Demand Response Backstop Design

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Joint Market Issues, Installed Capacity and Price-Responsive Load Working Groups

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DRAFT – FOR DISCUSSION PURPOSES ONLY

Agenda

- NYISO's Plans and Timing
- Overview of NYISO's DR Backstop Design
- New Terminology
- Continued Participation of RIPs
- Implementation Design
- Next Steps

NYISO's Plans and Timing

- **NYISO is obligated to administer its existing tariffs, including provisions related to demand response, until directed otherwise by FERC**
- **NYISO recognizes the need to be prepared in the event that its demand response programs become non-FERC jurisdictional in order to minimize the market and reliability impact**
  - ***The NYISO's backstop model will, if needed, replace the Special Case Resources (SCR) program***
  - ***The goal of developing the backstop model is to allow the NYISO to quickly address guidance from FERC while maintaining the benefit of demand response in New York***
- **NYISO does not intend to make a filing at FERC until it receives guidance from FERC**

Overview of NYISO's DR Backstop Model

- ***At the February 26, 2015 Joint ICAP and Price-Responsive Load Working Group Meeting, the NYISO announced that based on further review and stakeholder feedback, the NYISO is developing a DR Backstop design that reflects Model 2:***
  - ***Load Serving Entity (LSE) receives a credit to its capacity requirement for any Demand Side Resources enrolled for it in its Zone, with a maximum credit limited to the LSE's Locational Capacity Requirement***

Summary of Concepts in the Backstop Design

- Reflect the value of demand side participation from both reliability and market perspectives
- Remove ability for Demand Side Resources to be compensated by the wholesale market for capacity or energy
- Minimize impacts to NYISO's Capacity market
- Objective of the DR Backstop design is to be able to implement any required changes quickly
  - *Minimize disruption to current processes*
  - *Minimize software changes for quick implementation*
- Develop new terminology to distinguish the SCR program rules from the DR Backstop rules

New Terminology

- **Introducing new terminology that will be used in the proposed tariff revisions for the DR Backstop design**
- **Definitions will be modified as necessary to reflect revised participation of demand response**
  - ***To the extent practicable, program rules and concepts will not be changed except to reflect new terms and changes in the way demand response is recognized in the NYISO's markets***
- **List will continue to be updated as additional terms are developed**

Existing Term	Proposed New Term
Special Case Resource Program	Capacity Requirement Offset Program (CROP)
Responsible Interface Party (RIP)	Responsible Enrolling Party (REP)
Special Case Resource (SCR)	Capacity Offset Demand Resource (CODR)
UCAP	$UCAP_c$
ICAP	$ICAP_c$

Continued Participation of RIPs as Market Participants

- If the DC Circuit Court of Appeals decision in EPSA vs. FERC is upheld, RIPs that are Market Participants (MPs) solely due to their participation in wholesale demand response programs may no longer be eligible to be MPs as defined in the NYISO tariff
- The NYISO's DR Backstop design contemplates allowing a Responsible Interface Party (RIP), as a Responsible Enrolling Party (REP), to participate in the Capacity Requirement Offset Program (CROP), provided that the REP has an authorization agreement from at least one LSE to enroll demand response resources for that LSE
- Questions have been raised about RIPs' ability to continue to participate in the NYISO's governance process after the transition

Continued Participation of RIPs in the Governance Process

- The NYISO tariffs and manuals will continue to provide the rules and procedures by which customers will utilize demand response in its wholesale market
- Although the DR Backstop design provides a way for RIPs, as REPs, to access NYISO's Demand Response Information System (DRIS), they will no longer be "Other Suppliers" as that term is defined in the ISO Agreement
- However, the Demand Side Resources that REPs will be enrolling as offset credits are eligible to join the End Use Sector as Large or Small Consumers
  - *If they join, REPs could represent them in NYISO governance*

