



Manual 12

Transmission and Dispatch Operations Manual

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3.1.3. Reserve Calculation

The NYISO monitors NYCA reserve through the use of the Reserve Monitor Program using actual generation). These reserve calculations indicate the reserve available for the NYCA.

Corrective action is taken by the NYISO only if the NYCA is deficient in reserve. Reserve calculations and constraints are also performed by RTC and RTD.

Minimum Operating Reserve Requirement

The Minimum Operating Reserve Requirement of the NYCA is defined as:

1. Sufficient Synchronized Reserve Available in 10 minutes to replace one-half of the operating capability loss caused by the most severe contingency observed under Normal Transfer Criteria multiplied by the contingency reserve adjustment factor.
2. Sufficient Reserve Available in 10 minutes (which includes synchronous reserve available in 10 minutes) to replace the operating capability loss caused by the most severe contingency observed under Normal Transfer Criteria multiplied by the contingency reserve adjustment factor.
3. Sufficient Reserve Available in 30 minutes (which includes reserve available in 10 minutes) equal to one and one-half times the operating capability loss caused by the most severe contingency observed under Normal Transfer Criteria.
4. Sufficient Reserve in 10 minutes to return the system to a Normal State following the most severe transmission contingency multiplied by the contingency reserve adjustment factor.

At all times sufficient 10 Minute Reserve shall be maintained to cover 1) the energy loss due to the most severe Normal Transfer Criteria contingency within NYCA or 2) the energy loss associated with recallable import transactions from another control area, whichever is greater.

3.1.6. Response to Normal State Conditions

NYISO Actions

The NYISO shall monitor NYS Power System conditions at all times, and determine and apply the applicable actions listed below that are necessary to remain in the Normal State:

1. Coordinate actions with TOs and other Control Areas.
2. Initiate one or more of the following actions:
 - a. Adjust phase angle regulators.
 - b. Shift or start generation by NYISO request to obtain additional reactive power (MVar) control.
 - c. Activate reserves.
 - d. Adjust reactive sources and transformer taps.
 - e. Perform Generation shifts.
 - f. Modify Interchange Schedules.
 - g. Request NYS Transmission System facilities that are out of service for maintenance to be returned to service.
 - h. For high voltage conditions only, request NYS Transmission System facilities that are in service to be removed from service where appropriate.
 - i. Implement manual voltage reduction.
 - j. May call for a reserve pickup to return to schedule if the NYISO Area Control Error exceeds 100 MW.

- k. Take actions to maintain operating reserve, in accordance with the procedures described in this Manual.

Transmission Owner Actions

NYISO operational contact is generally with the TO. The TOs are responsible for controlling or coordinating the operation of Resources connected to their systems, as follows:

1. Coordinate and implement corrective actions, as requested by the NYISO Shift Supervisor.
2. Monitor conditions with respect to their own systems.
3. Perform the following actions when the NYCA is operating in the Normal State and Normal State Criteria are not met:
 - a. Notify the NYISO Shift Supervisor.
 - b. Request assistance from the NYISO Shift Supervisor, as required.
 - c. Initiate unilateral corrective action, if the violation is severe enough to require immediate action.

Other Considerations

1. All schedule changes should be analyzed in advance of implementation in an effort to avoid violation of the Normal State criteria.
2. The NYISO shall dispatch the system such that the removal of any facility for scheduled work will not result in the violation of these criteria in the Normal State. Transmission Owners are responsible for providing appropriate advance notice of such switching.
3. During periods when adverse conditions such as tornadoes or hurricanes exist, or are forecast to occur within the service area of the NYISO Systems, it may be necessary to take steps in addition to those procedures normally followed to maintain system security.
4. It is the responsibility of the NYISO to monitor weather conditions and forecasts issued by the National Weather Service. Should local adverse conditions occur or if they are predicted to occur, it is the responsibility of the TO to inform the NYISO. If a situation involving impending severe weather exists, the NYISO shall notify all TOs and consider declaration of the Alert State.
5. The actual voltage on all busses listed in [Table A.2](#) and [Table A.3](#) shall be monitored by the NYISO and TOs. It shall be the TO responsibility to maintain voltage levels within limits specified in [Table A.2](#) and [Table A.3](#) and to coordinate actions, which would affect voltage levels on busses of other TOs or Neighboring Systems.
6. If the NYISO anticipates conditions, which would cause the voltage at any bus listed in [Table A.2](#) and [Table A.3](#) to violate Normal State Criteria, the NYISO shall notify the TOs, and together they shall formulate a corrective strategy. If implementation of the corrective strategy does not produce the desired result, and the NYISO determines that further corrective action is necessary to remain in the Normal State, the NYISO shall request such actions in accordance with Normal State Responses. TOs must coordinate and implement corrective actions as requested by the NYISO.

7. It may be necessary to schedule energy transactions from neighboring control areas for reliability reasons in accordance with Interconnection Agreements.

3.1.7. Response to Warning State Conditions

NYISO Actions

The NYISO shall monitor system conditions at all times and determine the action(s) listed below that are necessary to return the system to the Normal State:

1. Coordinate actions with TOs and other Control Areas.
2. Initiate one or more of the following actions:
 - a. Adjust phase angle regulators.
 - b. Shift or start generation by NYISO request to obtain additional reactive power (MVar) control.
 - c. Activate reserves.
 - d. Adjust reactive sources and transformer taps.
 - e. Perform Generation shifts.
 - f. Modify Interchange Schedules.
 - g. Request NYS Transmission System facilities that are out of service for maintenance to be returned to service.
 - h. For high voltage conditions only, request NYS Transmission System facilities that are in service to be removed from service where appropriate.
 - i. Implement manual Voltage Reduction.
 - j. May call for a reserve pickup to return to schedule if the NYISO Area Control Error (ACE) exceeds 100 MW.
 - k. Take actions to maintain operating reserve, in accordance with the procedures described in this Manual.
 - l. Curtail non-essential TO and Generation Owner load.
 - m. Order Generation to full operating capability.
3. Take the following actions if the above measures are insufficient to comply with Normal Transfer Criteria within 30 minutes or Operating Reserve cannot be delivered due to transmission limitations for 30 minutes:
 - a. Notify all TOs, via the Hotline communications system, that Emergency Transfer Criteria are in effect for the facility (ies) involved.
 - b. Take actions, as required, to stay within Emergency Transfer Criteria.
 - c. Confer with TOs that will have Post-Contingency loading or voltage conditions that exceed allowable limits. Jointly develop strategies to be followed in the event a contingency occurs, including preparation for a rapid Voltage Reduction and/or Load Shedding.
4. If following the implementation of the actions listed above all Normal State criteria cannot be achieved, satisfy as many of the Normal State criteria as possible.

