

## **40.13 Deliverability Studies and Cost Allocation Methodology for CRIS**

### **40.13.1 Cluster Study Deliverability Study and Non-Cluster Study Expedited Deliverability Study**

An Interconnection Customer requesting CRIS for a Project larger than 2 MW may elect to enter either the Cluster Study Process pursuant to the requirements in Section 40.5.4 to this Attachment HH or an Expedited Deliverability Study pursuant to the requirements in Section 40.19 to this Attachment HH; *provided, however*, that an Interconnection Customer may not be evaluated in both studies simultaneously (*i.e.*, an Interconnection Customer with CRIS being evaluated in a Cluster Study Process may not enter an Expedited Deliverability Study for evaluation of the same CRIS request until the Cluster Study has completed).

A Cluster Study deliverability evaluation first evaluates whether a Project satisfies the NYISO Deliverability Interconnection Standard at its full amount of requested CRIS. If a Project is not deliverable for its full amount of requested CRIS, the Cluster Study proceeds to identify and cost allocate System Deliverability Upgrades required to make the Project fully deliverable for the full amount of requested CRIS.

An Expedited Deliverability Study only evaluates whether a Project satisfies the NYISO Deliverability Interconnection Standard at its full amount of requested CRIS; it does not identify or cost allocate System Deliverability Upgrades. An Interconnection Customer evaluated in an Expedited Deliverability Study and deemed undeliverable at its full amount of requested CRIS may (1) enter a Cluster Study Process in a subsequent Application Window in accordance with the requirements in Section 40.5 to obtain a Project Cost Allocation for required System Deliverability Upgrades; or (2) enter into a subsequent Expedited Deliverability Study or a Cluster Study Process with the same or different CRIS request.

#### **40.13.1.1 Cost Allocation Among Interconnection Customers in a Cluster**

Each Project in a Cluster Study Deliverability Study – *i.e.*, a Cluster Study CRIS Project – will share in the then currently available deliverability capability of the New York State Transmission System and will also share in the cost of any System Deliverability Upgrades required for its Project to qualify for CRIS at the requested level. The total cost of the System Deliverability Upgrades required for all the Projects in the Cluster for the Cluster Study will be allocated among the Projects in the Cluster based on the *pro rata* impact of each Cluster Study CRIS Project on the deliverability of the New York State Transmission System, that is, the *pro rata* contribution of each Project in the Cluster Study Deliverability Study to the total cost of each of the System Deliverability Upgrades identified in the Cluster Study Deliverability Study. In addition to this allocation of cost responsibility for System Deliverability Upgrades among the Projects in a Cluster, the cost of certain Highway System Deliverability Upgrades will be shared with Load Serving Entities and subsequent Interconnection Customers, as described below in Section 40.13.12 of these rules.

#### **40.13.1.2 Expedited Deliverability Study**

The Expedited Deliverability Study shall be performed concurrently for all Projects that meet the entry requirements set forth in Section 40.19 of this Attachment HH as a combined Expedited Deliverability Study.

#### **40.13.2 Categories of transmission facilities**

For purposes of applying the NYISO Deliverability Interconnection Standard, transmission facilities comprising the New York State Transmission System will be categorized as Byways, Highways, Internal Other Interfaces or External Other Interfaces.

#### **40.13.2.1 Byways**

The Interconnection Customer of a Cluster Study CRIS Project will pay its *pro rata* share of one hundred percent (100%) of the cost of the System Deliverability Upgrades to any Byway needed to make the Cluster Study CRIS Project deliverable in accordance with these rules. The System Deliverability Upgrades on the Byway(s) will be identified by the ISO, with input from the Connecting Transmission Owner and from the Affected Transmission Owner(s), in the Cluster Study Deliverability Study.

The Transmission Owner(s) responsible for constructing a System Deliverability Upgrade on a Byway shall request Incremental TCCs with respect to the System Deliverability Upgrade in accordance with the requirements of Section 19.2.4 of Attachment M of the ISO OATT. An Interconnection Customer paying to upgrade a Byway will receive the right to accept any Incremental TCCs awarded by the ISO in proportion to its contribution to the total cost of the System Deliverability Upgrade. The ISO shall round any non-whole MW quantities to a whole number of Incremental TCCs in a manner that ensures that the sum of all individual allocations to eligible entities is equal to the total number of Incremental TCCs awarded to the System Deliverability Upgrade; *provided, however*, that an Interconnection Customer will not be entitled to receive any Incremental TCCs if the whole number value determined by the ISO for the Interconnection Customer's proportionate share is zero. If an Interconnection Customer elects to accept its proportionate share of any Incremental TCCs resulting from the System Deliverability Upgrade, the Interconnection Customer shall be the Primary Holder of such Incremental TCCs. If an Interconnection Customer declines an award of its proportionate share of any Incremental TCCs resulting from the System Deliverability Upgrade, or subsequently terminates the Incremental TCCs it elected to receive in accordance with Section 19.2.4.9 of Attachment M of the ISO OATT, the declined or terminated Incremental TCCs will be deemed