IMPLEMENTATION DESIGN

Approach to Implementation Design

- Developed an implementation solution that will allow RIPs to enroll Demand Side Resources for capacity offset credit to LSEs
- Reviewed processes for changes
  - *SCR enrollment processes*
  - *DR Event Notification processes*
  - *Capacity auction processes*
  - *Capability Period Close-out processes*
- Documented process changes to sufficient level of detail to allow team to provide implementation estimates and draft tariff language to be developed
- Began tracking of transition requirements
- Evaluated impacts of a mid-Capability Period implementation
- Implementation timeline goal set at approximately 60 days following FERC guidance document

Transition Requirements

- **Preparation for the transition to new market rules, such as:**
  - ***Development of new registration materials and procedures for REPs***
  - ***Setup of REPs in NYISO's Market Information System (MIS) to access DRIS***
  - ***Removal of existing privileges and separation of existing SCR enrollments***
  - ***Training sessions***
  - ***Procedure updates and additional procedures to specifically address the transition period***
  - ***Documentation updates***
- **Sequence of transition requirements**
  - ***Final timeline to be developed when implementation is required***

Mid-Capability Period Implementation

- **The NYISO's preference is for an orderly transition to new rules**
  - ***Transition at the beginning of a Capability Period is preferred***
- **An impact from a potential mid-Capability Period implementation will be discussed in detail under Capability Period Close-out Processes section later in this presentation**

Overview of Implementation Design for the DR Backstop

- LSEs authorize REPs to enroll and manage Capacity Offset Demand Resources (CODR) in NYISO markets for use by the LSE in the Capacity Requirement Offset Program
- REPs enroll Demand Side Resources for each LSE through user accounts that link the REP with each LSE with which it has submitted an authorization agreement to the NYISO
- Existing DRIS processes and functions retained, with modifications only where needed
- Demand response capacity offsets in the form of $UCAP_C$ will be calculated by NYISO for each LSE and Zone in DRIS and for LSE and Locality in ICAP AMS
- NYISO procedures to provide information back to LSEs

RESPONSIBLE ENROLLING PARTY REGISTRATION

REPs Enroll and Manage Demand Response Resources for LSEs

- **LSE authorization agreements permit the NYISO to accept enrollment of Demand Side Resources from REPs with which the LSEs have contracted**
  - ***NYISO records and tracks authorizations through NYISO's registration process and in DRIS***
- **Proposed Process:**
  - ***REPs register with the NYISO and provide an authorization agreement from each LSE with which they are authorized to enroll demand response resources***
    - One registration packet per Responsible Enrolling Party
    - Registration packet must be accompanied by at least one LSE authorization agreement
    - Additional LSE authorization agreements for the same Responsible Enrolling Party do not require additional registration packets
  - ***Allows for a unique organization ID for each REP/LSE combination***
    - LSEs will not have direct access to REP information in DRIS unless the REP provides user privileges to the LSE
  - ***LSEs acting on their own behalf in the Capacity Requirement Offset Program will be required to have a REP organization ID in addition to their existing Market Participant organization ID in MIS***

Example – A RIP Registration to become a REP

- RIP1 is currently a NYISO Market Participant solely for demand response and has a MIS user account to access DRIS
- For the DR Backstop, RIP1 will no longer be a Market Participant, but has Demand Side Resources that it wants to enroll for different LSEs
- To enroll the resources after the DR Backstop is implemented, RIP1 will need to complete the registration requirements and submit them to NYISO Registration along with an authorization agreement from at least one of the LSEs for which it will act as a REP
  - *It will need to get authorization agreements from any additional LSEs in order to enroll resources for the other LSEs*
- For each LSE that provides an authorization agreement, RIP1, now "REP1," will get a separate MIS Organization ID
  - *REP1_LSE 1**
  - *REP1_LSE 2**
  - *REP1_LSE 3**
- The Responsible Enrolling Party will perform all functions in DRIS based on its specific user account for that LSE authorization agreement