Transmission Owner Actions

Transmission Owners shall perform the following actions:

- a. Coordinate and implement corrective actions, as requested by the NYISO Shift Supervisor.
- b. Monitor conditions with respect to their own systems.
- c. Perform the following actions when the NYCA is operating in the Warning State and Warning State Criteria are not met:
- d. Notify the NYISO.
- e. Request assistance from the NYISO, as required.
- f. Initiate unilateral corrective action, if the violation is severe enough to require immediate action.

Other Considerations

1. For all contingencies that would result in a violation of the Warning State criteria, corrective action that would be necessary if the contingency occurs shall be determined through coordination between the NYISO and the affected TO.
2. If the NYISO foresees an extended period of operation in the Warning State, a canvass of the TO Systems shall be made to determine if assistance can be provided.
3. If the situation involving impending adverse conditions exists, the NYISO shall notify all TOs and consider declaration of the Alert State.

3.2. Daily Operation for Monitoring Operating Reserve

The NYISO Shift Supervisor will monitor the Operating Reserve both as forecast for the expected system peak each day and under actual conditions as the day progresses.

Peak Load Forecast

The NYISO Shift Supervisor (or designee) shall prepare the NYISO daily status report twice daily, in anticipation of the morning peak and evening peak as indicated in this Manual.

If a shortage of energy, reserves, or other Ancillary Services is projected, the NYISO will take actions as directed in the *NYISO Emergency Operations Manual*, available from the NYISO Web site at the following URL: <https://www.nyiso.com/manuals-tech-bulletins-user-guides>.

6.7. Scheduling Operations Procedures

The following procedures are intended for the scheduling operations that occur during the Dispatch Day, but prior to operations, which occur during the Dispatch Hour:

- Interaction with Real-Time Commitment
- Interaction with Real-Time Automated Mitigation Process
- Interaction with Fast Start Management
- Anticipated Operating Reserve Shortages
- Out-of-Merit Generation
- Supplemental Commitment Process

6.7.1. Interaction with Real-Time Commitment

Hour-ahead scheduling is performed on a periodic basis and is completed at least 45 minutes prior to the beginning of the dispatch hour.

NYISO Actions

The NYISO performs the following:

1. Updates the power system grid model based on the latest transmission outage schedules, including forced outages.
2. Updates the load forecast based on the latest load information.

3. Accepts any updated reserve requirements.
4. Accepts the day-ahead schedules and firm transaction schedules.
5. Accepts the hour-ahead generation bids and firm transaction bids.
6. Accepts the telemetered phase shifter and tap settings from SCADA with adjustments made for known schedule changes.
7. Executes the Real-Time Commitment (RTC) using SCUC with a 2½ hour horizon.

Posts the following results:

1. Revised Resources schedules for the next hour.
2. Revised firm transaction schedules for the next hour.
3. Market Participant Actions.
4. Market Participants shall request the NYISO for any changes in generation, load, and transactions schedules.

6.7.2. Interaction with Fast Start Management

The fast start management (FSM) function allows NYISO operations staff to start or stop, or delay the turning on or turning off of specified “fast start” generators (typically, gas turbines). The FSM function will normally operate in a mode where all first time fast start unit basepoints are held back until the system operators give an explicit approval for the basepoints to be sent to the unit.

Additionally, all fast start units’ startups and shutdowns must be first approved by system operators. There will be messages to the operators indicating when a fast start unit has met its minimum run time and is not economic to run.

In the Reserve Pickup and Maximum Generation Pickup (RTD-CAM) modes, the default will be for fast start units’ schedules to be sent out without system operator approval [Figure 16](#) summarizes the startup characteristics for real-time commitment.

Figure 15: Unit Startup Characteristics

Unit Classification	Startup Characteristics
10-15 minute start*	10-15 minute startup notice starts by RTC on the quarter hour On-Demand starts by RTD-CAM
30 minute start	30-minute startup notice starts by RTC on the quarter hour
* Also known as Quick Start Units	

6.7.3. Anticipated Operating Reserve Shortages

The NYISO prepares the NYISO daily status report twice daily, in anticipation of the morning peak and the evening peak. Forecasted loads and operating capacity, including maximum generation capability and all firm transactions for the hours of the expected peak are provided by the Eligible Customers of the NYISO. The NYISO also provides a forecasted peak load based on NYISO data for comparison to that supplied by the TOs.

Resource Categories

There are ten Resource Categories as shown by [Figure 17](#).

Figure 16: Resource Categories

Resource Categories									
(R1) Energy	(R2) AGC Regulation Reserve	(R3) 10 Min Spin Reserve	(R4) 10 Min Non- Synch Reserve	(R5) 30 Min Reserve (Internal or External Reserve Activation)	(R6) FRED*	(R7) Simultaneous Active of Reserves and/or External Emergency Purchases	(R8) Unexpired Un- accepted Day- Ahead Bids	(R9) Unexpired Un- accepted Hour- Ahead Bids	(R10) Involuntary Load Curtailment
Regulating resources or Dispatchable or NonDispatchable	Regulating resources	Dispatchable or NonDispatchable	Dispatchable or NonDispatchable and Off-Line but Available	Dispatchable or NonDispatchable and Off- Line but Available	Dispatchable or NonDispatchable and Off- Line but Available	Invoked Manually	Non- Dispatchable or Off- Line but Available	Non- Dispatchable or Off- Line but Available	Invoked Manually
FRED = Forecast Required Energy for Dispatch; the capacity to supply energy to meet NYISO forecasted load that is in excess of the sum total of DayAhead load bids.									

Existing Real-Time Non-SRE Resource Adjustments are listed as follows:

1. AGC moves regulating resources from (R2) to (R1) and from (R1) to (R2) to maintain regulation.
2. RTD moves "Dispatchable" (On-Line or Off-Line) resources between (R1), (R2), (R3), (R4), (R5) and (R6) to balance load with generation and maintain reserves.
3. If RTD can't solve rapidly enough for an energy deficiency, Reserve Pickup is invoked to move some "Dispatchable" and "Non-Dispatchable" resources from (R2), (R3), and (R4) at emergency response rates (and from Internal (R5) and (R6) at normal response rates or faster) into (R1) to rapidly eliminate the deficiency.

Note: LESRs will not respond to reserve pickups except to either maintain any injection or terminate any consumption of energy.

4. During a Reserve Pickup – RTD-CAM is used to convert 10-Minute Operating Reserve to energy using emergency response rates for some or all suppliers providing operating reserve and normal response rates for some or all other suppliers if needed. Reserve Pickup, which only dispatches suppliers upwards, looks at control error and load trending approximately 10 minutes ahead, and allows approximately 10 minutes for the reserve pickup to occur.

Reserve pickup may occur if energy becomes deficient due to the loss of a large Resource; to return schedules if the ACE exceeds 100 MWs; or if a faster ramp rate is required to solve a transmission security violation.

During Reserve Pickup, no regulation penalty is invoked for Resources that exceed their RTD basepoint (i.e., over-generation is encouraged and rewarded). Reserve Pickup will be terminated by the Operator when a sufficient level of energy has been replaced. Upon this termination, Resource basepoints will be initialized at their ending actual levels.

