

## **15.5 Rate Schedule 5 - Payments and Charges for Black Start and System Restoration Services**

Black start and system restoration services (“Restoration Services”) are provided under the ISO’s black start and system restoration plan (“ISO Plan”) or an individual Transmission Owner’s black start and system restoration plan by generating units that are capable of starting without an outside electrical supply or are otherwise integral to the restoration of the NYS Transmission System after an outage. This Rate Schedule establishes the terms under which a Generator shall provide, and be paid by the ISO for providing, Restoration Services under the ISO Plan or an individual Transmission Owner’s plan. This Rate Schedule also establishes the terms under which the ISO shall recover the costs of Restoration Services payments from Customers. Provisions specific to the Consolidated Edison Company of New York, Inc. (“Consolidated Edison”) black start and system restoration plan (“Consolidated Edison Plan”) are set forth in Section 15.5.4.

### **15.5.1 Requirements**

The ISO shall develop and periodically review the ISO Plan. The ISO may amend the ISO Plan and may solicit offers for additional resources if it determines that additional Restoration Services are needed. The ISO shall establish procedures for acquiring Restoration Services and requiring that the selected Generators test their units providing Restoration Services (“Black Start Capability Test”). The ISO shall make Restoration Services payments only to those selected Generators that have appropriate equipment installed and available for service at the request of the ISO.

A Transmission Owner shall develop and periodically review its black start and system restoration plan. A Transmission Owner shall designate generating units with the capability to provide Restoration Services to be included in its plan if it determines that the Restoration

Services are needed. The ISO will make payments for such local Restoration Services to the Generators that provide them under the terms of this Rate Schedule. Generators that are obligated to provide Restoration Services as a result of divestiture contract agreements will not receive Restoration Services payments from the ISO for those services if they are already compensated as part of those divestiture contracts. Customers in the local Transmission Owner service territories will be charged for those services by the ISO under the terms of this Rate Schedule. Customers may not Self-Supply Restoration Services.

#### **15.5.2 Payments to Generators for Provision of Restoration Services Under the ISO Plan and Transmission Owners' Plans, Excluding the Consolidated Edison Plan**

By May 1st of each year, Generators selected to provide Restoration Services under the ISO Plan and under the plans developed by individual Transmission Owners, except for under the Consolidated Edison Plan, must provide the following cost information to the ISO based upon FERC Form No. 1 or equivalent data:

- Capital and fixed operation and maintenance costs associated with only that equipment which provides Restoration Services capability;
- Annual costs associated with training operators in Restoration Services; and
- Annual costs associated with Black Start Capability Tests in accordance with the ISO Plan or the plan of an individual Transmission Owner.

Each Billing Period, the ISO shall pay each Generator on the basis of its costs filed with the ISO. The daily rate for Restoration Services payments will be determined by dividing the Generator's annual cost by the number of days in the year from May 1st through April 30th of the following year.

Generators that provide Restoration Services shall conduct Black Start Capability Tests that are deemed necessary and appropriate for providers of these services under the ISO Procedures or local Transmission Owner procedures, as applicable. Any Generator that is

awarded Restoration Services payments and fails a Black Start Capability Test shall forfeit all payments for such services since its last successful test. Payments to that Generator shall resume upon its successful completion of the test.

**15.5.3 Charges to Support Payments to Generators Under the ISO Plan and Individual Transmission Owners' Plans, Excluding the Consolidated Edison Plan.**

Each Billing Period, the ISO shall charge, and each Customer shall pay based on its supply of Load that is *not* used to supply Station Power as a third-party provider under Part 5 of the ISO OATT, a charge for the recovery of the costs of the ISO's payments to Generators providing Restoration Services under the ISO Plan. The charge shall be equal to: (A) the product of: (i) the Customer's share of Load in the NYCA that is *not* used to supply Station Power as a third-party provider for each hour in the Billing Period, and (ii) the ISO's total payments to Generators providing Restoration Services under the ISO Plan under Section 15.5.2 to this Rate Schedule for the Billing Period, divided by the total number of hours in the Billing Period, (B) summed for all hours in the Billing Period.