** For illustrative purposes only, not the actual naming convention to be implemented*

Processes Reviewed – Part 1

- **Enrollment processes**
  - ***All enrollment processes: from Aggregation ID request through Aggregation and Strike Price Management***
- **Auction-related processes**
  - ***DRIS transfer of UCAP to ICAP AMS***
  - ***SCR Offer Floor processing***
  - ***Partial sales reporting***

Processes Reviewed – Part 2

- **DR Event processes**
  - ***Event Notification***
  - ***Scarcity Pricing***
  - ***Event data reporting***
- **Capability Period close-out processes**
  - ***Change of Status reporting***
    - **Includes reporting by MPs**
  - ***TO add-backs***
  - ***ACL Verification***
  - ***Performance factor calculations***
  - ***Shortfall processing***

Conventions Used

- **Each slide contains a brief description of the process as it happens now, shown in red text**
  - ***Where the term "MP" is shown in the following slides, after the transition, REPs will have the same privileges in DRIS***
- **Process Impact**
  - ***Refers to changes to process from the user's perspective***
- **Software Impact**
  - ***Indicates which NYISO system requires change(s) and a brief description of the change(s)***
- **Transition Impact**
  - ***Yes indicates where a transition process may be needed***
  - ***Details on transition processes are not included; they will be discussed when implementation is required***
- **Slides with a green star (★) in the upper left corner indicate processes with process or software impacts**
  - ***Slides without a green star are included for completeness of the process review, but will not be discussed during the presentation***

ENROLLMENT PROCESSES

Enrollment: Aggregation ID Request

- **MPs request IDs to establish new aggregations**

- **Process Impact: None**
- **Software Impact: DRIS**
  - ***To support changes to ICAP AMS, change to allow Aggregation IDs to be completely managed in DRIS***
- **Transition Impact: Yes**

Enrollment: Enrollment Import

- **Import of requests to enroll individual Demand Side Resources and initial aggregation assignment**
  - ***If enrollment records pass validations, resources are enrolled***
  - ***Some enrollments will require additional processing and/or interaction with the NYISO, including incomplete information ("exceptions"), changes to data in key fields ("pending requests"), or duplicate enrollments***
    - **Any challenges to TO add-backs occur in this process**

- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

New LSE Enrollment Review Process

- **LSEs will have the opportunity to review enrollments of Demand Side Resource for which they will receive a Capacity Requirement Offset**
  - ***This will provide LSEs with a way to check for resources that have been enrolled on their behalf but that do not meet their requirements for payment, such as resources enrolled on behalf of a TO that are not within their service territory***
- **The day after the close of enrollment each month, the NYISO intends to send each LSE a list of enrolled resources and resources with pending enrollments**
- **Each LSE will have two business days to review the list for any resources that do not meet the LSE's requirements and send a list of the ineligible resources to NYISO**
- **NYISO will separate those resources by the close of Aggregation Management**
- **No response from the LSE will be considered acceptance of the resources**

Enrollment: Duplicates and Monitored Fields

- **NYISO works directly with MPs to resolve duplicate enrollments and Monitored Field change requests**

- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

Enrollment: ACL Data Requests

- **Allows an MP to request to use ACL data already in DRIS for specific resources it wishes to enroll**

- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

Enrollment: Offer Floor Information Reporting

- **RIP provides information required by NYISO to determine if the new SCR is exempt or subject to an Offer Floor**
- **Applies to New SCRs in mitigated Load Zones**

- **Process Impact: Yes**
  - ***This process will be discontinued***
  - ***Supply offers from RIPs representing Demand Side Resources will no longer be permitted, nor will RIPs be compensated from the wholesale market for capacity, therefore the Offer Floor Determination is no longer necessary***
- **Software Impact: DRIS**
  - ***Removal of notice at enrollment import***
- **Transition Impact: None**

Enrollment: Aggregation Management

- MP can adjust assignment of resources to its Aggregation IDs in a Load zone
- Provides estimate of UCAP by Aggregation ID

- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

Enrollment: Offer Floor Determination

- **By the date specified in the ICAP Calendar, NYISO notifies RIP of determination of whether the new resource is exempt or subject to an Offer Floor**
- **Process Impact: Yes**
  - ***This process will be discontinued***
  - ***Supply offers from RIPs representing Demand Side Resources will no longer be permitted, nor will RIPs be compensated from the wholesale market for capacity, therefore the Offer Floor Determination is no longer necessary***
- **Software Impact: None**
- **Transition Impact: None**

Enrollment: Finalize ACL Data Request Enrollments

- By close of Aggregation Management, MPs complete the enrollment of resources with an ACL Data Request

- Process Impact: None

- Software Impact: None

- Transition Impact: None

Enrollment: Strike Price Management

- **By close of Aggregation Management, MPs finalize the strike price for each Aggregation ID**

- **Process Impact: Yes**
  - *This process will be discontinued*
    - **Since there will be no compensation for energy from the NYISO, the strike price is no longer required**
- **Software Impact: DRIS**
  - *Removal of strike price entry process*
- **Transition Impact: None**

Enrollment: Update Contacts

- **MPs are provided an opportunity each month to update administrative and event contacts**
- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: Yes**

CAPACITY AUCTION PROCESSES

Capacity Auction Process: Certification – DRIS Transfer of UCAP to ICAP AMS

- **Transfer of demand response UCAP by Aggregation ID from DRIS to ICAP AMS**

- **Process Impact: None**
- **Software Impact: DRIS**
  - ***Summarize demand response $UCAP_c$ by LSE and Load Zone, not by Aggregation ID***
- **Transition Impact: None**

Capacity Auction Process: Bilateral for Demand Response Offset to LSE's Locational Capacity Requirement

- New function
- **Process Impact: Yes**
  - *REPs with Demand Side Resources enrolled may no longer access ICAP AMS to certify or offer those resources*
    - Any future position that a RIP had in the Capacity Market will be considered financial only in the spot auction during the transition
- **Software Impact: ICAP AMS**
  - *Create LSE PTID by Load Zone for demand response UCAP MW*
    - Contains all demand response $UCAP_c$ MW enrolled for the LSE in the Load Zone
  - *Automatically create bilateral for LSE PTID for the Capacity Requirement Offset*
    - Capacity Requirement Offset not to exceed the Locational Capacity Requirement of the LSE
- **Transition Impact: Yes**

Post-auction Processes for DR: MPs Report Partial Sales (Obligation)

- **MPs identify resources that have a reduced obligation for capacity that was not sold**

- **Process Impact: None**
  - ***Since all $UCAP_c$ of Demand Side Resources is credited to LSE, obligation of DR resources will be assumed to be 100%***
    - **To address the rare instances when the LSE is not able to receive full credit for all DR enrolled, this reporting process will be repurposed**
- **Software Impact: None**
- **Transition Impact: None**

Treatment of Excess Capacity Credit from Demand Response Resources

- **Currently, when an SCR aggregation does not sell all of its UCAP, the RIP may reduce the capacity obligation of specific resources in the aggregation, provided that the total obligation of the aggregation reflects at least the amount of UCAP sold**
  - ***The process for reducing the obligation is called Partial Sales Reporting***
- **While the DR Backstop design anticipates that all demand response $UCAP_c$ MW will be credited to the LSE for which it has been enrolled, the NYISO must account for a situation where the amount of $UCAP_c$ provided exceeds the Locational Capacity Requirement of the LSE**
  - ***The ICAP AMS will limit the demand response offset bilateral to the LSE's Locational Capacity Requirement for the Spot Auction***
  - ***However, the demand response resource obligations in DRIS would still reflect the full amount of $UCAP_c$ available, not what was credited to the LSE***
- **The Partial Sales reporting process will be repurposed to provide a way for REPs to reduce the capacity obligation of specific resources in DRIS only when the total amount of $UCAP_c$ available exceeds the Locational Capacity Requirement of the LSE**