reserved to the extent necessary to facilitate the potential for transfers to subsequent Interconnection Customers that pay for the use of Headroom pursuant to this Attachment HH on a System Deliverability Upgrade that has been awarded Incremental TCCs. Incremental TCCs that are declined or terminated by an Interconnection Customer and not otherwise deemed reserved will be deemed permanently terminated. Incremental TCCs related to a System Deliverability Upgrade that were previously deemed reserved as a result of prior declination or termination will be deemed permanently terminated when the Headroom on the System Deliverability Upgrade ceases to exist or is otherwise reduced to zero in accordance with Section 40.17.1.4.3 of this Attachment HH.

An Interconnection Customer paying to upgrade a Byway will be eligible to receive Headroom payments in accordance with these rules. A subsequent Interconnection Customer paying for use of Headroom on a System Deliverability Upgrade on a Byway will be entitled to receive Incremental TCCs, to the extent Incremental TCCs have been awarded by the ISO for the System Deliverability Upgrade, in proportion to its contribution to the total cost of the System Deliverability Upgrade, as determined based on its required Headroom payments. The ISO shall round any non-whole MW quantities to a whole number of Incremental TCCs in a manner that ensures that the sum of all individual allocations to eligible entities is equal to the total number of Incremental TCCs awarded to the System Deliverability Upgrade; *provided, however*, that a subsequent Interconnection Customer will not be entitled to receive any Incremental TCCs if the whole number value determined by the ISO for the subsequent Interconnection Customer's proportionate share is zero. If an Interconnection Customer that initially paid for a System Deliverability Upgrade on a Byway elected to receive its proportionate share of any Incremental TCCs related to the System Deliverability Upgrade and continues to hold such Incremental

TCCs, any Incremental TCCs that a subsequent Interconnection Customer is eligible to receive will be made available by reducing the Incremental TCCs related to the System Deliverability Upgrade held by the Interconnection Customer that initially paid for the System Deliverability Upgrade in proportion to the Headroom payments received by such Interconnection Customer from the subsequent Interconnection Customer making such Headroom payments. If an Interconnection Customer that initially paid for a System Deliverability Upgrade on a Byway declined to receive its proportionate share of any Incremental TCCs related to the System Deliverability Upgrade or subsequently terminated the Incremental TCCs it elected to receive, any Incremental TCCs that a subsequent Interconnection Customer is eligible to receive will be made available from the Incremental TCCs related to the System Deliverability Upgrade that were previously deemed reserved as a result of prior declination or termination in proportion to the Headroom payments received by the Interconnection Customer that initially paid for the System Deliverability Upgrade from the subsequent Interconnection Customer making such Headroom payments. If a subsequent Interconnection Customer elects to accept its proportionate share of any Incremental TCCs, the subsequent Interconnection Customer shall be the Primary Holder of such Incremental TCCs; *provided, however*, that Incremental TCCs that were previously deemed reserved and are transferred to a subsequent Interconnection Customer will become effective on the first day of the Capability Period that commences following the next Centralized TCC Auction conducted after the subsequent Interconnection Customer makes the necessary Headroom payment and elects to receive its proportionate share of Incremental TCCs. If a subsequent Interconnection Customer declines an award of its proportionate share of any Incremental TCCs resulting from its Headroom payments, or subsequently terminates the Incremental TCCs it elected to receive in accordance with Section 19.2.4.9 of Attachment M of

the ISO OATT, the declined or terminated Incremental TCCs will be deemed permanently terminated.

Any Incremental TCCs resulting from a System Deliverability Upgrade on a Byway, regardless of the Primary Holder thereof, may not be sold or transferred through a Centralized TCC Auction, Reconfiguration Auction or the Secondary Market.

#### **40.13.2.2 Highways**

The Interconnection Customer of a Cluster Study CRIS Project will pay an allocated share of the cost of the System Deliverability Upgrades to any Highway needed to make the Cluster Study Project deliverable in accordance with these rules. The System Deliverability Upgrades on the Highway or Highways, and the Interconnection Customer's allocated share of the cost of those System Deliverability Upgrades, will be identified by the ISO, with input from the Connecting Transmission Owner and from the Affected Transmission Owner(s), in the Cluster Study Deliverability Study.