Each Billing Period, the ISO shall charge, and each Customer shall pay based on its supply of Load that is used to supply Station Power as a third-party provider under Part 5 of the ISO OATT, a charge for the recovery of the costs of the ISO's payments to Generators providing Restoration Services under the ISO Plan. The charge shall be equal to: (A) the product of: (i) the Customer's share of Load in the NYCA that is used to supply Station Power as a third-party provider for each day in the Billing Period, and (ii) the ISO's total payments to Generators providing Restoration Services under the ISO Plan under Section 15.5.2 to this Rate Schedule for the Billing Period, divided by the total number of days in the Billing Period, (B) summed for all days in the Billing Period. The ISO shall credit these daily charge amounts to Customers based

on their share of the Load in the NYCA that is not used to supply Station Power as a third-party provider for that day. The ISO shall sum these daily credits for all days in the Billing Period.

A Customer will be responsible for the following additional charge if the Transmission Owner in whose Transmission District the Customer is located maintains a Restoration Services plan, except with respect to the Consolidated Edison Plan, the cost recovery requirements of which are set forth in Section 15.5.4.3 to this Rate Schedule. Each Billing Period, the ISO shall charge, and each Customer in the local Transmission Owner's Transmission District shall pay, a charge for the recovery of the costs of the ISO's payments to Generators providing Restoration Services under the Transmission Owner's local Restoration Services plan. This charge shall be equal to: (A) the product of: (i) the Customer's share of Load in the Transmission Owner's Transmission District for each hour in the Billing Period, and (ii) the ISO's total payments to Generators providing Restoration Services under the Transmission Owner's Restoration Services plan under Section 15.5.2 to this Rate Schedule for the Billing Period, divided by the total number of hours in the Billing Period, (B) summed for all hours in the Billing Period.

#### **15.5.4 Payments to Generators Providing Restoration Services Under the Consolidated Edison Plan and Recovery of Associated Costs**

On or before November 1, 2012, Consolidated Edison shall designate the generating units with Restoration Services capability to be included in the Consolidated Edison Plan beginning November 1, 2012. If Consolidated Edison designates a unit that a Generator committed before November 1, 2012, to provide Restoration Services under the Consolidated Edison Plan, the Generator may elect by notification to the ISO on or before December 3, 2012, for its unit to continue to provide, and be paid for providing, Restoration Services under the existing terms set forth in Section 15.5.4.1 and Appendices I and III to this Rate Schedule, until the completion of that unit's current commitment period. If the Generator does not provide the ISO with this

notice, the Generator's unit shall provide, and be paid for providing Restoration Services under the terms set forth in Section 15.5.4.2 and Appendices II and III to this Rate Schedule.

After November 1, 2012, Consolidated Edison shall designate from time to time additional generating units with Restoration Services capability to be included in the Consolidated Edison Plan, if it determines that additional Restoration Services are needed. A Generator's unit that is committed to provide Restoration Services under the Consolidated Edison Plan after November 1, 2012, shall provide, and be paid for providing, Restoration Services under the terms set forth in Section 15.5.4.2 and Appendices II and III to this Rate Schedule. In addition, all units commencing commercial operation after November 1, 2012, that provide Restoration Services shall do so under the terms set forth in Section 15.5.4.2 and Appendices II and III to this Rate Schedule.

Within thirty (30) days of receipt of an updated Consolidated Edison Plan, including changes to unit designations as described in this section, the ISO will file a copy with FERC on an informational basis with a non-public Critical Energy Infrastructure Information designation.

The ISO shall recover the costs of the payments established in Sections 15.5.4.1 and 15.5.4.2 from Customers in the Consolidated Edison Transmission District under the terms set forth in Section 15.5.4.3.

**15.5.4.1 Payments to Generators that Committed to Provide Restoration Services Under the Consolidated Edison Plan Before November 1, 2012, and Elected to Provide Service Under Then-Existing Terms**

A Generator shall be eligible for Restoration Services payments, provided that they: (i) successfully test all necessary equipment in compliance with the testing criteria that are included in the ISO Procedures and provided that the testing criteria conform to Appendix I to this Rate Schedule; and (ii) commit its unit(s) to be available to provide these services for a minimum period of three years. At the end of the second year of the three year period a Generator, or

Consolidated Edison, may give notice that the Generator's unit(s) will no longer be part of the Consolidated Edison Plan, effective at the end of third year. If the Generator or Consolidated Edison does not provide this notice, the unit shall begin a new three-year commitment period at the conclusion of its current commitment period under the terms set forth in Section 15.5.4.2 to this Rate Schedule.