Repurposed Process for Treatment of Excess Capacity From Demand Response

- After the close of Certification, NYISO will notify an LSE when it has excess capacity that was not accepted from demand response because its enrolled capacity from demand response exceeds its Locational Capacity Requirement
- The LSE may notify its REPs of the amount of excess that they have enrolled
- REPs may use the repurposed process to adjust the obligation of specific Demand Side Resources

DR EVENT PROCESSES

Event/Test: Day-Ahead Advisory

- **NYISO determines need for demand response and issues day-ahead advisory to event contacts in DRIS**

- **Process Impact: Yes**
  - ***REPs will not be required to provide estimate of expected response within one hour***

- **Software Impact: None**
- **Transition Impact: Yes**

Event/Test: Event Activation/Deployment

- **NYISO determines need for demand response and issues event activation/deployment to event contacts in DRIS**

- **Process Impact: Yes**
  - ***REPs will not be required to provide estimate of expected response within one hour***

- **Software Impact: None**
- **Transition Impact: Yes**

Event: Scarcity Pricing

- **NYISO's process for including demand response in pricing algorithms to reflect shortage of reserves**
  - ***Current Energy Market process for recognizing scarcity conditions and demand response will continue***

- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

Event: Data Reporting

- **MPs report meter reads for all demand response resources they enrolled that were called on to perform**
- **MPs may also report hourly CBL values for demand response resources they enrolled that were called on to be paid for energy response**

- **Process Impact: Possible**
  - ***Depending on when the transition occurs, MPs may be required to submit to NYISO the import files with performance data for events or tests that occurred prior to the transition***
    - **NYISO will import this data into DRIS for MPs**
- **Software Impact: None**
- **Transition Impact: Yes**

Event: Payment Processing

- **NYISO processes energy payments**
- **DRIS energy payment data sent to Settlements for invoicing**

- **Process Impact: Yes**
  - ***NYISO will not make energy payments for performance of demand response in events or tests that occur after transition.***
  - ***NYISO will send the event and/or test energy reduction kW to the LSEs for any potential energy payments under its retail program or agreement***
- **Software Impact: None**
- **Transition Impact: None**

CAPABILITY PERIOD CLOSE-OUT PROCESSES FOR DR

Capability Period Close-out: Change of Status Reporting

- **MPs are required to report when an enrolled Demand Side Resource has a reduced load of greater than 30% of its ACL for more than 60 days**
  - ***May be reported on an import file or through an input screen in DRIS***
  - ***MPs may report at any time, up to 5:00 p.m. on the last day of a Capability Period***
- **Process Impact: Possible**
  - ***Depending on when transition occurs, MPs may be required to submit to NYISO the Change of Status form to report a Change of Status that occurred prior to the transition, but before the end of the Capability Period***
    - **NYISO will import this data into DRIS for MPs**
- **Software Impact: None**
- **Transition Impact: None**

Capability Period Close-out: TO Add-backs

- **Con Ed and NYPA currently import load reductions from events that occur from calling on their distribution level demand response programs during any of the SCR Load Zone Peak Hours used to calculate the ACL**
  - ***Collected prior to verification data reporting for Provisional and Incremental ACL***
  - ***During verification and enrollment periods, MPs may challenge the TO add-backs***
  - ***TOs may make corrections until the close of the verification period and enrollment each month***

- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

Capability Period Close-out: DSASP/DADRP Add-backs

- **Any DADRP or DSASP activity during a SCR Load Zone Peak Hour is added back to the meter value imported by the MP**

- **Process Impact: Yes**
  - ***This NYISO process will be terminated after the final Capability Period in which DADRP and DSASP activity occurs and those values are applicable to an ACL calculation***
- **Software Impact: None**
- **Transition Impact: None**

Capability Period Close-out: ACL Verification Data

- **For any resources enrolled with a Provisional ACL or Incremental ACL, verification data is required**
  - ***Reporting period is approximately 75 days after the end of a Capability Period***
- **Process Impact: Possible**
  - ***Depending on when transition occurs, MPs may be required to submit to NYISO the import file with the verification data for resources enrolled prior to transition***
    - **NYISO will import this data into DRIS for MPs**
- **Software Impact: None**
- **Transition Impact: Yes**