The Transmission Owner(s) responsible for constructing a Highway System Deliverability Upgrade shall request Incremental TCCs with respect to the Highway System Deliverability Upgrade in accordance with the requirements of Section 19.2.4 of Attachment M of the ISO OATT. An Interconnection Customer paying for Highway System Deliverability Upgrades will receive the right to accept any Incremental TCCs awarded by the ISO, in proportion to its contribution to the total cost of the Highway System Deliverability Upgrade. The ISO shall round any non-whole MW quantities to a whole number of Incremental TCCs in a manner that ensures that the sum of all individual allocations to eligible entities is equal to the total number of Incremental TCCs awarded to the Highway System Deliverability Upgrade; *provided, however*, that an Interconnection Customer will not be entitled to receive any

Incremental TCCs if the whole number value determined by the ISO for the subsequent Interconnection Customer's proportionate share is zero. If an Interconnection Customer elects to accept its proportionate share of any Incremental TCCs resulting from the Highway System Deliverability Upgrade, the Interconnection Customer shall be the Primary Holder of such Incremental TCCs. If an Interconnection Customer declines an award of its proportionate share of any Incremental TCCs resulting from the Highway System Deliverability Upgrade, or subsequently terminates the Incremental TCCs it elected to receive in accordance with Section 19.2.4.9 of Attachment M of the ISO OATT, the declined or terminated Incremental TCCs will be deemed reserved to the extent necessary to facilitate the potential for transfers to subsequent Interconnection Customers that pay for the use of Headroom pursuant to this Attachment HH on a Highway System Deliverability Upgrade that has been awarded Incremental TCCs. Incremental TCCs that are declined or terminated by an Interconnection Customer and not otherwise deemed reserved will be deemed permanently terminated. Incremental TCCs related to a Highway System Deliverability Upgrade that were previously deemed reserved as a result of prior declination or termination will be deemed permanently terminated when the Headroom on the Highway System Deliverability Upgrade ceases to exist or is otherwise reduced to zero in accordance with Section 40.17.1.4.3 of this Attachment HH.

The Transmission Owner(s) responsible for constructing a Highway System Deliverability Upgrade shall also be awarded, and be the Primary Holder of, any Incremental TCCs related to the portion of a Highway System Deliverability Upgrade funded by Load Serving Entities pursuant to Section 40.13.12 of this Attachment HH, in proportion to the contribution of the Load Serving Entities to the total cost of the Highway System Deliverability Upgrade. The ISO shall round any non-whole MW quantities to a whole number of Incremental

TCCs in a manner that ensures that the sum of all individual allocations to eligible entities is equal to the total number of Incremental TCCs awarded to the Highway System Deliverability Upgrade; *provided, however*, that no Incremental TCCs will be awarded to the Transmission Owner(s) responsible for constructing a Highway System Deliverability Upgrade for the portion of a Highway System Deliverability Upgrade funded by Load Serving Entities if the whole number value determined by the ISO for the Load Serving Entities' proportionate share is zero.

An Interconnection Customer paying for a Highway System Deliverability Upgrade will be eligible to receive Headroom payments in accordance with these rules to the extent that it pays for System Deliverability Upgrade capacity in excess of that required to provide the requested level of CRIS and Load Serving Entities have not funded a portion of the costs of the Highway System Deliverability Upgrade pursuant to Section 40.13.12 of this Attachment HH. If Load Serving Entities have funded a portion of a Highway System Deliverability Upgrade pursuant to Section 40.13.12 of this Attachment HH, the Transmission Owner(s) responsible for constructing the Highway System Deliverability Upgrade will be eligible to receive any and all Headroom payments related to the System Deliverability Upgrade in accordance with these rules on behalf, and for the benefit, of the Load Serving Entities that funded a portion of the System Deliverability Upgrade.

A subsequent Interconnection Customer paying for use of Headroom on System Deliverability Upgrades will be entitled to receive Incremental TCCs, to the extent Incremental TCCs have been awarded by the ISO for the System Deliverability Upgrade, in proportion to its contribution to the total cost of the Highway System Deliverability Upgrade, as determined based on its required Headroom payments. The ISO shall round any non-whole MW quantities to a whole number of Incremental TCCs in a manner that ensures that the sum of all individual

allocations to eligible entities is equal to the total number of Incremental TCCs awarded to the Highway System Deliverability Upgrade; *provided, however*, that a subsequent Interconnection Customer will not be entitled to receive any Incremental TCCs if the whole number value determined by the ISO for the Interconnection Customer's proportionate share is zero. If: (i) an Interconnection Customer that initially paid for a Highway System Deliverability Upgrade paid for capacity in excess of that required to provide its requested level of CRIS; (ii) Load Serving Entities have not funded a portion of the costs of the Highway System Deliverability Upgrade pursuant to Section 40.13.12 of this Attachment HH; and (iii) the Interconnection Customer elected to receive its proportionate share of any Incremental TCCs related to the System Deliverability Upgrade and continues to hold such Incremental TCCs, any Incremental TCCs that a subsequent Interconnection Customer is eligible to receive will be made available by reducing the Incremental TCCs related to the System Deliverability Upgrade held by the Interconnection Customer that initially funded the System Deliverability Upgrade in proportion to the Headroom payments received by such Interconnection Customer from the subsequent Interconnection Customer making such Headroom payments. If: (i) an Interconnection Customer that initially paid for a Highway System Deliverability Upgrade paid for capacity in excess of that required to provide its requested level of CRIS; (ii) Load Serving Entities have not funded a portion of the costs of the Highway System Deliverability Upgrade pursuant to Section 40.13.12 of this Attachment HH; and (iii) the Interconnection Customer declined to receive its proportionate share of any Incremental TCCs related to the System Deliverability Upgrade or subsequently terminated the Incremental TCCs it elected to receive, any Incremental TCCs that a subsequent Interconnection Customer is eligible to receive will be made available from the Incremental TCCs related to the System Deliverability Upgrade that were previously deemed

