Distributed Energy Resources: Options for Participation

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Current Wholesale DER Participation

	Capacity	Energy	Ancillary Services
Reliability — Non - Dispatchable	**Special Case Resource (SCR) Program** • *Manual Activation* • *Receives Capacity Payment*	**Emergency Demand Response Program (EDRP)** • *Manual Activation* • *Voluntary Load Reduction*	
Economic — Non - Dispatchable	**Load Modifier** • *Self-managed Load Reductions to Reduce Capacity Obligation*	**Price Capped Load Bid** • *Economic Day Ahead Load Procurement*	
Economic — Real -Time Dispatchable		**Day-Ahead Demand Response Program (DADRP)** • *Scheduled in Day-Ahead Energy Market* • *Receives Energy Payments*	**Demand Side Ancillary Services Program (DSASP)** • *Scheduled in Day-Ahead and Real Time Ancillary Services Market* • *Receives ancillary Services payments*

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Future Wholesale DER Participation

Capacity   **Energy**   **Ancillary Services**

Reliability

Non - Dispatchable

Special Case Resource (SCR) Program

- *Manual Activation*
- *Receives Capacity Payment*

Emergency Demand Response Program (EDRP)

- *Manual Activation*
- *Voluntary Load Reduction*

Load Modifier

- *Self-managed Load Reductions to Reduce Capacity Obligation*

Price Capped Load Bid

- *Economic Day Ahead Load Procurement*

Economic

Real -Time Dispatchable

Dispatchable Distributed Energy Resources

- *Comparable to a Generator*
- *Supports Aggregations of DER*
- *Fully integrated in both Capacity and Energy Markets*
  - *Capacity with Daily Energy Must-Offer Obligation*
- *Flexible performance & payment options*

Special Case Resources (SCR)

- **Enduring Program**
- **Capacity Program**
- **Manual Activation with Day-Ahead Notice**
- **Eligible for Energy Payments during Events**
- **Aggregations and Single Resources**
- **Capacity and Energy Payments based on Performance**

1,248 MW Enrolled
July 2015

Emergency Demand Response Program (EDRP)

- **Enduring Program**
- **Voluntary Load Reduction**
- **Manual Activation with Day-Ahead Notice**
- **Eligible for Energy Payments during Events**
- **Aggregations and Single resources**

77 MW Enrolled
July 2015

Load Modifier

- **Enduring Option for Load modifiers** *(Generators associated with a Transmission Owner acting as a Load Serving Entity or Municipal Electric System)*

- **Do Not Participate in the NYISO-administered markets**

- **Reduce Load Visible to Bulk Electric System**

- **Reduces Transmission Owner or Municipal Electric System Wholesale Obligation for Energy and Capacity**

