

Market Design Concepts for Demand Response in the Real-Time Energy Market

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**Joint Price-Responsive Load and Market Issues
Working Groups**

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Topics

- ◆ **Order 719 Compliance**
- ◆ **NYISO's Current Economic Demand Response Programs**
- ◆ **Market Design Concept for Demand Response Resources in the Real-Time Energy Market**
- ◆ **Topics of Market Design Development**
- ◆ **Approach to incorporating concepts in August 2011 Order 745 Compliance Filing**
- ◆ **Next Steps**

FERC Order 719 - Paragraph 34:

- ◆ **November 20, 2009: “Although NYISO does not have a separate energy imbalance market, it provides energy imbalance services through its real-time energy market. For that reason, NYISO must allow for qualified demand response resource participation in its real-time energy market. Therefore, we direct NYISO to modify its tariff to allow technically capable demand response resources to participate in the real-time energy market to provide energy imbalance service.”**
 - *NYISO to provide a plan of action identifying the necessary changes and anticipated completion dates with the compliance report.*

Order 719 Compliance

- ◆ **February 25, 2010: NYISO Compliance Filing identified prioritization of demand response initiatives and reported timeline for market design**
- ◆ **June 1, 2010: NYISO first began providing semi-annual updates on incorporating aggregations into DSASP and demand response in the real-time energy market in its semi-annual compliance filing**

Current Economic Demand Response Programs Limit Market Participation to Energy or Ancillary Services

- ◆ **NYISO's programs have been developed incrementally for participation in specific markets**
- ◆ **Economic demand response programs allow joint participation in one reliability-based demand response program**
- ◆ **Program rules restrict joint participation in energy and ancillary services markets**
 - *Payment for participation as an ancillary service provider is limited to the availability payment*
 - *DADRP limits participation to the day-ahead energy market*

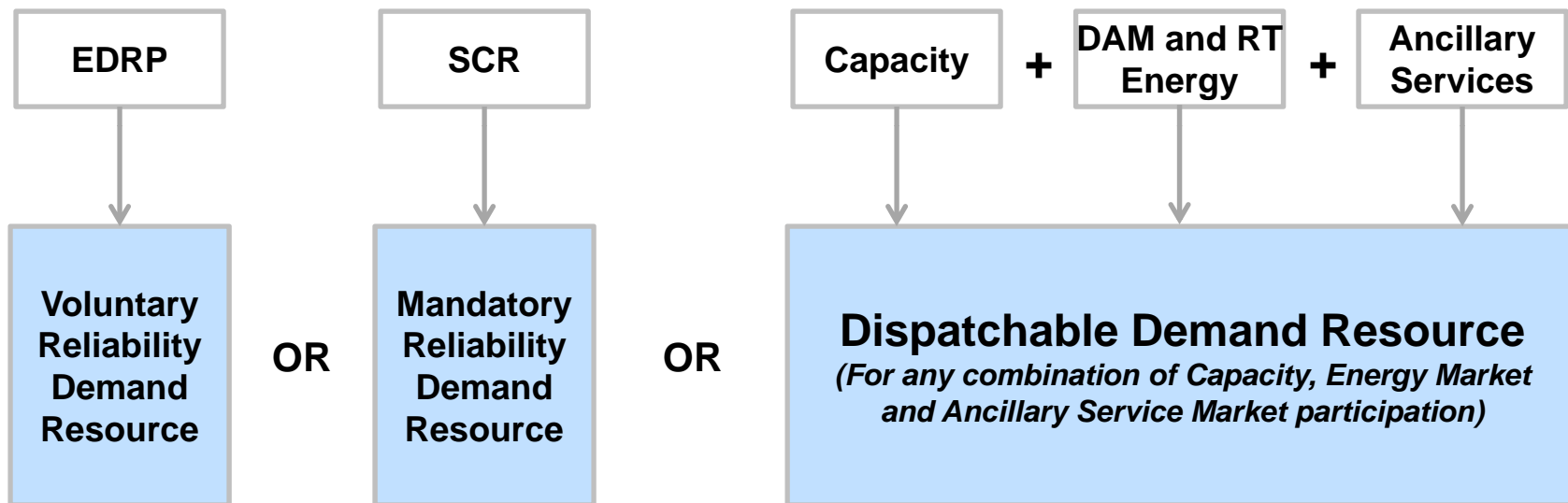
Interaction Between Separate Demand Response Programs Adds Complexity