reserved as a result of prior declination or termination in proportion to the Headroom payments received by the Interconnection Customer that initially paid for the System Deliverability Upgrade from the subsequent Interconnection Customer making such Headroom payments. If Load Serving Entities have funded a portion of a Highway System Deliverability Upgrade pursuant to Section 40.13.12 of this Attachment HH, any Incremental TCCs that a subsequent Interconnection Customer is eligible to receive will be made available by reducing the Incremental TCCs related to the System Deliverability Upgrade held by the Transmission Owner(s) responsible for constructing the System Deliverability Upgrade. If a subsequent Interconnection Customer elects to accept its proportionate share of any Incremental TCCs, the subsequent Interconnection Customer shall be the Primary Holder of such Incremental TCCs; *provided, however,* that Incremental TCCs that were previously deemed reserved and are transferred to a subsequent Interconnection Customer will become effective on the first day of the Capability Period that commences following the next Centralized TCC Auction conducted after the subsequent Interconnection Customer makes the necessary Headroom payment and elects to receive its proportionate share of Incremental TCCs. If a subsequent Interconnection Customer declines an award of its proportionate share of any Incremental TCCs resulting from its Headroom payments, or subsequently terminates the Incremental TCCs it elected to receive in accordance with Section 19.2.4.9 of Attachment M of the ISO OATT, the declined or terminated Incremental TCCs will be deemed permanently terminated.

Any Incremental TCCs resulting from a Highway System Deliverability Upgrade, regardless of the Primary Holder thereof, may not be sold or transferred through a Centralized TCC Auction, Reconfiguration Auction or the Secondary Market.

### 40.13.2.3 Other Interfaces

If the Cluster Study CRIS Project degrades the transfer capability of any one of the External Other Interfaces or Internal Other Interfaces (collectively, “Other Interfaces”) below the transfer capability identified in the current CBA, then the Interconnection Customer will pay its *pro rata* share of one hundred percent (100%) of the cost of the System Deliverability Upgrades needed to restore the transfer capability of the respective Other Interfaces degraded by its proposed Project to what the transfer capability of those Other Interfaces would have been without its Project, as that transfer capability was measured in the current CBA. Where two or more Projects would cause degradation of an Other Interface’s transfer capability, the cost of the necessary System Deliverability Upgrades to restore the original transfer capability of the Other Interface shall be shared on a *pro rata* basis, based on the MW of degradation that each Project would cause.

### 40.13.3 Capacity Regions

40.13.3.1 The deliverability test will be applied within each of the four (4) Capacity Regions: (1) Rest of State (*i.e.*, Load Zones A through F); (2) Lower Hudson Valley (*i.e.*, Load Zones G, H and I); (3) New York City (*i.e.*, Load Zone J); and (4) Long Island (*i.e.*, Load Zone K). To be declared deliverable a Cluster Study Project must only be deliverable, at its requested CRIS MW, throughout each of the Capacity Regions in which the Project is interconnected or is interconnecting, or, if requesting CRIS for External-to-ROS Deliverability Rights, throughout the Rest of State Capacity Region. For example, a proposed Cluster Study Project from an external Control Area interconnecting in the Rest of State Capacity Region (*i.e.*, Load Zones A-F) will be required to demonstrate deliverability throughout the Rest of State Capacity Region (*i.e.*, Load Zones A-F), but will not be required to demonstrate deliverability to or within any of

the following Capacity Regions: Lower Hudson Valley (*i.e.*, Load Zones G, H and I); New York City (*i.e.*, Load Zone J); or Long Island (*i.e.*, Load Zone K).

40.13.3.2 A proposed Cluster Study Transmission Project internal to the NYCA that is requesting CRIS for Unforced Capacity Deliverability Rights must be deliverable both throughout the Capacity Region to which it proposes to inject Energy and throughout the Capacity Region from which it proposes to withdraw Energy. For example, a Cluster Study Transmission Project that proposes to withdraw Energy from the Rest of State Capacity Region (*i.e.*, Load Zones A-F) and inject Energy into New York City (*i.e.*, Load Zone J) must demonstrate deliverability throughout the Rest of State Capacity Region and demonstrate deliverability throughout the New York City Capacity Region.

