Demand Side Resources at the NYISO

E-Learning Module

Demand Side Resources

- MODULE OBJECTIVES:
  - Explain what Demand Side Resources are and benefits to their participation in NYISO markets and programs
  - Identify the various NYISO Markets and Programs that Demand Side Resources can participate in
  - List the basic participation requirements of Reliability Based Demand Response programs
  - Discuss participation of Demand Side Resources in the DER and Aggregation Participation Model

Demand Side Resources at the NYISO

What are Demand Side Resources?

Electric consumers located in New York State that enroll to take part in a specific DR programs or participation model

Examples:

- Industrial companies
- Commercial buildings
- Big box stores
- Small retail stores
- Hospitals
- Colleges/Universities

What do Demand Side Resources do?

Demand Side Resources reduce power consumed from the grid for discrete periods of time.

Demand Side Resources at the NYISO

How can Demand Side Resources participate in NYISO markets and programs*?

Qualified Demand Side Resources can participate as part of a DER Aggregation in the following markets:

- Energy Market
- Ancillary Services Market
- Installed Capacity Market

Alternatively, Demand Side Resources can participate in NYISO's Reliability based Demand Response Program

- Emergency Demand Response Program (EDRP)
- Special Case Resources (SCRs)

* DADRP and DSASP, the two Economic based Demand Response programs are being terminated

Demand Side Resources at the NYISO

What are some of the advantages offered by Demand Side Resource participation in NYISO markets and programs?

Contribute to maintaining system reliability by:

- Effectively increasing the supply available to manage peak demand periods
- Allow load to provide ancillary services to the wholesale electricity market

Maintain price stability in the market by:

- Allowing load to respond to wholesale market prices, which can moderate high prices in the NYISO's Day-Ahead and Real-Time market

Demand Side Resources at the NYISO

How do Demand Side Resources provide load reduction?

Reliability Based Demand Response

Resources can provide load reduction by:

- Decreasing power consumption in the facility - load curtailment
- Using a qualified behind-the-meter local generator to supply part of the resource's load
- Using both load curtailment and a local generator

DER Aggregations

Resources can provide load reduction by:

- Decreasing power consumption in the facility - load curtailment
- Using a qualified behind-the-meter local generator to supply part of the resource's load
- Using both load curtailment and a local generator
- Using curtailment and/or a Behind-the-meter generation with additional capability of injection onto the grid

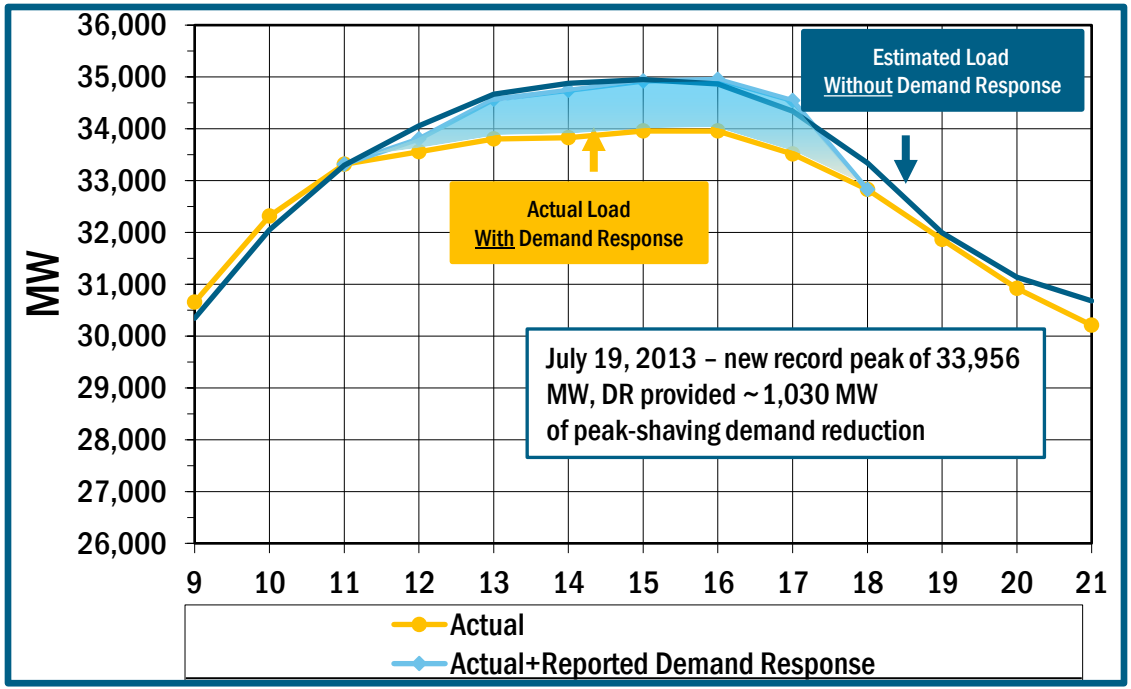
Reliability Based Demand Response Programs

- Purpose: Load reduction for discrete periods of time, in response to NYISO operations to supplement generation
  - When operating reserves are forecast to be short or
  - When there is an actual Operating Reserve Deficiency or
  - Other system emergency
- Event driven
- NYISO determines activation
  - Emergency Demand Response Program (EDRP)
  - ICAP - Special Case Resources (SCR)

Reliability Based Demand Response Programs – Basic Features

	EDRP	SCR
Performance Requirement	Voluntary	Mandatory if awarded capacity and if notification timeline is met
Size Requirement	Minimum 100kW reduction	- Minimum 100kW reduction - Grouping by zone allowed
Number of calls	Unlimited	Unlimited
Metering	Hourly interval metering	Hourly interval metering
Payment Type	Performance payment	- Capacity payment - Performance payment
Penalties	None	May apply

Reliability Based Demand Response in Action

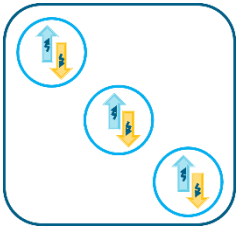


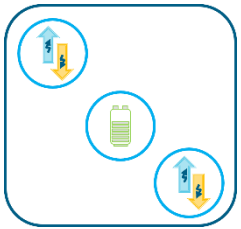
DER and Aggregation Participation Model

- One or more qualifying individual Demand Side Resource(s) can take part as a DER Aggregation in the following NYISO Markets:
  - Energy Market
    - Day-Ahead
    - Real-Time
  - Ancillary Services Market
    - Operating Reserves
    - Regulation
  - Installed Capacity Market

DER and Aggregation Participation Model

- Demand Side Resources can participate as a DER Aggregation in the following configurations:
  - Aggregation comprising only of Demand Side Resources
    - Example: One or multiple Demand Side Resources at separate points of Interconnection, mapping to the same Transmission node *
  - Aggregation comprising of Demand Side Resources and other resource types
    - Example: Demand Side Resource(s) and an Energy Storage Resources (ESR) at separate points of Interconnection, mapping to the same Transmission node *





* Transmission Nodes reflect a collection of designated load buses on which individual DERs are located and may participate together in an Aggregation

Additional Resources

- Tariffs – MST and OATT
- Emergency Demand Response Program Manual
- Installed Capacity Manual Section 4.12
- Aggregation Manual

Questions?

For any future assistance, please contact NYISO Stakeholder Services at stakeholder_services@nyiso.com or by phone at (518) 356-6060