- **Compensation Outside Wholesale Markets**

Price Capped Load Bidding

- ## Enduring Program

- ## Day-Ahead Bids for Load Procurement

3-5% of Day-Ahead Load Bids

Dispatchable Distributed Energy Resources

- **New Program**
- **Align with NYS REV**
- **Encourages Aggregations of DER**
- **Load Reduction or Energy Injections**
- **Fully integrated in Capacity, Energy, and Ancillary markets**
- **Flexible Performance & Payment Options**
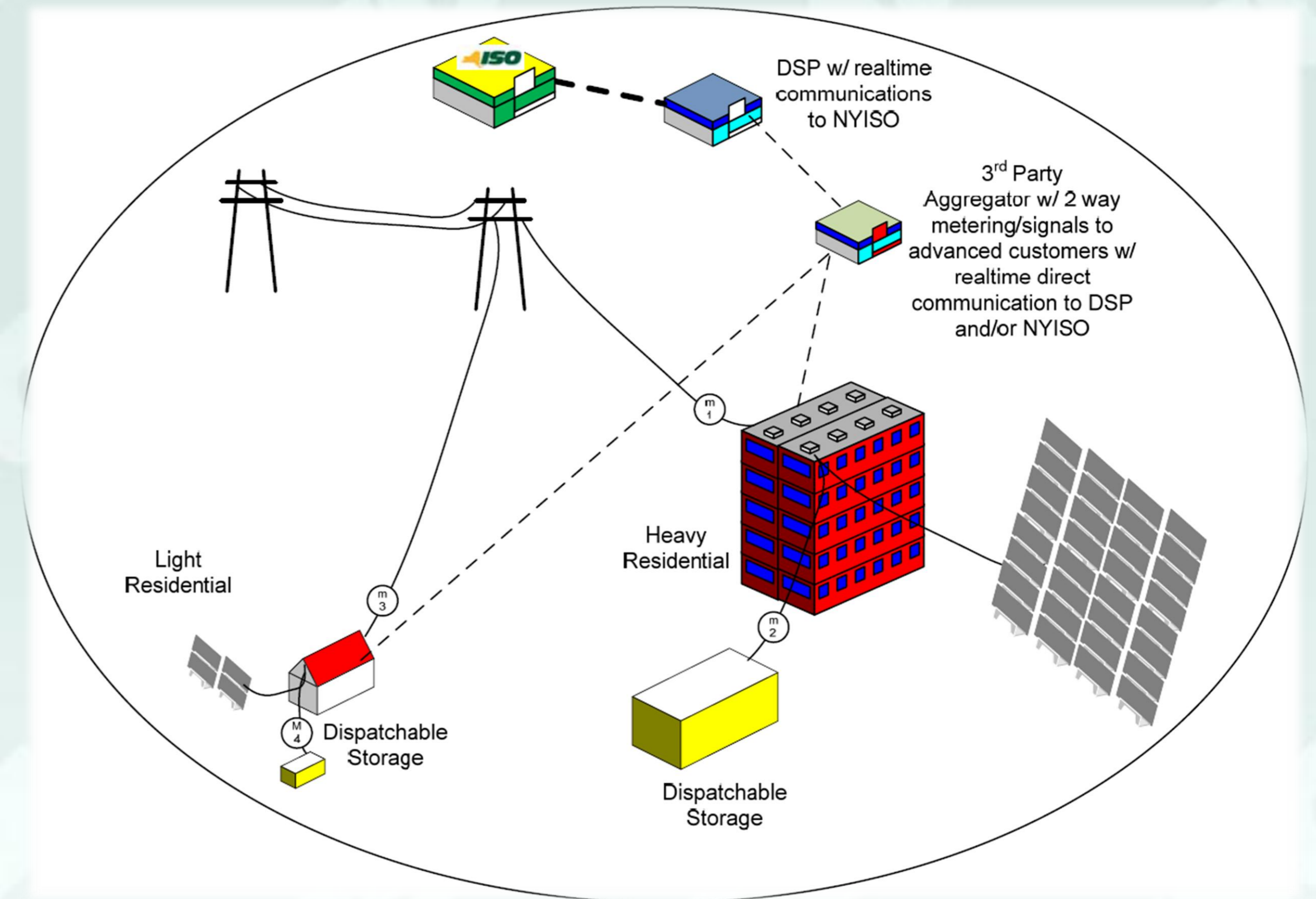
	Distributed Energy Resources			Price Capped Load Bidding
	Dispatchable DER Full, Daytime, Peak	SCR 4 Hour Reliability	EDRP Voluntary Reliability	
	Fully Dispatchable	4 Hour Minimum Reliability	Voluntary Reliability	
DAM Energy	✓ Bidding required if Capacity is sold	✗	✗	✓
RT Energy	✓ consistent with short notice generators	✓ payment available for verified performance	✓ payment available for verified performance	✗
Capacity	✓	✓	✗	✗
Ancillary Services	✓	✗	✗	✗
30 Min Non Sync	must offer if resource/ aggregation is qualified	NA	NA	NA
10 Min Non Sync	must offer if resource/ aggregation is qualified	NA	NA	NA
10 Min Spin	must offer if resource/ aggregation is qualified	NA	NA	NA
Regulation	Optional depending on qualifications	NA	NA	NA
Voltage Support	Optional depending on qualifications	NA	NA	NA

- **Load-only resources**
- **Load with Generation**
- **Load with Storage**
- **Load with Generation and Storage**
- **Controllable generation with remote retail load obligations**