#### **40.13.4 Participation in Capacity Markets**

40.13.4.1 An Interconnection Customer, in order to be eligible to become an Installed Capacity Supplier or receive Unforced Capacity Deliverability Rights or External-to-ROS Deliverability Rights, must obtain CRIS pursuant to the procedures set forth in this Attachment HH. An Interconnection Customer must enter a Cluster Study Deliverability Study or Expedited Deliverability Study in order to obtain CRIS, unless otherwise provided for in this Attachment HH. The MW amount of CRIS requested by an Interconnection Customer, stated in MW of Installed Capacity (“ICAP”), cannot exceed the MW levels specified in Section 40.5.6.5 of this Attachment HH. All requests for CRIS must be in tenths of a MW.

The ISO will perform the Cluster Study Deliverability Study and Expedited Deliverability Study in accordance with these rules and with input of Market Participants, to determine the deliverability of the Projects requesting CRIS in each study. The Expedited Deliverability Study will only determine the extent to which the Project is deliverable at the full

amount of requested CRIS. The Cluster Study Deliverability Study will determine deliverability at the full amount of requested CRIS and, if not deliverable, will identify and allocate the cost of the System Deliverability Upgrades needed to make deliverable each Cluster Study CRIS Project. In order to be eligible to become an Installed Capacity Supplier or receive Unforced Capacity Deliverability Rights or External-to-ROS Deliverability Rights, an Interconnection Customer must: (i) be found fully or partially deliverable at the requested CRIS level in an Expedited Deliverability Study or (ii) in a Cluster Study, either (1) accept its deliverable MW ~~in a Cluster Study or Expedited Deliverability Study~~; or (2) pay cash or post Security, in accordance with these rules, for the System Deliverability Upgrades needed for its Project to be deliverable at the requested level of CRIS.

#### **40.13.5 The Pre-Existing System**

Where the Existing System Representation demonstrates deliverability issues, an Interconnection Customer electing CRIS need only address the incremental deliverability of its CRIS request, not the deliverability of the pre-existing system depicted in the Existing System Representation. Likewise, Transmission Owners will not be responsible for curing any pre-existing deliverability issues.

#### **40.13.6 CRIS Values**

Through a ~~Class~~Cluster-Year Study, an Interconnection Customer may elect no CRIS, partial CRIS, or full CRIS for its Project by satisfying the applicable sections of this Attachment HH. Through an Expedited Deliverability Study, an Interconnection Customer may elect CRIS or partial CRIS to the extent its requested CRIS is deliverable pursuant to the NYISO Deliverability Interconnection Standard.

Each Project qualifying for CRIS will have two CRIS values per Project: -one for the Summer Capability Period and one for the Winter Capability Period. For Projects comprised of multiple Generators, the Project's CRIS, subject to the maximum permissible requested CRIS pursuant to Section 40.5.6.5 of this Attachment HH, shall be allocated among the multiple Generators, and shall be allocated among the multiple Generators, as requested by Interconnection Customer (to the extent permissible under Section 40.5.6.5 of this Attachment HH). The Project's CRIS and allocation of CRIS among its units, as applicable, will be specified by ISO in the ~~Phase 2 Class Year Deliverability~~ Study report approved by the ISO Operating Committee in accordance with Section 40.11.7.

The Project's CRIS value for the Summer Capability Period will be set using the deliverability test methodology and procedures described below. The Project's CRIS value for the Winter Capability Period will be determined by the applicable process below:

**40.13.6.1 Winter CRIS will be calculated as follows:**

Winter CRIS MW = (Summer CRIS MW x Maximum Net Output at 10 degrees Fahrenheit)/Maximum Net Output at 90 degrees Fahrenheit

Where:

Maximum Net Output at 10 degrees Fahrenheit = the Project's maximum net output at 10 degrees Fahrenheit determined pursuant to the Project's ISO-approved temperature curve; and

Maximum Net Output at 90 degrees Fahrenheit = the Project's maximum net output at 90 degrees Fahrenheit determined pursuant to the Project's ISO-approved temperature curve.

40.13.6.1.1 For facilities with Summer CRIS, the following additional provision

applies: For such facilities for which there is an ISO-accepted temperature curve used for determining the Project's DMNC, Winter CRIS will be calculated using such temperature curve, provided the capability represented by the curve does not

exceed the Project's ERIS. For facilities for which there is not an ISO-accepted temperature curve used for determining the Project's DMNC, Winter CRIS will be set equal to the Project's Summer CRIS unless the Project provides a temperature curve to the ISO by December 16, 2017, that the ISO subsequently determines is acceptable.

40.13.6.1.2 For facilities first obtaining Summer CRIS on or after December 16, 2017, the Winter CRIS will be determined using the most recent temperature curve provided to and accepted by the ISO, either during the interconnection process or at the time the Summer CRIS is first obtained.