Eligible Generators in the Consolidated Edison Transmission District shall receive annual compensation for providing Restoration Services based on unit type and the level of their interconnection to the New York State Transmission System pursuant to the following table.

	<b>Steam Turbine</b>	<b>Gas Turbine</b>
345 kV	\$350,000/yr/unit	\$350,000/yr/site
138 kV	\$300,000/yr/unit	\$300,000/yr/site

Each Billing Period, a Generator shall receive the pro rata share of these annual amounts allocated for that Billing Period. The payments for each Billing Period shall also include compensation for legitimate, verifiable, and adequately documented operator training costs associated with readiness to provide Restoration Services, and for legitimate, verifiable, and adequately documented variable costs associated with annual tests of Restoration Services capability, that existing Generators invoice to the ISO, subject to the ISO's independent review.

Eligible Generators shall conduct annual Black Start Capability Tests and shall ensure that all relevant personnel are trained in Restoration Services operations. Detailed information about the tests and training standards shall be set forth in the ISO Procedures, which shall incorporate criteria developed by Consolidated Edison. The core features of the testing criteria are included in this ISO Services Tariff as Appendix I to this Rate Schedule and the ISO

Procedures may not be revised in a manner that creates an inconsistency between them and Appendix I. Upon completion of a test, a Generator shall submit a certification form to the ISO in the form provided in Appendix III to this Rate Schedule indicating whether its unit successfully completed its annual Black Start Capability Test. If a Generator fails a Black Start Capability Test, it shall be subject to a pro rata reduction in its annual payments based on the elapsed time between the unsuccessful test and a subsequent successful test.

The ISO shall also reimburse Generators for equipment damage if the ISO reasonably finds: (1) the damage resulted from operating such equipment in response to operational orders from the ISO, or Consolidated Edison, pursuant to the ISO Services Tariff or the ISO OATT, (2) that reasonably available and customary insurance was not available for the damages incurred, and (3) the damage would not have occurred but for the Generator's provision of Restoration Services. The burden of making such showings will be upon the owners of the specified Generators.

**15.5.4.2 Payments to Generators that Committed to Provide Restoration Services Under the Consolidated Edison Plan On or After November 1, 2012, or Before November 1, 2012 and Elected to Provide Service Under New Terms**

**15.5.4.2.1 Commitment Requirements for Restoration Services**

The ISO shall, in conjunction with Consolidated Edison and Generators, determine in which one of three groups ("Commitment Groups") a unit that a Generator has committed to provide Restoration Services under the Consolidated Edison Plan before November 1, 2012, will be included. The Commitment Groups shall have the following initial commitment periods:

Commitment Group 1: November 1, 2012, through April 30, 2015.

Commitment Group 2: November 1, 2012, through April 30, 2016.

Commitment Group 3: November 1, 2012, through April 30, 2017.

The ISO shall assign a Generator's unit that is committed to provide Restoration Services under the Consolidated Edison Plan on or after November 1, 2012, to one of these Commitment Groups.

At the conclusion of each commitment period, a Generator's unit shall begin a new three (3) year commitment period to provide Restoration Services under the Consolidated Edison Plan; provided, however, that the unit shall not begin a new commitment period if the Generator or Consolidated Edison provides the ISO with notice at least two years prior to the conclusion of the previous commitment period that the unit will no longer be part of the Consolidated Edison Plan following the conclusion of that commitment period.

Consolidated Edison shall not remove from the Consolidated Edison Plan a Generator's new or repowered unit that is required to install Restoration Services capability and provide Restoration Services in the Consolidated Edison Plan pursuant to Section 30.2.5 of Attachment X to the ISO OATT before the Generator recovers the incremental capital costs it incurred in installing the Restoration Services capability for its unit. The Generator shall be deemed to have recovered these costs: (a) twenty-five years from the start of its unit's provision of Restoration Services under this Rate Schedule if the Generator is taking payment pursuant to Section 15.5.4.2.3.1 to this Rate Schedule, or (b) over the period set forth in the Generator's unit-specific rate approved by FERC pursuant to Section 15.5.4.2.3.2 to this Rate Schedule. If a Generator withdraws its unit from the Consolidated Edison Plan before the completion of this time period, it will forfeit its entitlement to recover its incremental capital costs.

