the demand response component of the SBC.

**5. How might the SBC programs be adjusted given the Commission's order, issued September 24, 2004, regarding a Renewable Portfolio Standard (Case No. 03-E-0188)?**

DRAM Response:

DRAM believes that renewable energy and demand response need to be viewed as complementary. Demand response is based on the time-based value of electricity production and delivery. Similarly, many renewable options also can be seen as being valuable based on the timing of their production or availability. The more that electricity is priced dynamically, the more value that can possibly be set for production from renewable sources and the more value that can be offered to attract demand response.

At the same time, we would contend that demand response can in many instances offer a more dependable and reliable energy source than some renewables for meeting peak demand. While many still question this, usually based on an intuitive belief that customers will not respond to price signals that cause them to reduce peak usage, the growing body of evidence is overwhelmingly to the contrary. It shows that customers will respond when presented with understandable and appropriately designed time-based price offerings.

Demand response can also emulate another attribute of renewables – avoidance of emissions from conventional generating facilities. While not always thought of in the same vein of energy efficiency in terms of producing a reduction in kwh (and therefore in emissions), demand response programs have been shown to produce a “net conservation” effect. This is because in most cases not all of the demand reduced on peak is replaced on peak. (The best example of this being that a home or business would not turn on its lights twice as much at night to make up for a reduction in lighting use during the peak afternoon hours).

To be sure, the conservation effect and environmental benefit of demand response may be specific to a given situation, and in some case there could be an increase in usage overall. Depending on the peak vs. off-peak generation fuel, there could also be more or less emissions-avoidance benefits. But the evidence to date shows that on average there is a net reduction of approximately 4% in mass market demand response programs that have been operated to date.

Given the RPS Order, and the new support it will provide to renewable energy, and given the discussion of demand response benefits above, DRAM believes that it is important that the Commission consider shifting some of the SBC funding that historically has been provided to renewables to an expanded level of SBC support for demand response.

## **7. What specific program(s) should be eliminated, expanded or created?**

DRAM Response:

DRAM believes that greater emphasis should be placed on demand response programs aimed at the residential sector.

Contrary to conventional wisdom, which holds that large C/I customers are the “low hanging fruit” in the orchard of demand response, evidence continues to accumulate that residential customers have a higher price elasticity than large customers. They also via program surveys reveal greater acceptance and satisfaction with demand response programs than larger customers. Indeed, with many in the large customer class indicating that they do not view demand response as their long term responsibility to the system, it may be that the mass market customer holds the greatest promise for the institutionalization of demand response in the New York State electricity system.

Another reason for increased emphasis on the small customer in the SBC is the support that demand response technologies, in particular advanced metering, can have in helping a competitive market develop that is aimed at that customer segment. This segment in New York, as in other states across the country, has

proven to be the most challenging one to develop. More demand response focus on this sector will help in the pursuit of this objective.

**12. Should SBC funds be extended to programs that encompass research and development into retail and/or wholesale electric market competitiveness issues, or transmission and/or distribution of the State's energy resources?**

DRAM Response:

Most demand response technologies differ from energy efficiency measures and technologies in that they not only provide customers with greater control and management of their energy bill but also provide electricity providers and distributors with new capabilities in terms of managing and optimizing their operations, particularly at the distribution level. For example, they can:

- Help Distribution companies with outage management and system operation.
- Allow Distribution companies to use DR to mitigate and manage geographically specific grid constraints.
- Provide the enabling technology for a faster, more accurate transactions and settlements and therefore support a stronger, more diverse competitive market.

The application of demand response to addressing transmission and distribution constraints is one that deserves particular consideration by the Commission. The success of ISO-NE in this area deserves notice. In December, 2003, ISO New England issued an RFP for emergency capacity in Southwest Connecticut due to serious congestion issues in this area and a dim outlook for near-term construction of new grid facilities. ISO-NE has procured 60 MW of non-generation-related demand response pursuant to this RFP and incidents to date show that the DR resources in the program are fast-responding and dependable.

**14. Do you have any other suggestions for improving the overall SBC program that are not addressed by the above questions?**

DRAM Response:

In its comments above DRAM has promoted an expanded SBC focus and devotion to demand response. Much of this would likely come via SBC support for technologies that enable demand response.

As noted above, some technology installed to enable demand response may provide benefits beyond demand response or even beyond the facilitation of competitive markets. It would not be unreasonable for the Commission to take these benefits into consideration as it determines how it should provide financial support for demand response technologies, and whether in some cases it might be appropriate for only part of the cost of the DR technology to be addressed with SBC funds.

## Attachment A

### **The SBC programs have reduced peak demand:**

“Through December 31, 2003, the **New York Energy \$martSM** programs have reduced peak demand through installed energy efficiency measures by 270 MW and have enabled another 610 MW of callable load reduction projects to participate, if needed, in New York Independent System Operator (NYISO) emergency demand response programs. . . . The 880 MW of potential demand reduction (range of 850 to 1050 MW) represents 2.9 percent of the 2003 peak statewide energy demand of 30,333 MW.”