Locational Reserve Pickup may be invoked to solve a specific locational energy deficiency or transmission violation.

5. For losses of large Resources, Simultaneous Activation of Reserves may be invoked to move resources from (R7) into (R1) to rapidly eliminate the energy deficiency.

Simultaneous Activation of Reserves is utilized for a condition in which a number of neighboring control areas performs a Reserve Pickup to replace energy on a regional basis. The control area that required the replacement of energy will ultimately pay back the energy to neighboring control areas as an inadvertent energy payback.

6. If steps 2, 3, and/or 4 are insufficient, External Reserve Activation may be invoked to move resources from External (R5) and (R6) into (R1) to rapidly eliminate the energy deficiency.

Upon an External Reserve Activation, Interchange Scheduler Plus (IS+) is used to perform an evaluation to change DNIs with neighboring control areas to allow interruptible exports to be cut, and to allow externally procured operating reserves to be converted to energy and imported.

7. If Reserve Pickup is (or is expected to be) insufficient, Max Gen Pickup may be invoked manually through phone notifications to TOs to move "Dispatchable" and "Non-Dispatchable" resources (R2), (R3), and (R4) at emergency response rates (and Internal (R5) and (R6) at normal response rates or faster) into (R1) to rapidly eliminate the energy deficiency.

Note: LESRs will not respond to reserve pickups except to either maintain any injection or terminate any consumption of energy.

A Maximum Generation Pickup is an emergency energy pickup as directed by the NYISO outside a normal RTD run. At the NYISO's judgment, generators will be instructed via voice communication to increase output to their upper operating limits as soon as possible until directed otherwise. This is typically invoked to relieve a transmission violation rapidly.

8. If a reliability violation continues to occur, prescribed corrective actions should be taken which may include postponement or cancellation of scheduled transmission

outages according to procedures defined in the *NYISO Outage Scheduling Manual* (available from the NYISO Web site at the following URL: <https://www.nyiso.com/manuals-tech-bulletins-user-guides>). This may also include curtailment of external transactions.

9. If a reliability violation continues, External Emergency Purchases may be invoked to move resources from (R7) to (R1).
10. If other steps are insufficient in quantity and/or speed, Involuntary Load Curtailment (including possibly Load Shedding) may be invoked according to prescribed procedures to move (R10) into (R1) to rapidly eliminate the energy deficiency.
11. As a follow-up to the above steps, subsequent RTD runs will move Internal "Dispatchable" resources (R5) and (R6) into (R1) to replenish diminished regulation and 10 minute reserves.

If the data indicates that the NYCA will be short of Operating Reserve, the NYISO shall perform the actions described for supplemental commitment and scheduling.

6.7.4. Out-of-Merit Generation

From time to time, Resources must be operated out of economic order or at levels that are inconsistent with the calculated schedules. Any NYISO-authorized deviation from the schedule is considered Out-of-Merit (OOM) Generation and is not subject to regulation penalties. A unit that is out-of-merit is balanced at actual output and may be eligible for a supplemental payment if its bid production cost is not met.

Out-of-Merit Generation directives for an Energy Storage Resource will account for both the inverter limit (MW) and storage capacity (MWh).

An Out-of-Merit directive can also apply to CSR Scheduling Limits. Such a directive will reduce the CSR injection Scheduling Limit (so less Energy can be injected), reduce the CSR withdrawal Scheduling Limit (so less Energy can be withdrawn), or reduce both CSR Scheduling Limits.

NYISO Requests for Out-of-Merit Generation

Out-of-Merit Generation, either up or down, can be requested by the NYISO for security of the bulk power system, during communication failures, or because the Real-Time Commitment does not successfully run. The energy provided during the out-of-merit condition will be paid at the Real-Time Market Locational Based Marginal Pricing (LBMP) rates, but not all out-of-merit units are eligible to set LBMPs. The unit will be provided a supplemental payment, if required to recover its bid cost, consistent with the rules for bid production cost guarantees. Note that all OOMs for reliability in NYC (Zone J) are considered as OOM for ISO reliability, as the NYISO secures the 138 kV system in Zone J. For more information on OOM treatment, see table 5-8 below.

Any supplemental payments will be charged to all NYISO Loads through the Schedule 1 Ancillary

Service. The Resource will be put back in merit by the NYISO when conditions warrant.

Transmission Owner Requests for Out-of-Merit Generation

Transmission Owners in the NYISO system can request that a Resource be run out-of-merit, either up or down, for local reliability. The specific Resource and reason for the request must be identified by the TO at the time of the request. The energy provided by the Resource will be paid at the Real-Time Market LBMP, but not all OOM units are eligible to set LBMPs. The unit will be provided a supplemental payment, if required to recover its bid cost, consistent with the rules for bid production cost guarantees. Any supplemental payments will be charged to the Loads within the TO’s area. The Resource will remain out-of-merit until the TO requests that the NYISO put it back in merit. A TO may request an OOM for Resources engaged in Dual Participation that are not economically scheduled by the NYISO for a local system need. For more information on OOM treatment, see table 5-8 below.

Generator Operator/ Aggregator Requests for Out-of-Merit Generation

Generator operator or Aggregator requests for OOM Generation must be made through the TO. The specific reason for the request is required at the time the request is relayed by the TO to the NYISO. The Resource will remain out-of-merit until the generator operator or Aggregator requests, via the TO, that the NYISO put it back in merit.

A generator operator or Aggregator may request out-of-merit operation to perform a Dependable Maximum Net Capability (DMNC) test. The process for this test is described in Section 6.7.5. During a DMNC test, energy that is scheduled in the Day-Ahead Market (DAM) is covered by a bid production cost guarantee. Energy that is not scheduled in the DAM will be paid for at the Real-Time Market LBMP, and it will not receive an in-day bid production cost guarantee. Not all Out-of-Merit Generation is eligible to set LBMP. For more information on OOM treatment, see table 5-8 below.

Derated generation can also be requested by a generator operator or Aggregator for extenuating circumstances that require reduced operation or shutdown. This includes equipment failure or pollution episodes. The Resource remains responsible for balancing energy.

Figure 17: Out-of-Merit Treatment

Action Type	OOM	Fast-Start Resource Eligible to Set Price?	Public Notice Posted?	
ISO Action	ISO VOLTAGE SUPPORT	No	Yes	

	OPS INTERVENE/MODIFY MINGEN	Yes	No	
	OPS INTERVENE/MODIFY UOL	Yes	No	
	OPS INTERVENE/MODIFY BOTH	Yes	No	
	START-UP/SHUT DOWN	Yes*	No	
	OOM FOR TESTING	Yes*	No	
	NYISO GEN AUDIT	Yes	Yes	
	COMMITTED FOR ISO RELIABILITY	Yes	Yes	
	ISO ENERGY LIMITED RES	Yes	Yes	
	OOM FOR RESERVES	Yes	Yes	
Gen Action	GEN REQUEST/MODIFY MINGEN	Yes	No	
	GEN REQUEST/MODIFY UOL	Yes	No	
	GEN REQUEST/MODIFY BOTH	Yes	No	
TO Action	OOM FOR TO RELIABILITY	No	Yes	
	TO VOLTAGE SUPPORT	No	Yes	

*Note: OOM for Testing and START UP/ SHUT DOWN are two additional OOM types assigned by the NYISO's settlements department after the market software has run

6.7.5. Resource DMNC Test Scheduling Requirements

Please note: The term 'Resource' as used throughout the following Sections 6.7.5; 6.7.6; 6.7.7; and 6.7.8 is not inclusive of Special Case Resources and Demand Side Resources (E.g., DSASP). For the sole purpose of Sections 6.7.5.; 6.7.6; 6.7.7.; and 6.7.8. the term 'Resource' refers to Generators and Aggregations.