40.13.6.2 Upon an increase to a Project's Summer CRIS pursuant to a permissible increase in Summer CRIS under Sections 40.5.6.6 or 40.18.3 of this Attachment HH (increases in CRIS not requiring a ~~Class Year Study~~deliverability evaluation) or pursuant to an increase in Summer CRIS evaluated in a Cluster Study for which an Interconnection Customer accepts its Project Cost Allocation for System Deliverability Upgrades and posts Security therefore (if applicable) or accepts its Deliverable MWs, the Winter CRIS will be determined using the formula set forth in Section 40.13.6.1, wherein the Summer CRIS MW will be the increased Summer CRIS MW.

#### **40.13.7 Deliverability Study Procedures**

##### **40.13.7.1 Cluster Study Deliverability Study Procedures**

The ISO will conduct the Cluster Study Deliverability Study, as described in these rules, in cooperation with Market Participants. No Market Participant will have decisional control over any determinative aspect of the Cluster Study Deliverability Study. The ISO will have

decisional control over the entire Cluster Study Deliverability Study. If, at any time, the ISO decides that it needs specific expert services from entities such as Market Participants, consultants or engineering firms for it to conduct the Cluster Study Deliverability Study, then the ISO will enter into appropriate contracts with such entities for such input. The ISO shall utilize existing studies to the extent practicable when it performs the study. As it conducts each Cluster Study Deliverability Study, the ISO will provide regularly scheduled status reports and working drafts, with supporting data, to the ISO Operating Committee or an ISO Operating Committee subcommittee to ensure that all affected Market Participants have an opportunity to contribute whatever information and input they believe might be helpful to the process. Each completed Cluster Study Deliverability Study will be reviewed and approved by the ISO Operating Committee when the ISO Operating Committee approves the CPA for the same Cluster Study in accordance with Section 40.11.7. Each Cluster Study Deliverability Study is reviewable by the ISO Board of Directors in accordance with the provisions of the Commission-approved ISO Agreement.

If the ISO determines that an Additional SDU Study is required pursuant to Section 40.14 of this Attachment HH, the ISO will notify all Cluster Study Projects that such Additional SDU Study will be conducted, with such notice to be provided as soon as practicable after the ISO receives notice from Interconnection Customers in response to the Notice of SDUs Requiring Additional Study pursuant to Section 40.14.1 of this Attachment HH.

#### **40.13.7.2 Expedited Deliverability Study Procedures**

The ISO will conduct the Expedited Deliverability Study, as described in these rules in cooperation with Market Participants. No Market Participant will have decisional control over any determinative aspect of the Expedited Deliverability Study. The ISO will have decisional

control over the entire Expedited Deliverability Study. If, at any time, the ISO decides that it needs specific expert services from entities such as Market Participants, consultants or engineering firms for it to conduct the Expedited Deliverability Study, then the ISO will enter into appropriate contracts with such entities for such input. The ISO shall utilize existing studies to the extent practicable when it performs the study. As it conducts each Expedited Deliverability Study, the ISO will provide regularly scheduled status reports and working drafts, with supporting data, to the ISO Operating Committee or an ISO Operating Committee subcommittee to ensure that all affected Market Participants have an opportunity to contribute whatever information and input they believe might be helpful to the process. Each completed Expedited Deliverability Study will be reviewed and approved by the ISO Operating Committee. Each Expedited Deliverability Study is reviewable by the ISO Board of Directors in accordance with the provisions of the Commission-approved ISO Agreement.

#### **40.13.8 Deliverability Test Methodology for Highways and Byways**

##### **40.13.8.1 Definition of NYCA Deliverability**

The NYCA transmission system shall be able to deliver the aggregate of NYCA capacity resources to the aggregate of the NYCA load under summer peak load conditions. This is accomplished in the Cluster Study through ensuring the deliverability of each Cluster Study CRIS Project, in the Capacity Region(s) where the Project interconnects. This is accomplished in the Expedited Deliverability Study through ensuring the deliverability of each ~~Cluster~~Expedited Deliverability Study CRIS Request, in the Capacity Region where the Project interconnects.

## **40.13.8.2 NYCA Deliverability Testing Methodology**

### **40.13.8.2.1 Cluster Study**

40.13.8.2.1.1 The current CBA for the Cluster Study, developed in accordance with ISO Procedures, will serve as the starting point for the deliverability baseline for testing under summer peak system conditions, subject to ISO Procedures and the following:

All Cluster Study CRIS Projects will be evaluated on an aggregate Cluster basis in the CPA deliverability base case. Deliverability will be determined through a shift from generation to generation within their respective Capacity Regions in New York State. Each Capacity Region will be tested on an individual basis. The total generation dispatched within a Capacity Region in the CPA deliverability base case will be approximately equal to that of the CBA deliverability base case.

40.13.8.2.1.2 Each entity requesting External CRIS Rights may request in the Application Window through a CRIS-Only Request, in the form of Appendix 2 to this Attachment HH a certain number of MW to be evaluated for deliverability pursuant to Section 40.13.11 of this Attachment HH. The MW of an entity requesting External CRIS Rights will not be derated for the deliverability analysis.