If a Generator withdraws a unit that has committed to provide Restoration Services from the ISO's energy and capacity markets, the unit may cease its provision of Restoration Services at the same time without completing its commitment period. If the Generator returns the unit to



the ISO's energy and capacity markets within three years of its withdrawal, the unit shall be required to provide Restoration Services for that portion of its commitment period that it had not completed.

#### **15.5.4.2.2 Generator Testing and Training Requirements**

A Generator shall conduct an annual Black Start Capability Test of each unit that it has committed to provide Restoration Services under the Consolidated Edison Plan in accordance with the test protocols set forth in Appendix II to this Rate Schedule. A Generator shall also identify its unit's critical Restoration Services equipment, maintain this equipment and perform tests to verify the condition of this critical equipment in accordance with good utility practice. Upon the performance of a Black Start Capability Test for its unit, the Generator shall submit a certification to the ISO each year – in the form provided in Appendix III to this Rate Schedule – indicating whether its unit has successfully completed its annual Black Start Capability Test and certifying that it maintains and tests the unit's critical Restoration Services equipment in accordance with good utility practice. The Generator shall also ensure that all appropriate personnel are trained in Restoration Services operations.

#### **15.5.4.2.3 Payments to Generators for Providing Restoration Services Under the Consolidated Edison Plan**

##### **15.5.4.2.3.1 Standard Compensation**

Except as set forth in Section 15.5.4.2.3.2 to this Rate Schedule, the ISO shall pay a Generator each Billing Period the pro rata share of the sum of the annual payment amounts for the provision of Restoration Services under the Consolidated Edison Plan at each of the Generator's facilities, as determined for each facility as follows.

By May 1st of each year, the ISO shall calculate the annual Restoration Services payment amount for each Generator's facility for the compensation period of May 1 of that year through the following April 30; *provided, however,*

- (i) the ISO shall calculate by November 1, 2012, the annual Restoration Services payment amount for the initial November 1, 2012, through April 30, 2013, period, using a pro rata adjustment of the annual amounts in Tables A and B below for the shortened six-month compensation period, and
- (ii) the ISO shall recalculate the annual Restoration Services payment amount if, during the May 1 through April 30 compensation period, one of the Generator's units withdraws from the Consolidated Edison Plan pursuant to Section 15.5.4.2.1 to this Rate Schedule or fails a Black Start Capability Test pursuant to Section 15.5.4.2.3.4 to this Rate Schedule.

The annual Restoration Services payment amount for each Generator's facility shall be equal to the sum of the annual payment amounts, calculated according to the following formula, for: (i) each unit at a Generator's facility providing Restoration Services under the Consolidated Edison Plan that is the sole user of equipment necessary to black start the unit and is not designated with other units as a group by the ISO ("Sole Black Start Unit"), and (ii) each group of units at the Generator's facility providing Restoration Services under the Consolidated Edison Plan that share the equipment necessary to black start the units or are otherwise designated as a group by the ISO ("Black Start Unit Group"). The ISO shall designate a Generator's unit as a Sole Black Start Unit or as part of a Black Start Unit Group at the start of the unit's commitment period, and this designation shall not be subject to change for the duration of the unit's commitment period.

$$RSPayment_{AnnBSU} = ActRSUnits_{BSU} \times \left[ \frac{RSSICap_{Ann} + RSSIO\&M_{Ann} + RSAddCap_{Ann} + RSAddO\&M_{Ann}}{DesRSUnits_{BSU}} \right]$$

Where:

BSU = The Sole Black Start Unit or the Black Start Unit Group.

$RSPayment_{AnnBSU}$  = The annual amount, in \$, that the ISO shall pay a Generator for the Sole Black Start Unit or the Black Start Unit Group providing Restoration Services under the Consolidated Edison Plan.

$DesRSUnits_{BSU}$  = The number of units in the Sole Black Start Unit or the Black Start Unit Group designated by Consolidated Edison as participants in the Consolidated Edison Plan.