Test Scheduling Notification Rules

For Resources 100 MW and greater; the Generator notifies the NYISO Scheduling Department (see immediately above) and the Transmission Owner (TO) at least five (5) business days in advance of the proposed test date that the Generator is requesting a DMNC test.

For Resources 25 to 99 MW, (including multiple units under a single owner totaling more than 25 MW), the Resource notifies the NYISO Scheduling Department and the TO at least two (2) business days in advance of the proposed test date that the Resource is requesting a DMNC test.

Resources under 25 MW testing separately have no notification requirements.

The NYISO will conduct a system reliability review and notify the Resource through the TO if, and only if, the request is denied.

Day-Ahead Bidding

Resource 100 MW and greater must bid into the Day-Ahead energy market such that the Resource is scheduled for the hours requested for the DMNC test. If the Resource is not scheduled, the DMNC test is cancelled and notification must be made to NYISO Scheduling (at the number/email address above in red) and the TO by hour 1400 of the business day prior to when the DMNC test is scheduled.

For Resources 25 to 99 MW, a Day-Ahead bid is not required if the Resource is a unit that can be committed through Real-Time Commitment (RTC). In the event of a test cancellation the Resource must notify NYISO Scheduling and the TO by hour 1400 of the business day prior to when it is requesting a DMNC test.

Test Day Procedures

On the day of the scheduled DMNC test, at least three (3) hours prior to the scheduled test, the Resource, through the Transmission Owner, must request permission from the NYISO to perform the test. Also, the Resource, regardless of size, (i.e., with or without a DAM schedule), must ensure that in the Real-Time Market the unit is scheduled for the hours requested for the DMNC test, including ramping up to the test level. The NYISO will approve or deny the request at least two (2) hours prior to the scheduled test, notifying the Resource through the Transmission Owner, allowing time for Real-Time Market energy market bid adjustments.

On the day of the test, the Resource is required to adjust its (price-taking) Real-Time Market bid to

allow Real-Time Dispatch (RTD) to schedule the Resource up to its current DMNC rating.

The Resource must notify the NYISO through the Transmission Owner that the DMNC test has started.

The NYISO will log that the Resource is performing a DMNC test and that the Resource is dispatched out-of-merit.

The Resource must notify the NYISO through the Transmission Owner that the test is complete. The NYISO will log the completion time and the Resource will resume following normal base points.

Accounting for and Submitting DMNC Test Results

During the Resource's DMNC test period, the Resource will not set the LBMP.

For the energy that is not subject to Day Ahead LBMP, the NYISO will pay the Resource the LBMP in the Real-Time Market at its location for the energy it produced during the Resource's DMNC test.

The NYISO will not charge the Resource for any performance and regulation penalties that may apply during the Resource's DMNC test period.

The Resource must submit DMNC test results data online, (including weather-adjusted data), as defined in the ICAP Automated Market User's Guide, Section 11, and section 4.2 of the NYISO Installed Capacity Manual. Requirements applicable to Aggregations can be found in the Aggregation System User's Guide (available from the NYISO Web site at the following URL:

<https://www.nyiso.com/manuals-tech-bulletins-user-guides>).

6.7.6. Rules for Resources Conducting Certain Scheduled Steady-State Tests

There are special settlement rules for Resources conducting certain scheduled steady-state tests. Please see the Accounting and Billing Manual at the following link for this information:

<https://www.nyiso.com/documents/20142/2923231/acctbillmnl.pdf>

6.7.6.1. Eligible Units

This eligibility is extended to all Resources that may be conducting ISO-required DMNC or VAR tests, or other necessary tests outlined below. These tests require operation while synchronized to the NYISO power grid. No pre-registration to qualify a Resource is required to use this feature; however, Resources are required to follow the bidding, scheduling and test notification procedures defined in this section in order to qualify for the settlement treatment discussed below. Resources will be subject to audit and the ISO may revoke, for cause, its approval for any Resource's testing coverage under the special settlement provisions.

New units undergoing startup tests will be considered eligible for the special settlement rules as long as the tests conducted are included among the Eligible Tests listed, and the Aggregator or generator operator conforms to the rules outlined below. Questions about eligibility for Special Settlement

Rules for unlisted tests should be directed to your Stakeholder Services representative. New Units are also directed to TB 116 at: https://www.nyiso.com/documents/20142/2931465/tb_116.pdf for additional information on requirements and procedures to be followed for new unit startup testing.

6.7.6.2. Tests that are not Eligible Tests

Tests that are not listed below do not qualify for the treatment provided in this section. Tests otherwise eligible, but for which the Resource operator has failed to follow the prescribed procedures, are also not Eligible Tests. In addition, the following four tests are excluded from the treatment available under this section because they cannot be scheduled in advance or have undefined test processes.

The four tests for which special settlement rules are not available pursuant to the terms of this section are:

- Water outfall tests
- Gas system interruption
- Compliance assurance monitoring
- Turbine overspeed tests

6.7.6.3. Procedures and Rules Governing Eligible Tests

Resources conducting Eligible Tests must follow the bidding, scheduling and test notification procedures listed below. Any failure by the Market Participant to meet the rules governing a specific test or to provide complete and timely information during the execution of a test may result in the disqualification of the request for the penalty exemption.

6.7.7. General Rules

6.7.7.1. Test Notification

To schedule a test period, the requestor must contact the NYISO Scheduling Department and provide the following test information:

Test Notification Contact: NYISO scheduling at 518-356-6050 or genplan@nyiso.com

Resource Name

Eligible Test

Start and End Date/Time Period for the test:

- For Resources 25 MW and greater; the Resource must notify the NYISO Scheduling Department (see immediately above) and the Transmission Owner (TO) at least three (3) business days in advance of the proposed test date.
- Resources less than 25 MW testing separately are not required to make this advanced test period notification.
- The NYISO will notify the Resource through the TO if, and only if, the request is denied.