- ◆ **To permit joint enrollment in reliability and economic programs, rules were needed to address situations when a demand response event overlaps with a market schedule in the economic program: “market overlap”**
 - *Additional rules for measurement and settlement were developed for joint participation in DADRP and a reliability program to prevent a double payment for the energy reduction while recognizing performance for capacity for SCRs*
 - *Additional software procedures were developed for joint participation in DSASP and a reliability program to prevent double counting of reserves during a demand response event*
- ◆ **Potential for “market overlap” situations increases significantly when joint participation in energy and ancillary service markets under the current design is combined with a reliability program**

Opportunity to Streamline Demand Response Participation in NYISO's Markets

- ◆ **Allows integration of demand response to provide an energy product that is co-optimized with ancillary services while continuing to be eligible for a capacity payment**
- ◆ **Demand response resources that do not wish to participate in NYISO's co-optimized markets may continue to participate as reliability-only resources**

Reliability and Dispatchable Demand Response Resource Types



Reliability Demand Resources

- ◆ **Voluntary Reliability Demand Resources would be similar to the current EDRP resources**
- ◆ **Mandatory Reliability Demand Resources would be eligible for a capacity payment and have a capacity obligation much like the current Special Case Resources**
- ◆ **Some market rule modifications for reliability demand response may be necessary to maintain consistency with Dispatchable Demand Resources**

Dispatchable Demand Resources

- ◆ **Provides flexibility to offer and be scheduled in energy and ancillary services markets, as qualified**
 - *Expands DSASP to incorporate day-ahead and real-time energy market participation plus a revised structure for eligibility of capacity payment*

Topics of Market Design Development for Dispatchable Demand Resources

- ◆ **Design for integration as a capacity market resource**
- ◆ **Eligible resource types**
- ◆ **Pre-qualification requirements**
- ◆ **Offer requirements**
- ◆ **Credit requirements**
- ◆ **Market mitigation procedures**
- ◆ **Measurement and verification**
- ◆ **Settlement and cost allocation**

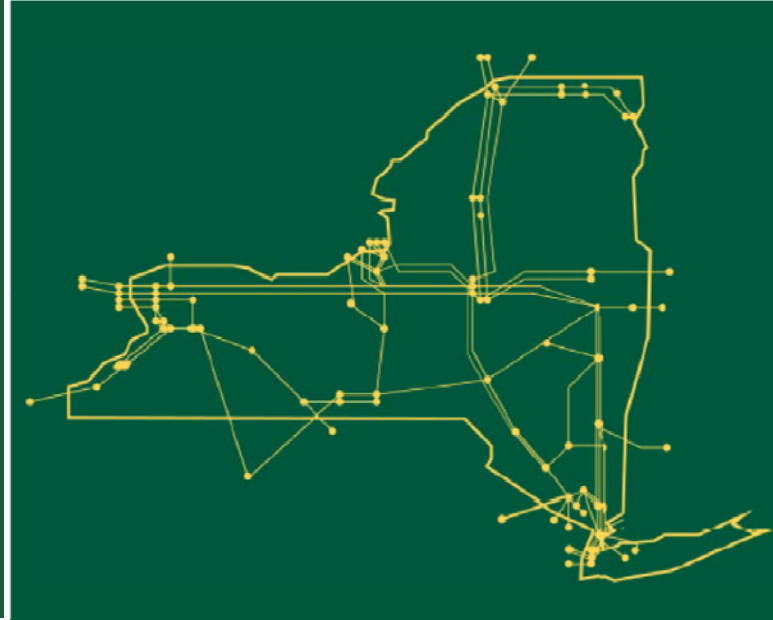
Limited Impact from Unanswered Order 745 Compliance Filing

- ◆ **Three areas of the market design could be affected:**
 - *Offers*
 - *Settlement*
 - *Cost Allocation for payments to demand response scheduled in the energy market*
- ◆ **Changes to the market design and/or proposed market rules may be required when NYISO receives a response to its August 2011 Order 745 compliance filing**

Next Steps

- ◆ **Additional presentations on market design concepts will occur at MIWG meetings in October and November**
- ◆ **Informational market design concept presentations to BIC and OC in December**
- ◆ **Mandatory 2013 Project for Demand Response in the Real-Time Energy Market**
 - *To address market design concepts in detail through the stakeholder process to produce functional requirements by the end of 2013*
- ◆ **Any proposed changes to tariff language for the compliance filing will follow development of functional requirements**

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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