

DSASP Small Customer Aggregation

Donna Pratt

Demand Response Market Product Specialist
New York Independent System Operator

Price Responsive Load Working Group
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Agenda

- ◆ FERC Order 719
- ◆ Draft definition for Small Demand Response
- ◆ Coordination with PHEV integration
- ◆ Communication with DSASP aggregations
- ◆ Work with stakeholders
- ◆ NPCC – overview and applicable rules
- ◆ NYSRC – overview and applicable rules
- ◆ Market Rules

Smaller DR Resources in Ancillary Services Markets

- ◆ FERC Order 719 - Paragraph 97:
 - *Assessment of technical feasibility and value of smaller DR Resources providing ancillary services within one year of the Order (Oct 17, 2009)*
 - Report findings on whether (and how) smaller DR Resources can reliably and economically provide operating reserves
 - Need for M&V and definition of what constitutes a “small demand response resource”

Draft Definition: Small Demand Resource

- ◆ A demand resource with load reduction capability that does not meet the individual reduction threshold required to participate in the demand response program in which it wishes to enroll.

Coordination with IRC PHEV recommendations

- ◆ IRC is developing recommendations for allowing PHEV to provide ancillary services
 - *Target date for report to CEOs is October 2009*
- ◆ Similarities between PHEV and aggregations of small DR resources
 - *Communications/telemetry*
 - *Market Rules*
 - *M&V*
- ◆ Specific requirements of PHEV and aggregations will differ
 - *Create separate set of recommendations for small DR in parallel with PHEV effort*

Communications for DSASP Aggregation

- ◆ Initially, ICCP will be the sole technology to communicate to Aggregators
- ◆ Current configuration would still require the signal to go through the TO
- ◆ Aggregator manages communication with its resources

Work with Stakeholders

- ◆ In preparation for a response to FERC, between now and October:
 - *Identify and address any reliability concerns with reliability monitoring entities (NPCC, NYSRC) have with allowing small DR to provide ancillary services*
 - *Through PRLWG, identify market rule changes specific to aggregations of DR to provide ancillary services, such as:*
 - Metering requirements
 - Measurement and verification
 - Settlement rules
 - *Identify level of effort to implement software modifications*

NPCC – Northeast Power Coordinating Council

- ◆ Document A-06 Operating Reserve Criteria
 - *3.7 Sustainability of Reserve*
 - “Synchronized Reserve, Ten Minute Reserve and Thirty Minute Reserve acquired by an Area, if activated, shall be sustainable for at least one hour from the time of activation. Areas shall determine their sustainability requirement for regulating reserve based on their ability to achieve compliance with relevant standards, with due consideration of their operating characteristics.”

Reference: <http://www.npcc.org/documents/regStandards/Criteria.aspx>

NPCC – Northeast Power Coordinating Council A-06 Operating Reserve Criteria continued

◆ 3.10 Resource-Specific Requirements

- 3.10.1 *“Synchronized Reserve, Ten Minute Reserve and Thirty Minute Reserve cannot be provided from loads where the same capacity is included in demand response programs and would result in double counting the same capacity.”*
 - DSASP resources who are jointly enrolled in ICAP/SCR and have been scheduled day-ahead for hours of an emergency event in real-time are taken out of merit in the ancillary service market and counted only as emergency capacity during the event hours
- 3.10.2 *“Loads cannot provide Synchronized Reserve if the reduction in Load is dependent on starting a generator to replace energy that is supplied from the grid.”*
 - DSASP resources who enroll with a backup generator may only provide non-synchronous reserves

Reference: <http://www.npcc.org/documents/regStandards/Criteria.aspx>

NPCC – Northeast Power Coordinating Council

A-06 Operating Reserve Criteria continued

- ◆ 3.10 Resource-Specific Requirements
 - 3.10.3 *“To be eligible to provide Synchronized Reserve, Ten Minute Reserve, or Thirty Minute Reserve, the Resource shall meet the metering and testing requirements of the relevant Area(s).”*
 - DSASP resources are required to have real-time continuous communication (telemetry) with the NYISO
 - 3.10.4 *“To be eligible to provide Synchronized Reserve, Ten Minute Reserve, or Thirty Minute Reserve, the Resource shall meet the dispatch instruction requirements of the relevant Area(s).”*
 - DSASP resources receive real-time dispatch signals via telemetry
 - 3.10.5 *“To be eligible to provide Synchronized Reserve, Ten Minute Reserve, or Thirty Minute Reserve, the Resource shall meet the requirements specified by the relevant Area(s) for operating limits and response rate, so that available reserve shall be computed accurately.”*
 - DSASP resources are modeled as supply resources with defined operating limits and ramp rates

Reference: <http://www.npcc.org/documents/regStandards/Criteria.aspx>

NPCC – Review and Approval Procedures

- ◆ Type A documents (Operating Reserve Criteria is a Type A document)
 - *Prepared and revised by the designated lead Task Force*
 - *Drafts distributed to other Task Forces for review, comments and/or concurrence*
 - *Document is posted on the NPCC Open Process web page for 45 days for comments*
 - *Notification provided to neighboring Regions for review and comments*
 - *Lead Task Force reviews comments and posts responses on the NPCC Open Process web page*
 - *If no substantive comments, lead Task Force presents to the Reliability Coordinating Committee (RCC), one meeting prior to seeking final approval*
 - *Final approval of RCC conducted at either a scheduled meeting or via e-mail and electronic ballot*
 - *Following approval by RCC, document is submitted to NPCC Full Member Representatives for vote with a recommendation for adoption*
 - *Approval requires a 2/3 majority of both Transmission Provider and Transmission Customer voting classes*
 - *Once approval has been obtained, the document is officially accepted*
 - *The approved document will be posted*