6.7.7.2. Day-Ahead Bidding

- Resources 100 MW and greater must bid into the Day-Ahead energy market such that the Resource is scheduled appropriately² for the hours requested for the test. If the Resource is not scheduled, the Resource must cancel the test and notify NYISO Scheduling (at the number/email address set forth above) and the TO by hour 1400 of the business day prior to the day of the cancelled test.
- For Resource 25 to 99 MW, a Day-Ahead bid is not required. In the event of a test cancellation the Resource must notify NYISO Scheduling (at the number/email address set forth above) and the TO by hour 1400 of the business day prior to the day of the cancelled test.

6.7.7.3. Test Day Procedures

- On the day of the scheduled test, at least three (3) hours prior to the scheduled test, the Resource, through the Transmission Owner, must request permission from the NYISO to perform the test. Also, the Resource, regardless of size, (with or without a DAM schedule), must ensure that in the Real-Time Market the unit is scheduled for the hours requested for the test, including ramping up to and down from the test level (as needed). Test schedules must be appropriate to the Resource's normal ramp rate. The NYISO will approve or deny the request at least two (2) hours prior to the start of the scheduled test, notifying the Resource through the Transmission Owner, allowing time for Real Time Market bid adjustments.
- If conditions occur that could result in a test cancellation, a delay beyond the scheduled start time, an extension beyond the scheduled end time, or if the Resource is projecting that it cannot meet its Day-Ahead schedule, the Resource will notify the Transmission Owner who will notify the NYISO operators. Resources should communicate their expected operating characteristics during these events and make appropriate changes in the unit's Real-Time

energy offers. If the NYISO approves a schedule change, special settlement rules may still apply. However, the test duration limits included in the Test Specific Criteria section below for all Eligible Tests still apply.

- At least 3 hours before the test, the Resource is required to have submitted in the NYISO Real Time market, hourly offers reflecting a good-faith estimate of its energy production. For all tests with the exception of those tests required by the NYISO (DMNC & VAr) Suppliers must bid the generators in Self-Committed Fixed mode in quarter-hour increments for all hours when the Eligible Test is expected to be conducted. These offers will be used for all NYISO Real-Time schedule forecasts. Rules addressing NYISO required tests are outlined in the documents identified in the Eligible Tests section below.
- The Resource must notify the NYISO through the Transmission Owner that the test has started.
- The NYISO will log the Resource test and will dispatch the Generator consistent with its Real-Time schedule.
- The Resource must notify the NYISO through the Transmission Owner that the test is complete. The NYISO will log the completion time and the Resource will continue to follow its Real-Time schedule.

6.7.7.4. Test Specific Criteria

The NYISO will apply special settlement rules for Eligible Tests pursuant to the following test criteria:

- Special settlement rules will be applied to the shorter of i) the time period listed in the Qualifying Test Duration section of the description of the Eligible Tests provided below or ii) the length of the actual test. In addition, the NYISO will refer to Periodicity as the expected frequency of a test for any given Resource. Periodicity is a guideline for the NYISO to use in assessing the impact of this exemption process and with which the NYISO will monitor the program for possible abuse.

6.7.8. Eligible Tests

1. DMNC Test

(See Section 3.8.5 of this manual for Resource DMNC Test Scheduling Requirements)

Steam Unit/ Combined Cycle DMNC Test DAM scheduling criteria

Must be scheduled to 90% of Operating Capability

Test Periodicity – 2/year, Bi-Annually (Winter/Summer);

Qualifying test duration – up to 6 hours

GT DMNC (With/Without Power Recovery) Test DAM scheduling criteria

Must be scheduled to 90% of Operating Capability Test Periodicity – 2/year Qualifying test duration – up to 2 hours

2. VAr Tests

(See Section 3.6 of the Ancillary Services Manual for specific VAr testing and reporting requirements at:

<https://www.nyiso.com/documents/20142/2923301/ancserv.pdf>

Steam Unit /GT VAR (Lead/Lag) Test

DAM scheduling criteria – As per the Ancillary Services Manual

Test Periodicity – 1/year

Qualifying test duration – up to 3 hours

3. RATA Testing

DAM scheduling criteria – as accurate as can be done, NYISO expectation is that unit will be scheduled to at least its minimum operating level

Test Periodicity – 1/year

Qualifying test duration – up to 16 hours

4. Mill fineness checks

DAM scheduling criteria – No special operating levels defined. Test Periodicity – 1/year

Qualifying test duration – up to 2 hours

5. Reheat intercept/stop valve leakage test

DAM scheduling criteria – could be done at different load points

Test Periodicity – as needed Qualifying test duration – up to 1 hr

6. N2 Leakage Test

DAM scheduling criteria – as accurate as can be done, minimum schedule 50% of full load

Test Periodicity – 1/year

Qualifying test duration – up to 8 hours

7. Boiler Efficiency Test

DAM scheduling criteria – 90% of full load

Test Periodicity – 2/year

Qualifying test duration – up to 4 hours

8. GT Monthly Operational Test

DAM scheduling criteria – 100% of opcap

Test Periodicity – 1/month

Qualifying test duration – up to 2 hours

9. Particulate Testing

DAM scheduling criteria – No special operating levels defined

Test Periodicity – 1/5 years

Qualifying test duration – up to 16 hours

Residual oil fired units will be required to conduct particulate testing annually for nickel under the EPA's proposed Hazardous Air Pollutant (HAP) Maximum Achievable Control Technology (MACT) requirements. Coal may have similar requirements under the HAP MACT mercury requirements (Generally 12-16 hours per unit).

10. NO_x Testing

DAM scheduling criteria – full load.

Real-Time scheduling criteria – full load.

Test Periodicity – 1/5 years

Qualifying test duration – 3 hours on each fuel

Every combustion turbine and diesel generator that is grid connected and is not RATA tested (no CEMS) is subject to NO_x testing once every five years. If the unit is capable of operating on multiple fuels, testing must be conducted on each fuel. Regulatory provisions may allow testing of representative units (basically one in three) so practically speaking not every unit will actually be tested. (Generally 3 hours per

unit per fuel). Generators should consult relevant federal and state air emission testing regulations to determine their specific requirements.

11. Full Load Fuel Oil Test

Scheduling criteria – The following process will apply to the scheduling of these tests:

- a. Test schedules will be submitted three days in advance including an estimate of the expected test hours for the selected pseudo-unit per Section A-2 above.
- b. When DAM schedules for the day following the test are received by the CC unit owner/operator (by 11:00 of the test day) the test will either be feasible or not based upon the unit minimum down time and the following day's schedule.
 - i. If the test is feasible and will be conducted, the CC unit owner/operator will, as described in Section A-3 above, notify the NYISO through the Transmission Owner that the test is confirmed and the planned actual hours in which it will be conducted. Following the procedures described in Section A-3 the CC unit owner/operator will also bid into the RT market (HAM) in "Self-Scheduled Fixed Mode" their best estimate of unit output in 15 minute increments over the test period and will also follow all other procedures described in section A-3 above.
 - ii. If the Day Ahead schedules will not permit sufficient downtime to run the test as scheduled, the CC unit owner/operator will follow the test cancellation procedures described in Section A-3 above and reschedule the test per section A-1 above for a subsequent day.