40.13.8.2.1.3 Each Interconnection Customer requesting CRIS will request that a certain number of MW be evaluated for deliverability, such MW not to exceed the maximum levels set forth in Section 40.6.5 of this Attachment HH. The MW requested by an Interconnection Customer will represent Installed Capacity, and will be derated for the deliverability analysis, as set forth in this Section

40.13.8.2.1.3. The CRIS MW requested by a Resource with an Energy Duration Limitation will represent Installed Capacity based on the Interconnection Customer-selected duration (*i.e.*, its expected maximum injection capability in MW hours for the Interconnection Customer-selected duration). The CRIS MW requested by a Cluster Study Transmission Project seeking Unforced Capacity Deliverability Rights will represent Installed Capacity at the point of injection. At the conclusion of the analysis, the ISO will reconvert only the deliverable MW and report them in terms of MW of Installed Capacity using the same derating factor utilized at the beginning of the deliverability analysis.

Facilities requesting CRIS and existing facilities with CRIS will be modeled in the deliverability analysis at MW levels described herein. A derated generator capacity incorporating availability is used. This derated generator capacity is calculated for each resource using a UCAP Deration Factor (“UCDF”). The UCDF used is an average value based on historical performance on a Capacity Region basis, as determined in accordance with ISO Procedures. The UCDF for all generators that are not Intermittent Power Resources, ~~(resources that are not Intermittent Power Resources include~~ Energy Storage Resources), or Limited Control Run of River Hydro is the average EFORd. All generators that are not Intermittent Power Resources, Energy Storage Resources, or Limited Control Run of River Hydro in the same Capacity Region will use the same UCDF. The UCDF for Intermittent Power Resources and Limited Control Run of River Hydro will be calculated based on historical production data by resource type in accordance with ISO Procedures. The UCDF for Energy Storage

Resources will be calculated, and updated during the deliverability evaluation, based on the aggregated resource adequacy contribution from the total MW of Energy Storage Resources considered in the deliverability evaluation, as determined in accordance with ISO Procedures. All generators that are Energy Storage Resources in the same Capacity Region will use the same UCDF.

Facilities comprised of Generators of different technologies will be derated using a blended UCDF that combines the UCDF of the individual Generators within the Project; *provided, however*, that if the Project includes load reduction, the load reduction will not impact the UCDF of the Project. The UCDF factor for proposed Projects will be applied to the requested CRIS level. For facilities modeled in the CBA, the UCDF will be applied to their CRIS level.

The CRIS MW requested by a Cluster Study Transmission Project or held by an existing facility with Unforced Capacity Deliverability Rights will not be derated at the point of injection (*i.e.*, sink) for the deliverability analysis. However, the withdrawal capability (*i.e.*, source) of such a facility that is internal to the NYCA will be modeled in the deliverability analysis at the MW of CRIS plus losses of the facility expected to occur at its CRIS injection level, in the manner set forth in Section 40.13.8.2.1.13.

Existing CRIS that will be modeled in the Cluster Study shall include: existing CRIS for facilities not being evaluated in the Cluster Study regardless of outage state, unless (1) that CRIS will expire no later than twelve (12) months (*i.e.*, three hundred sixty-five (365) Calendar Days) after the Phase 1 Study Start Date, except where the facility has provided notice of a proposed CRIS transfer

anticipated to be finalized no later than twelve (12) months (*i.e.*, three hundred sixty-five (365) Calendar Days) of the Phase 1 Study Start Date; or (2) the CRIS is associated with a Retired facility that cannot transfer such rights prior to CRIS expiration. For purposes of this Section 40.13.8.2.1.3, “existing CRIS” for Projects that have undergone, as applicable, a prior Class Year Study or Cluster Study deliverability evaluation is CRIS obtained upon completion of a Class Year Study or Cluster Study through which the Interconnection Customer accepted its deliverable MW or accepted its Project Cost Allocation and posted Security for System Deliverability Upgrades, as applicable. For Projects that undergo an Expedited Deliverability Study deliverability evaluation, “existing CRIS” is CRIS that is obtained upon completion of an Expedited Deliverability Study through which the Interconnection Customer was deemed to have accepted its Deliverable MW in an Expedited Deliverability Study completed prior to the Phase 1 Study Start Date.

40.13.8.2.1.4 Load uncertainties will be addressed in accordance with ISO Procedures by taking the impact of Load Forecast Uncertainty (“LFU”) from the most recent base case IRM and applying it to load.

40.13.8.2.1.5 Deliverability base case conditioning steps will be consistent with those used for the Reliability Planning Process and Area Transmission Review transfer limit calculation methodology.

40.13.8.2.1.6 In deliverability testing, Emergency transfer criteria and contingency testing will be in conformance with NYSRC rules and correspond to that used in the Reliability Planning Process studies.

40.13.8.2.1.7 The ISO will monitor all transmission facilities that are part of the New York State Transmission System.

40.13.8.2.1.8 When either the voltage or stability transfer limit of an interface calculated in the CBA is more binding than the calculated thermal transfer limit, then the lower of the CBA voltage or stability transfer limit will be included in the deliverability testing as a proxy limit.