Reference: <http://www.npcc.org/documents/regStandards/Criteria.aspx>

NYSRC – New York State Reliability Council

- ◆ Glossary entries modified for DSASP
 - *Resource: “The total contributions provided by supply-side and demand-side facilities and/or actions. Supply-side facilities include utility and non-utility generation and purchases from neighboring systems. Demand-side facilities include measures for reducing load, such as conservation, demand management and interruptible load”*
- ◆ Glossary entries where “generating” was replaced by “resource”
 - *Operating Reserve*
 - *Non-synchronized Ten (10) Minute Operating Reserve*
 - *Synchronized Operating Reserve*
 - *Thirty (30) Minute Operating Reserve*

NYSRC – Reliability Rules Subcommittee

D-R3 Availability and Category (Operating Reserves)

- A. *”The ten (10) minute operating reserve portion of the NYISO’s minimum operating reserve requirement shall be fully available within ten (10) minutes and shall be in the following categories:*
 - 1. *Synchronized Operating Reserve – At least one-half of the ten (10) minute operating reserve will consist of unused **resource** capacity which is synchronized and ready to achieve claimed capacity, or **resource** capacity which can be made available by curtailing pumping hydro units, or canceling energy sales to other systems.”*

Reference: <http://www.nysrc.org/NYSRCReliabilityRulesComplianceMonitoring.asp>

NYSRC – Reliability Rules Subcommittee D-R3 continued

- *“2. Non-Synchronized Ten (10) Minute Operating Reserve – The remainder of the ten (10) minute operating reserve may be composed of non-synchronized **resource** capacity such as hydro, pumped storage hydro, and quick start combustion generation, which can be synchronized and loaded to claimed capacity in ten (10) minutes or less, and interruptible load that can be activated in ten (10) minutes or less.”*

NYSRC – Reliability Rules Subcommittee D-R3 continued

- ◆ B. “The thirty (30) minute operating reserve portion of the NYISO’s operating reserve requirement is that portion of unused **resource** capacity or interruptible load which can and will be made fully available as promptly as possible, but in no more than thirty (30) minutes.
- ◆ C. **Resource** capacity associated with the delivery of interruptible sales to adjacent control areas may be included as operating reserve in the category agreed upon by the purchaser.”

Reference: <http://www.nysrc.org/NYSRCReliabilityRulesComplianceMonitoring.asp>

NYSRC – Reliability Rules Subcommittee

D-M1 and I-R2

- ◆ D-M1
 - *“The NYISO shall maintain statistics regarding daily forecasted and actual reserves, and shall report these statistics to the NYSRC on a monthly basis. The statistics shall include 10 minute synchronized, 10 minute non-synchronized, and 30 minute operating reserves. The report shall distinguish between supply and demand side resources and any locational operating reserves. (D-R1 through D-R3)”*
- ◆ I-R2 Locational Reserves (New York City)
 - *“Sufficient ten (10) minute operating reserves shall be maintained in the New York City (NYC) zone as follows:*
 - The ten (10) minute operating reserve for NYCA shall be determined in accordance with Reliability Rules.
 - A percentage of the ten (10) minute NYCA operating reserves equal to the ratio of the NYC zone peak load to the statewide peak load shall be required to be selected from resources located within the NYC zone.
 - NYC zone ten (10) minute operating reserves shall be maintained at all levels of dispatch, except as necessary to alleviate emergency conditions.”

NYSRC – Reliability Rules Subcommittee

Glossary

- ◆ “Reserve – In normal usage, reserve is the amount of capacity available in excess of the demand.
- ◆ Operating Reserve – Resource capacity that is available to supply energy, or curtailable load that is willing to stop using energy, in the event of emergency conditions or increased system load, and can do so within a specified period.
- ◆ Non-synchronized Ten (10) Minute Operating Reserve – The portion of ten (10) minute reserve consisting of resource capacity such as hydroelectric, pumped storage hydroelectric, and quick start combustion generation which can be synchronized and loaded to claimed capacity in ten (10) minutes or less, and interruptible load, including load reduction achieved by starting generation to offset demand, which can be achieved in 10 minutes or less. Non-synchronized reserve must not exceed half of the ten (10) minute reserve.”

Next Steps with NPCC and NYSRC

- ◆ While there is no explicit language in the Reliability Rules that limit demand response participation to individual resources, as a practice, the NYISO makes NPCC and NYSRC aware of any new or different types of resources providing real-time services in our markets
- ◆ NPCC
 - *Presentation to Task Force on Coordination of Operation to determine whether any changes are required*
 - *Next three meetings: August 11 – 12, September 24 – 25, and November 2 - 3*
- ◆ NYSRC – Reliability Rules Subcommittee
 - *Next three RRS meetings: June 25, August 6, September 3*
 - *NYISO will request an opportunity to present information about small aggregated resources providing operating reserves and regulation once we have determined that there are no NPCC rules that require modification and general provisions have been worked out with Operations*
 - Changes to NPCC rules must be completed through approval before NYSRC will consider proposals

Market Rules

- ◆ Market rule changes should be minimal if aggregations are treated in the same manner as individual DSASP resources
 - *Measurement and Verification*
 - *Settlement*
- ◆ Potential areas for changes or additions:
 - *Metering*
 - Standards for cycle time from the aggregator to resources and back



The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and provides comprehensive reliability planning for the state's bulk electricity system.

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