$ActRSUnits_{BSU}$  = The number of units in the Sole Black Start Units or the Black Start Unit Group actually participating in the Consolidated Edison Plan, which shall not include any unit designated by Consolidated Edison as a participant in the Consolidated Edison Plan that has withdrawn from the plan pursuant to Section 15.5.4.2.1 to this Rate Schedule or has failed a Black Start Capability Test pursuant to Section 15.5.4.2.3.4 to this Rate Schedule.

$RSSICap_{Ann}$  = The station-level capital payment amount, in \$, for the Sole Black Start Unit or for one unit of the Black Start Unit Group, as specified in the “Station-level” column of Table A, below, on the basis of that unit’s size.

$RSSIO\&M_{Ann}$  = The station-level operating and maintenance amount, in \$, for the Sole Black Start Unit or for one unit of the Black Start Unit Group, as specified in the “Station-level” column of Table B, below, on the basis of the unit’s size.

$RSAddCap_{Ann}$  = The sum of the incremental capital payment amounts, in \$, for the remaining units in the Black Start Unit Group, as specified in the “Additional Resource” column of Table A, below, on the basis of the remaining units’ sizes.

$RSAddO\&M_{Ann}$  = The sum of the incremental operating and maintenance payment amounts, in \$, for the remaining units in the Black Start Unit Group, as specified in the “Additional Resource” column in Table B, below, on the basis of the remaining units’ sizes.

**Table A - Restoration Services Capital Payments**

Resource Type	Station-level Capital Payment	Additional Resource Capital Payment
$MVA \leq 10$	\$21,770	\$10,880
$10 < MVA \leq 60$	\$214,570	\$10,880
$60 < MVA \leq 90$	\$248,460	\$10,880
$90 < MVA \leq 300$ , Small Starting Requirement	\$414,980	\$10,880
$90 < MVA \leq 300$ , Medium Starting Requirement	\$957,920	\$10,880
$90 < MVA \leq 300$ , Large Starting Requirement	\$1,785,080	\$10,880
$300 < MVA$ , Large Starting Requirement	\$1,833,750	\$32,650

**Table B - Restoration Services O&M Payments**

Resource Type	Station-level O&M Payment	Additional Resource O&M Payment
$MVA \leq 10$	\$22,335	\$6,040
$10 < MVA \leq 60$	\$42,295	\$8,200
$60 < MVA \leq 90$	\$49,850	\$10,140
$90 < MVA \leq 300$ , Small Starting Requirement	\$118,255	\$33,665
$90 < MVA \leq 300$ , Medium Starting Requirement	\$252,265	\$65,600
$90 < MVA \leq 300$ , Large Starting Requirement	\$388,865	\$65,820
$300 < MVA$ , Large Starting Requirement	\$414,540	\$77,685

The figures in Tables A and B are determined as of 2011. The ISO shall adjust these figures annually using the “Gas Turbogenerators” subcategory of the “Other Production Plant” category of the Handy Whitman Index for the North Atlantic Region.

#### **15.5.4.2.3.2 Unit-Specific Compensation**

A Generator shall be entitled to recover through this ISO Services Tariff the actual, incremental cost of its unit’s or units’ provision of Restoration Services under the Consolidated Edison Plan. If the Generator determines that its actual, incremental cost of providing

Restoration Services to the ISO from its unit(s) exceeds the payment amount determined under Section 15.5.4.2.3.1 to this Rate Schedule, the Generator shall submit to the ISO actual incremental cost documentation showing: have the right to file a proposed rate for the recovery of its actual, incremental costs of providing Restoration Services with FERC, pursuant to Section 206 of the Federal Power Act. If FERC finds that the (1) that the actual, incremental costs that are reasonably and prudently incurred, for a Generator's particular unit(s) (2) that the actual incremental costs are incurred solely for the purpose of providing Restoration Services, and (3) that the actual incremental costs exceed the payment amount determined under Section 15.5.4.2.3.1 to this Rate Schedule, then the parties to this ISO Services Tariff agree that the rates in Section 15.5.4.2.3.1 would be unjust and unreasonable for those unit(s). Within thirty (30) days of receipt of all necessary documentation, or longer if the parties agree, the ISO will file at FERC, jointly with the Generator, the information provided by the Generator along with the proposed tariff appendix. The Generator will retain the burden to show that its unit(s)-specific rate request meets the cost showing requirements outlined in this section. NYISO may subsequently comment on the substance of the proposed filing during the FERC noticed comment period. Upon approval by FERC, the Generator's unit(s)-specific rate shall be included as an appendix addendum to this Rate Schedule. In such case, the ISO shall pay a Generator each Billing Period the pro rata share of the FERC-approved annual rate for its unit(s), except as set forth in Section 15.5.4.2.3.4 to this Rate Schedule. The ISO shall recover the costs of these payments from Customers in the Consolidated Edison Transmission District under Section 15.5.4.3 to this Rate Schedule.