Mid-Capability Impact to Resources Enrolled with a Provisional ACL or Incremental ACL

- **Current program rules prohibit resources enrolled with a Provisional ACL or Incremental ACL from changing MPs during the Capability Period**
  - ***This rule was established due to the need to verify the ACL with verification data from a single MP, reported at the end of the Capability Period***
- **A mid-Capability Period implementation of the DR Backstop design will require all demand response resources to be re-enrolled under the new MP organization IDs of the REP, to associate Demand Side Resources with the LSE for which the demand response credit will be applied**
  - ***As a result, if the transition occurs mid-Capability Period, resources enrolled with a Provisional ACL or Incremental ACL prior to the transition will not be able to be re-enrolled until the beginning of the next Capability Period***
    - **Based on last year's summer enrollment, impact estimate is approximately 25 MW**
- **Verification data for the resources enrolled with a Provisional ACL or Incremental ACL prior to the transition will continue to be required according to existing rules based on the Meter Installation Date**

Capability Period Close-out: Aggregation Performance Factor Calculations

- **Aggregation performance factors are calculated monthly**
  - ***Included in this section to keep performance factor calculations together***

- **Process Impact: None**

- **Software Impact: None**

- **Transition Impact: None**

Capability Period Close-out: MP & Program Performance Factor Calculations

- **MP and Program-wide performance factors are used for brand new resources that enroll**
  - ***Performed after all verification data for the Capability Period has been processed***
- **Process Impact: None**
- **Software Impact: None**
- **Transition Impact: None**

Capability Period Close-out: Individual Resource Shortfalls

- **Assessed to MPs for individual resources that have shortfalls resulting from adjustments to an ACL baseline (i.e., Change of Status, Provisional ACL, Incremental ACL), invalid enrollments, or failure to comply with reporting requirements**
  - ***Calculated after all verification data is reported and processed***

- **Process Impact: Yes**
  - ***Deficiency charge for individual resource shortfall and sanctions will be assessed to the LSE, for each REP***
- **Software Impact: None**
- **Transition Impact: None**

Capability Period Close-out: Portfolio Shortfall

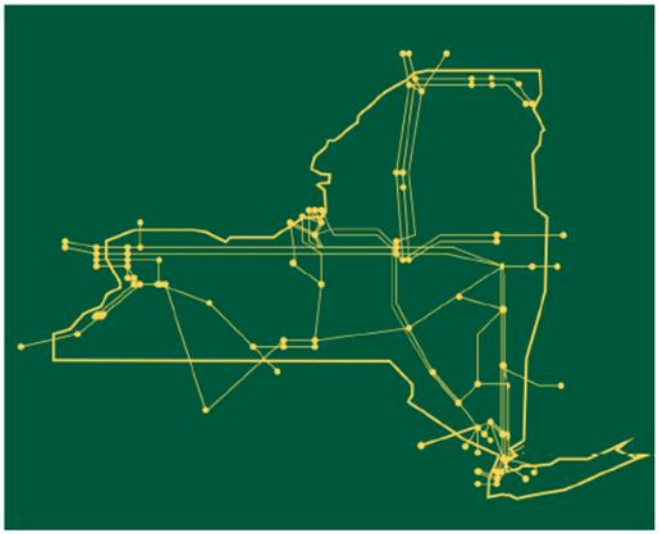
- **Assessed to MP by Load Zone when maximum demonstrated capability in a single hour of Capability Period is less than UCAP sold**
  - ***Calculated for each month of Capability Period after all verification data is reported and processed***

- **Process Impact: Yes**
  - ***Deficiency charge for Portfolio Shortfall will be assessed to the LSE, for each REP***
- **Software Impact: None**
- **Transition Impact: None**

Next Steps

- **Identify tariff changes associated with the proposed DR Backstop design**
  - ***Multiple presentations of proposed tariff changes targeted for late April expected in order to review all of the changes***

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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