-- NYSERDA, *New York Energy Smart Program Evaluation and Status Report*, May 2004, Vol. 1, p. ES-29

“A number of the participants said that the Peak Load Reduction and Enabling Technologies programs increased the load that could be reduced, curtailed, or shifted by 10 percent to 25 percent, if called.”

-- Id.

### **The participants in the SBC programs out-performed the other participants in the Emergency Demand Response Program (“EDRP”)**

“On average, the 111 customers that received funding from NYSERDA and actively participated in EDRP events out-performed the non-NYSERDA participants, as evidenced by SPI [Subscribed Performance Index] values of 64% and 46%, respectively, which indicates the value and contribution of NYSERDA’s technical and financial assistance programs.”

-- Neenan Associates and CERTS. *How and Why Customers Respond to Electricity Price Variability: A Study of NYISO and NYSERDA 2002 PRL Program Performance*, Prepared for the New York Independent System Operator and the New York State Energy Research and Development Authority, 2003, p. E-11

“On average, participants in NYSERDA-funded PONs out-performed non-NYSERDA customers relative to their subscribed load reduction commitment (average *SPIC* values of 64% vs. 46%). This difference was even more significant for those participants that adopted load curtailment strategies (average *SPIC* values of 73% for NYSERDA vs. 42% for non-NYSERDA).”

-- Id at 5-19

“The average price elasticity of demand for customers in the NYSERDA subgroup is - 0.07 , over twice as high as the level for other participants. . . Based on these results, NYSERDA is in fact achieving its goals of improving the performance of the PRL portfolio.”

-- Id at 5-12.

“The aggregate performance of the portfolio of NYSERDA participants, relative to their initial subscription levels, is higher than for the portfolio of other participants. Over the two event days, NYSERDA’s participants delivered an average of 53% of their initial indicated subscription amount, and exhibited very low variability, with values ranging from 50.1% to 54.7% of subscription amounts over the two days. This performance was well above the 45% for the non- NYSERDA subgroup.”

-- Id at 5-13.

“[C]omparisons of NYSERDA versus non-NYSERDA participants suggest that technical and financial assistance and deployment of enabling technologies, combined with targeted marketing, education, and information, can improve performance and increase participation among smaller customers.”

-- Id at 5-21.

### **Regarding the Peak Load Reduction Program (“PLRP”):**

“Eighty-seven unique market actors – primarily energy services companies, curtailment services providers, end use customers, and load serving entities - have submitted applications to participate in the PLRP since program inception in 2001.”

-- NYSERDA, *New York Energy Smart Program Evaluation and Status Report*, May 2004, Vol. 2, p. 6-47

“83% of survey respondents said the PLRP either fully met or exceeded their performance expectations and 76% stated that their financial expectations had been fully met or exceeded.”

-- Id.

“Virtually all of the facilities surveyed (approximately 99%) have participated in at least one of the NYISO’s demand response programs, with the majority having participated in either the EDRP or ICAP programs.”

-- Id.

**Support from the SBC programs is needed to support customer investment in demand response enabling technology:**

“Customers reported high payback thresholds for investments in enabling control and information technologies (Fig. E-6). In addition, customers indicated that they saw little value for such technologies outside of the existing PRL programs, overlooking that some of these technologies could be used to facilitate participation in other dynamic rate programs, such as TOU, or to minimize demand charges. PRL programs on their own seem unlikely to spur significant investments in control technologies, at least under existing program designs.”

-- Neenan Associates and CERTS. *How and Why Customers Respond to Electricity Price Variability: A Study of NYISO and NYSEDA 2002 PRL Program Performance*, Prepared for the New York Independent System Operator and the New York State Energy Research and Development Authority, 2003, p. E-9

“Approx. 80% of respondents were interested in a payback of less than 3 years for DR technologies.”

-- Id.

“Given the relatively high costs of various technologies that facilitate automated load response compared to [customer’s expectations of ] benefits, if such technologies are critical to participation, then market intermediaries (e.g., load aggregators, controls vendors, performance contractors), perhaps supplemented by public benefit investment funds, will be required to fully develop the demand response potential. However, the survey results indicate that technology alone is not sufficient. In addition to providing financial incentives to buy down the cost of enabling technologies, administrators of public benefit funds need to develop a broad set of informational/educational tools to help make the “business case” for DR investments to senior managers and educate customers on ancillary benefits that can result from installation of DR enabling technology.”

-- Id at 4- 21 to 22

**The importance of real time load information to participation in demand response programs:**

[Based on results of a customer acceptance survey:]

If a firm has ready access to real-time load information, etc., it is nearly 12 times (11.87) more likely to be in DADRP and an emergency program than in no

program at all, and 6.05 times more likely to be in both DADRP and at least one emergency program than in just one or more emergency program.

-- -- Neenan Associates and CERTS. *How and Why Customers Respond to Electricity Price Variability: A Study of NYISO and NYSERDA 2002 PRL Program Performance*, Prepared for the New York Independent System Operator and the New York State Energy Research and Development Authority, 2003, p. 4-37