Test Periodicity – 1/month/Combustion Turbine

Qualifying test duration – 3 hours

12. Control System Performance Testing

DAM scheduling criteria – No special operating levels defined.

Test Periodicity – as needed

Qualifying test duration – up to 16 hours

6.7.9. Supplemental Commitment Process

The NYISO may use the SRE process to commit additional resources outside of the SCUC and

RTC processes to meet NYISO reliability or local reliability requirements. Transmission Owners (TOs) may request the commitment of additional generators to ensure local reliability in accordance with the local reliability rules. The NYISO will use SREs to fill these requests by TOs. In addition, Generator Owners may request the operation of a specific steam unit if certain combustion turbines have an energy or a non-synchronous reserve schedule that necessitates operation of the steam unit due to 24-hour NO_x Averaging Period requirements.

When the NYISO requests that generators submit bids in response to an SRE, ICAP suppliers must offer their available capacity unless an offer is pending in the Real Time market when the SRE request is made or the unit is unable to run due to an outage, operational issues or temperature derates. Special Case Resources are not required to respond to SRE requests by section 5.12.1 of the

Market Services Tariff. However, the NYISO may request SCR and EDRP resources to respond to SRE requests on a voluntary basis.

Since SREs are only performed to address reliability concerns, it is intended that units committed by the SRE process fulfill their obligation by physically operating.

A TO may utilize the SRE process for Resources engaged in Dual Participation that are not economically scheduled by the NYISO for a local system need.

NYISO Requests for SREs

The NYISO may perform SREs in response to the following two conditions:

1. When Day-Ahead reliability criteria violations are forecast after SCUC has begun or completed its Day-Ahead evaluation (i.e.: too late for additional day-ahead commitments).
2. When In-Day reliability criteria violations are anticipated more than 75 minutes ahead (i.e.: too early for RTC commit additional resources).

Transmission Owner Requests for SREs

TOs may request the NYISO to issue an SRE to commit additional resources for reliability purposes in a local area. TO requests for SREs are subject to the same conditions and the same time frame as the NYISO's use of the SRE process – after SCUC has run. Any requests by TOs to commit generators not otherwise committed by the NYISO in the Day-Ahead Market will be posted to the OASIS.

When requesting an SRE, TOs must give the NYISO the reliability reason for the request, the expected duration of the SRE, and the specific facility or constraint affected. NYISO dispatchers will log all such TO requests for SREs. Within 5 business days the TO requesting the SRE commitment shall provide detailed written justification for the SRE to SREinfo@nyiso.com. The NYISO will review all SRE requests to ensure

that practices being followed are consistent with NYISO tariffs and NYS Reliability Rules.

The TOs written justification must detail the system conditions that resulted in the need for the SRE commitment such that the NYISO can independently verify the request. The following system conditions should be identified when applicable: TO local area or regional load levels; identification of thermal transmission facility or substation voltage constraint, identification of whether the constraint represents a predicted actual or post-contingency violation; identification of significant transmission or generating unit outages affecting such constraint; and identification of special local reliability criteria. Other local area system conditions that resulted in the need for the SRE commitment should also be identified.

Generator Owner Requests for SREs

If certain combustion turbines have an energy or a non-synchronous reserve schedule that necessitates the operation of a specific steam unit operated by the turbine owner due to 24-hour NO_x Averaging Period requirements, the NYISO may commit the steam unit if the generator owner takes the following actions:

- The generator owner shall notify the NYISO and the TO of this operational requirement. The generator owner must notify the NYISO via the TO after the DAM posts, but no later than Hour Beginning (HB) 14 of the day prior to the operating day. In addition, throughout the operating day, the generator owner must communicate to the NYISO via the TO any changes in run-time limitations that may result from the combustion turbine's actual energy schedule or availability.
- The generator owner may request of the NYISO and inform the TO that a specific steam unit be operated, as required, to satisfy the NO_x averaging requirements for the selected combustion turbine's energy or non-synchronous reserve DAM schedule given the 24-hour NO_x Averaging Period requirements for the operating day. The generator owner request should identify the steam unit, the required additional hours of operation, and the specific generation levels necessary to meet the 24-hour NO_x Averaging Period requirement.

If the combustion turbines are not required for either NYISO or local TO reliability, and the associated steam units are not committed in the DAM, then the NYISO will mark the combustion turbines as unavailable in the generation outage scheduler, such that they are not committed in real-time operation. The combustion turbines will be identified as Energy Limited Resources (ELR), since the generator owner will be unable to fulfill the DAM energy or non-synchronous reserve schedule as determined by the NYISO. Combustion turbines subject to the 24-hour NO_x Averaging Period requirement must be registered as Energy Limited Resources.

6.7.10. Supplemental Resource Evaluation Procedures

SRE commitment refers to the NYISO scheduling a generator to start-up to run at, or above, its

minimum generation level. SCUC commits resources for the next day, and RTC can commit resources in the Dispatch Day. RTC begins with SCUC Day-Ahead generator and load schedules, non-expired/non-accepted/non-updated (but not SCUC) bids, updated or new bids, updated transaction requests, updated load forecasts, updated outage schedules, and updated status changes. It then evaluates conditions for the next 2 ½ hours, performs a supplemental commitment (if needed) optimized for the next dispatch hour, and schedules newly requested transactions for the next dispatch hour.

The objective function of SCUC is not intended to evaluate energy costs and/or start-up/min gen costs for Day-Ahead capacity forward commitments for non-synchronized reserves. However, RTC will consider start-up costs. A generator started by RTC will be assumed to run at least one hour, so that its start-up bid price will be spread over one hour and added to its bid energy price in RTC. For the purposes of setting LBMP, only the generator's energy price bid will be used. As with other start-ups, these generators will be eligible for supplemental payments to insure their start-up and minimum generation (for the remainder of the dispatch day) price bids are recovered.

Resource Monitoring Procedures

1. **Monitor Regulation/Reserve Levels** – The NYISO shall monitor the level of regulation and reserve resources available to meet anticipated NYCA requirements.
2. **Monitor Adequacy of Bids** – The NYISO shall also track the level of unexpired/unaccepted resource bids (R8 and R9) by location as potential replacements for Resources (R1), (R2), (R3), (R4), (R5), and (R6). If certain bid categories are deemed insufficient, the NYISO shall post an announcement to market participants to solicit additional bids.

6.7.11. General SRE Commitment

SRE shall only be used to address resource deficiencies; it shall not be used to reduce costs. The general SRE commitment procedure is as follows:

1. **Initiate SRE** – The NYISO shall proceed with an SRE:
 - If a resource deficiency occurs (or is anticipated to occur), and
 - If the Existing Real-Time Non-SRE Resource Adjustments steps 1 through 7 are (or are anticipated to be) inadequate, and
 - If the problem is outside the windows of evaluation for both SCUC and RTC.
2. **Resource Deficiency** – The resource deficiency may be a result of:
 - The subsequent loss of an energy, regulation, or reserve resource;
 - The loss of a transmission facility;
 - A load forecasting anomaly; and/or
 - A resource deficiency forecast but not evaluated by RTC.