#### **15.5.4.2.3.3 Eligibility for Additional Cost Recovery**

The ISO shall reimburse Generators for equipment damage if the ISO reasonably finds:  
(1) the damage resulted from operating such equipment in response to operational orders from

the ISO, or Consolidated Edison, pursuant to the ISO Tariffs, (2) that reasonably available and customary insurance was not available for the damages incurred, and (3) the damage would not have occurred but for the Generator's provision of Restoration Services. The burden of making such showings shall be upon the Generator.

The payments for each Billing Period shall also include compensation for legitimate, verifiable, and adequately documented costs incurred solely as a result of a Generator's compliance with NERC critical infrastructure protection ("CIP") reliability standards applicable to the provision of Restoration Services, i.e., a CIP cost that would not have been incurred if it were not providing Restoration Services. The Generator shall provide such invoices to the ISO, which will review and determine if compensation is appropriate.

#### **15.5.4.2.3.4 Forfeiture of Payments As a Result of Failed Black Start Capability Tests**

If a Generator's unit fails a Black Start Capability Test, the Generator shall forfeit all Restoration Service payments for that unit under Sections 15.5.4.2.3.1 and 15.5.4.2.3.2 from the date of the failed test; provided, however, that if the Generator's unit successfully completes the Black Start Capability Test within thirty days of the failed test, the Generator shall not forfeit its payments. This thirty-day period may be extended if agreed upon by the ISO, the Generator, and Consolidated Edison. If the Generator does not successfully complete its Black Start Capability Test within this thirty day, or extended, period and successfully completes the test at a later date, it shall receive its Restoration Services payments only from the date of the later, successful test going forward.

#### **15.5.4.3 Charges to Support Payments to Generators Under the Consolidated Edison Plan**

Each Billing Period, the ISO shall charge, and each Customer in the Consolidated Edison Transmission District shall pay based on its supply of Load in that Transmission District that is

*not* used to supply Station Power as a third-party provider under Part 5 of the ISO OATT, a charge for the recovery of the ISO's payments to Generators providing Restoration Services under the Consolidated Edison Plan under Sections 15.5.4.1 and 15.5.4.2 to this Rate Schedule. This charge shall be equal to: (A) the product of : (i) the Customer's share of Load in the Consolidated Edison Transmission District that is not used to supply Station Power as a third-party provided for each hour in the Billing Period, and (ii) the ISO's total payments to Generators for Restoration Services under the Consolidated Edison Restoration Plan under Sections 15.5.4.1 and 15.5.4.2 for the Billing Period, divided by the total number of hours in the Billing Period, (B) summed for all hours in the Billing Period.

Each Billing Period, the ISO shall charge, and each Customer in the Consolidated Edison Transmission District shall pay based on its supply of Load in that Transmission District that is used to supply Station Power as a third-party provider under Part 5 of the ISO OATT, a charge for the recovery of the ISO's payments to Generators providing Restoration Services under the Consolidated Edison Plan under Sections 15.5.4.1 and 15.5.4.2 to this Rate Schedule. This charge shall be equal to: (A) the product of: (i) the Customer's share of Load in the Consolidated Edison Transmission District that is used to supply Station Power as a third-party provided for each day in the Billing Period, and (ii) the ISO's total payments to Generators for Restoration Services under the Consolidated Edison Restoration Plan under Sections 15.5.4.1 and 15.5.4.2 for the Billing Period, divided by the total number of days in the Billing Period, (B) summed for all days in the Billing Period. The ISO shall credit these daily charge amounts to Customers based on their share of Load in the NYCA that is not used to supply Station Power as a third-party provider for that day. The ISO shall sum these daily credits for all days in the Billing Period.