Distributed Energy Resource Program Design

- ## Supporting initiative in 2017 is to design a market concept

  - *"This process will require an examination of DER performance obligations, metering and telemetry requirements, measurement and verification of baseline performance, modeling, and an understanding of how to balance the simultaneous participation of DER in retail/distribution-level programs as well as the NYISO's wholesale program."*
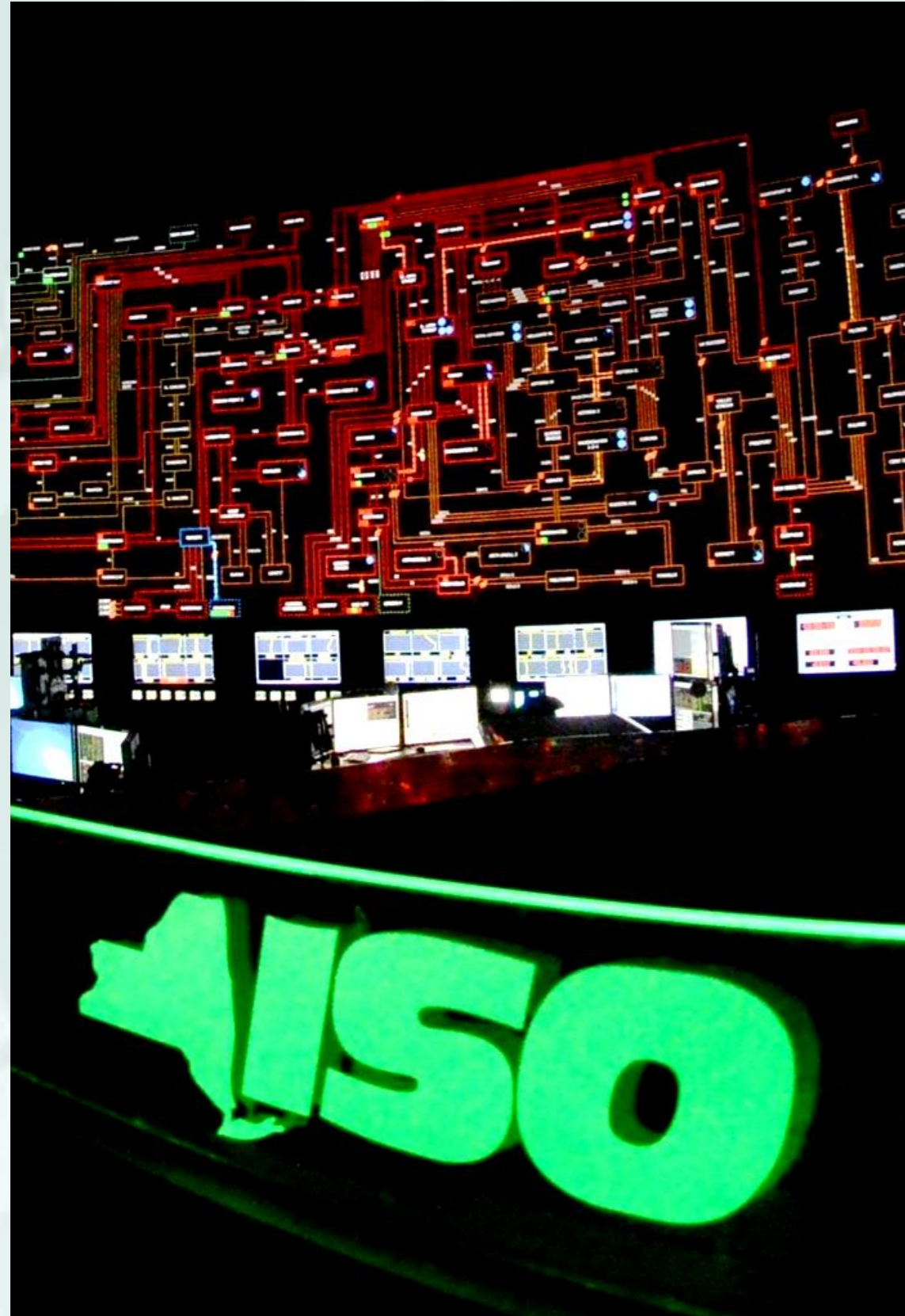
The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- *Maintaining and enhancing regional reliability*

- *Operating open, fair and competitive wholesale electricity markets*

- *Planning the power system for the future*

- *Providing factual information to policy makers, stakeholders and investors in the power system*

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