More detailed steps are subsequently listed below to specifically describe DayAhead and Dispatch Day SRE procedures.

3. **Define Replacement Required** – Based on the deficiency, the NYISO will determine:

Type of replacement required (i.e., regulation capability, operating reserve capability, or energy resource). In general, as shown in Figure 19, the replacement to be selected should match the resource lost.

- Location that the replacement is needed
- How soon the replacement is required
- Amount in MW needed by hour
- How long the replacement will be required.

Figure 18: SRE Replacement Decision

SRE Replacement Decision	
Type of Resource Deficiency	Type of Replacement Required (To be Selected from Resources R8 or R9)
(R1) Energy Resource Deficiency	(R1) Energy in Acceptable Location
(R2) Regulation Resource Deficiency	(R2) Regulation in Acceptable Location
(R3)/(R4)/(R5) Operating Reserve Deficiency	(R3)/(R4)/(R5) Same Kind Replacement of Operating Reserves in Acceptable Location
(R6) FRED Deficiency	(R6) FRED – Acceptable Location

4. **Select Replacement Resources** – Based on the requirements determined above, the NYISO will select replacement resources from the pre-calculated SRE charts for available unexpired/unaccepted resources (see example chart further below).

Note Exceptions – If the NYISO's selection for supplemental resources diverges from the merit order indicated on the applicable chart, the NYISO will need to formally justify and log the exception.

5. **Solve Dispatch Day (First) and Day-Ahead Deficiencies (Second)** – In the case in which SCUC has begun or already completed its execution, and a combination of Dispatch Day and/or Day-Ahead resource deficiencies are subsequently anticipated, SRE shall be used to solve any Dispatch Day problems independently first. This shall be followed, if necessary, by another re-evaluation and a second SRE to solve any remaining Day-Ahead problems.
6. **Allow, but Do not Guarantee "Self"-Replacement by Resource Suppliers** – A resource that is financially obligated to serve a bilateral transaction or the LBMP spot market may wish to procure its own replacement if possible. In this case, it would need to arrange a Contract-For-Differences (CFD) contract with another resource that would agree to bid into the LBMP market. If that replacement resource were selected through SRE, the original resource would reach a side settlement with it. While the NYISO will not interfere with this type of

arrangement, it will also be under no obligation to help facilitate this arrangement by delaying the implementation of an SRE. Alternately, the SRE may select another source for the replacement, presumably, because it is a more economical and/or more effective replacement choice.

The normal operating practice for addressing resource deficiencies, time and circumstances permitting, includes selecting resources for an SRE in the following order:

- 1) Economic based selection of available internal resources that cost less to supply Energy and/or Operating Reserves than Special Case Resources (SCRs)
- 2) External capacity
 - a. The NYISO ordinarily issues SREs to either none or all of the external capacity that is available for scheduling at a Proxy Generator Bus.
 - b. The NYISO chooses the Proxy Generator Bus(es) at which to call upon external capacity based on its evaluation of which Proxy Generator Bus(es) would effectively address the identified reliability need while using the least amount of external capacity, in light of anticipated system conditions.
- 3) SCR/EDRP
 - a. For more information on SCR/EDRP activation, refer to Section 4.4 of the NYISO Emergency Operations Manual.
- 4) Economic based selection of available internal resources that cost more to supply Energy and/or Operating Reserves than SCRs

Further information on the NYISO's process for addressing reliability needs can be found in the NYISO Emergency Operations Manual.

6.7.12. Two- to Seven-Day Ahead SRE

A two- to seven-day ahead SRE shall be performed if operating capacity deficiencies are anticipated two to seven days ahead which will require long lead time generators to start-up in advance, i.e., too early for SCUC.

1. **Post Announcement** – If a Pre-SCUC SRE is anticipated, and if time permits, the NYISO shall post an announcement to market participants that a Supplemental Resource Evaluation is planned, and that additional resource bids are being solicited.
2. **Two to Seven Day-Ahead Operating Capacity** – If any deficiencies in Operating Capacity Resources are expected to exist that require long lead-time start-ups (longer than Day-Ahead):
 - Determine the amount, location and type of Supplemental Resources required. Type should be the same kind of resource that is deficient.
 - Determine how soon the Supplemental Resource will be needed.

- Determine how long, i.e., the Supplemental Commitment Period (SCP) in hours up to the end of the Dispatch Day the Supplemental Resource is likely to be needed.

Select and schedule the move of Supplemental Resources from available Resource Category (R8) to Category (R6) on a least cost basis where least cost equals lowest composite start-up and minimum generation costs (if start-up will be required) spread over the SCP for resources that will be available soon enough to meet the need. In cases in which all other factors are equal, the bid energy price will be used as a tie-breaker.

6.7.13. Post-SCUC Day-Ahead SRE

A SRE to address a Day-Ahead deficiency would be performed after SCUC has begun its Day-Ahead evaluation.

1. **Post Announcement** – If a SRE to address a Day-Ahead deficiency is anticipated, and if time permits, the NYISO shall post an announcement to market participants that a Supplemental Resource Evaluation is planned, and that additional resource bids are being solicited.
2. **Day-Ahead Regulation or Reserve Deficiency** – If any deficiencies in Resources (R2), (R3), (R4), (R5), and/or (R6) are expected to exist Day-Ahead after SCUC execution begins and after allowing for Regular Real-Time Non-SRE Resource Adjustment steps 2 through 7:
 - Determine the amount, location and type of Supplemental Resources required. Type should be the same kind of resource that is deficient.
 - Determine how soon the Supplemental Resource will be needed.
 - Determine how long, i.e., the SCP in hours up to the end of the Dispatch Day, the Supplemental Resource is likely to be needed.

Select and schedule the move of Supplemental Resources from Resource Category (R8) to Categories (R2), (R3), (R4), (R5) and/or (R6) on a least cost basis where least cost equals lowest composite availability, and start-up costs and minimum generation costs (if start-up will be required) spread over the SCP for resources that will be available soon enough to meet the need. In cases in which all other factors are equal, the bid energy price will be used as a tie breaker.

3. **Day-Ahead Energy Deficiency** – If an energy deficiency (R1) is expected to exist Day-Ahead (after SCUC executes) which would result in a reserve deficiency after allowing for Existing Real-Time Non-SRE Resource Adjustments:
 - Determine the amount and location of Supplemental Resource(s) required to eliminate the energy deficiency.
 - Determine how soon the Supplemental Resource(s) will be needed.
 - Determine how long, i.e., the SCP in hours up to the end of the Dispatch Day, the Supplemental Resource(s) are likely to be needed.

Select and schedule the move of Supplemental Resource(s) from Resource Category (R8) to (R1) on a least cost basis where least cost equals lowest composite energy and start-up costs (if start-up is required) spread over the SCP for resources that will be available soon enough to meet the need.

4. **RTC Re-Adjustment** – Following steps 2 and/or 3 above, subsequent RTC runs may re-adjust resources.

6.7.14. Dispatch Day SRE

A Dispatch Day SRE would be performed as follows:

1. **Post Announcement** – If a Dispatch Day SRE is anticipated, and if time permits, the NYISO shall post an announcement to market participants that a SRE is planned, and that additional resource bids are being solicited.
2. **Dispatch-Day Regulation or Reserve Deficiency** – If any deficiencies in Resources (R2), (R3), (R4), (R5), and/or (R6) are expected to exist in the Dispatch Day after allowing for Regular Real-Time Non-SRE Resource Adjustments:
 - Determine the amount, location and type of Supplemental Resource(s) required. Type should be the same kind of resource that is deficient.
 - Determine how soon the Supplemental Resource(s) will be needed.
 - Determine how long, i.e., the SCP in hours up to the end of the Dispatch Day, the Supplemental Resource(s) are likely to be needed.

Select and schedule the move of Supplemental Resources from Resource Category (R8) to Categories (R2), (R3), (R4), (R5) and/or (R6) on a least cost basis where least cost equals lowest composite availability, and start-up costs and minimum generation costs (if start-up is required) spread over the SCP for resources that will be available soon enough to meet the need. In cases in which all other factors are equal, the bid energy price will be used as a tie-breaker.

3. **Dispatch Day Energy Deficiency** – If an energy deficiency (R1) is expected to exist in the Dispatch Day, which would result in a reserve deficiency after allowing for Regular Real-Time Resource Adjustments:
 - Determine the amount and location of Supplemental Resource(s) required to eliminate the energy deficiency.
 - Determine how soon the Supplemental Resource(s) will be needed.
 - Determine how long, i.e., the SCP in hours up to the end of the Dispatch Day the Supplemental Resource(s) are likely to be needed.

Select and schedule the move of Supplemental Resource(s) from Resource Category (R8) to (R1) on a least cost basis where least cost equals lowest composite energy and start-up costs (if start-up is required) spread over the SCP for resources that will be available soon enough to meet the need.

4. **RTC Re-Adjustment** – Following steps 2 and/or 3 above, subsequent RTC runs may re-adjust resources.

6.7.15. Real-Time SRE

A Real-Time SRE would be performed as follows:

1. **Post Announcement** – If a Real-Time SRE is needed, and time permits, the NYISO shall post, an announcement to market participants that a SRE is being invoked.
2. **Real-Time Regulation or Reserve Deficiency** – If any deficiencies in Resources (R2), (R3), (R4), and/or (R6) are expected to exist in Real-Time after Non-SRE Resource adjustments steps 1 through 7 have been invoked:

Determine the amount, location, and type of Supplemental Resources required. Type should be the same kind of resource that is deficient.

Select and move Supplemental Resources from Category (R9) to Categories (R2), (R3), (R4), (R5), and/or (R6) on a least cost basis where least cost equals lowest composite availability, and start-up and minimum generation costs (if start-up is required) are spread over one hour (in cases in which all other factors are equal, the bid energy price will be used as a tie breaker) as follows:

- 1st – Least cost Supplemental Resources available in 10 minutes
 - 2nd – Least cost Supplemental Resources available in 30 minutes if additional Supplemental Resources are still needed.
 - 3rd – Least cost Supplemental Resources available in greater than 30 minutes if additional Supplemental Resources are still needed.
3. **Real-Time Energy Deficiency** – If an energy deficiency (R1) continues (or is expected to continue) to exist in Real-Time even with RTC Resource Adjustments: Determine the amount and location of Supplemental Resources required.

Select and move Supplemental Resources from category (R9) to (R1) on a least cost basis where start-up costs (if start-up is required) are spread over one hour as follows:

- 1st – Least cost Supplemental Resources available in 10 minutes
 - 2nd – Least cost Supplemental Resources available in 30 minutes if additional Supplemental Resources are still needed.
 - 3rd – Least cost Supplemental Resources available in greater than 30 minutes if additional Supplemental Resources are still needed.
4. **RTC Re-Adjustment** – Following steps 2 and/or 3 above, subsequent RTC runs may re-adjust resources.

6.7.16. SRE Pricing and Cost Allocations

Energy Payments

Resources committed by SRE will be paid the real time LBMP for Energy and may be guaranteed recovery of start up and minimum generation bid costs ⁽²⁾ pursuant to Sections 4.1.8, 4.6.6, and Attachment C of the Services Tariff. As previously stated, a resource committed by SRE cannot raise (but may lower) its

² Bids submitted by generators are subject to conduct and impact testing, and may be mitigated pursuant to the provisions of Attachment H to the Services Tariff. If the Bid has been mitigated, the Bids used to evaluate BPCG eligibility will reflect the mitigation.

price bid for the duration of time it was committed.

Cost Allocation

Assignment of replacement costs that result from a SRE will be as given as shown in [Figure 20](#).

Figure 19: Assignment of SRE Replacement Costs

Assignment of SRE Replacement Costs		
Cause for SRE	Impact of Replacing Energy, Operating Reserves and/or Regulation	Cost Assignment for Supplemental Payments for Start-Up and Minimum Generation (if any)
Loss of SCUC Day-Ahead Committed Resource	Charged to Lost Resource	Schedule 1 Uplift
Loss of RTC, RTD-CAM, and/or SRE Committed Resource	Affects Real-Time Energy LBMP and/or Marginal Clearing Prices for Ancillary Services	Schedule 1 Uplift
Loss of Transmission that Results in Locational Resource Deficiency	Affects Real-Time Energy LBMP and/or Marginal Clearing Prices for Ancillary Services	Schedule 1 Uplift
Unexpected Load Increase	Affects Real-Time Energy LBMP and/or Marginal Clearing Prices for Ancillary Services	Schedule 1 Uplift

If combustion turbines have an energy or a non-synchronous reserve schedule in the DAM that necessitates the SRE operation of a specific steam unit operated by the turbine owner due to 24-hour NO_x Averaging Period requirements, then the following cost allocation applies:

If the combustion turbines are required for NYISO reliability purposes, the NYISO shall operate the selected steam unit as required via the Supplemental Resource Evaluation (SRE) process. Any real-time uplift costs associated with the operation of the steam unit will be allocated on a statewide basis.

If the combustion turbines are required only for local TO reliability purposes, then the TO shall notify the NYISO of this requirement and the NYISO shall operate the required company steam unit via the SRE process for local TO reliability. Any real-time uplift costs associated with the required steam unit will be allocated to the LSEs in the LBMP zone that had the reliability requirement.

6.7.17. Supplemental Resource Availability (SRA)

TOs and the NYISO Operators can submit a SRA to request that a specific Aggregation has a specified amount of available operating capacity at a specified period. The request can be made by TOs for local

reliability requirements or the NYISO Operators for NYISO reliability requirements.

SRA requests are made through the Grid Operations Coordination Portal (GOCP).