40.13.8.2.1.9 External system imports will be adjusted as necessary to eliminate or minimize overloads, other than the following external system imports: (i) the grandfathered import contract rights listed in Attachment E to the Installed Capacity Manual, (ii) the operating protocols set forth in Schedule C of Attachment CC to the ISO OATT, (iii) the appropriate rules for reflecting PJM service to RECo load, (iv) the Existing Transmission Capacity for Native Load listed for the New York State Electric & Gas Corporation in Table 3 of Attachment L to the ISO OATT, and (v) any External CRIS Rights awarded pursuant to Section 40.13.11 of this Attachment HH, either as a result of the conversion of grandfathered rights over the Quebec (via Chateaugay) Interface or as a result of a Cluster Study Deliverability Study, until, as of the Phase 1 Study Start Date, the time available to renew the External CRIS Rights has expired, as described in Section 40.18.2.4 of this Attachment HH.

40.13.8.2.1.10 Flows associated with generators physically located in the NYCA but selling capacity out of the market will be modeled as such in the deliverability base cases.

40.13.8.2.1.11 Resources and demand are brought into balance in the baseline. If

resources are greater than demand in the ~~Capacity Region~~New York Control Area, ~~existing generators~~all resources within the ~~Capacity Region~~New York Control Area are prorated down. ~~If resources are lower than demand in the Capacity Region, additional external resources are included in the model;~~ provided, however, doing so would not cause baseline violations. If prorating down all resources within the New York Control Area causes baseline violations between Capacity Regions, all resources in the impacted Capacity Region can be increased to mitigate the baseline violations.

40.13.8.2.1.12 PARs within the applicable Capacity Region will be adjusted as necessary, in either direction and within their angle capability, to eliminate or minimize overloads without creating new ones. PARs controlling external ties and ties between the Capacity Regions will be modeled, within their angle capability, to hold the individual tie flows to their respective deliverability baseline schedules, which shall be set recognizing firm commitments and operating protocol set forth in Schedule C of Attachment CC to the ISO OATT.

40.13.8.2.1.13 Deliverability testing will proceed as follows – The generation/load mix is split into two groups of generation and load, one upstream and one downstream for each zone or sub-zone tested within the Capacity Region. The load considered in the generation/load mix is load plus LFU. All elements that are part of the New York State Transmission System within the Capacity Region will be monitored. For a Cluster Study Transmission Project seeking Unforced Capacity Deliverability Rights, the MW of requested CRIS plus losses of the facility at the

point of withdrawal are modeled as negative generation in the Capacity Region (*i.e.*, as a proxy generating facility withdrawing power from the New York State Transmission System in the Capacity Region.) If there is excess generation upstream (that is, more upstream generation than is necessary to serve the upstream load plus LFU), then the generation excess, considering generator derate factors described in Section 40.13.8.2.1.3 above, is assumed to displace downstream generation to serve the downstream load plus LFU. If the lesser of either the dispatch of the upstream excess generation or the downstream load plus LFU causes an overload, this overload is flagged as a potential deliverability problem and will be used to determine the amount of capacity that is assigned CRIS status and the overload mitigation.

40.13.8.2.1.14 For Highway interfaces, the Cluster Study Projects in the current Cluster Study Deliverability Study, whether or not they are otherwise deliverable, will not be considered deliverable if their aggregate impact degrades the transfer capability of the interface more than the lesser of 25 MW or 2 percent (2%) of the transfer capability identified in the CBA and results in an increase to the NYCA LOLE determined for the CBA of .01 or more. The Cluster Study CRIS Projects causing the degradation will be responsible, on a *pro rata* basis, for restoring transfer capability only to the extent their aggregate degradation of transfer capability, compared to that in the CBA, would not occur but for the Cluster CRIS Projects.

#### 40.13.8.2.2 Expedited Deliverability Study

40.13.8.2.2.1 The current ~~Class-Year~~Cluster Study CPA, developed in accordance with ISO Procedures, will serve as the starting point for the deliverability baseline for testing under summer peak system conditions, subject to ISO Procedures and the following: All projects in the Expedited Deliverability Study will be evaluated on an aggregate Expedited Deliverability Study basis. Deliverability will be determined through a shift from generation to generation within the Capacity Regions in New York State. Each Capacity Region will be tested on an individual basis. The total generation dispatched within a Capacity Region in the post-project EDS deliverability base case will be approximately equal to that of the pre-project EDS deliverability base case.

40.13.8.2.2.2 Each Interconnection Customer requesting CRIS will request that a certain number of MW be evaluated for deliverability, such MW not to exceed the maximum levels set forth in Section 40.5.6.5 of this Attachment HH. The MW requested by an Interconnection Customer will represent Installed Capacity, and will be derated for the deliverability analysis, as set forth in this Section

40.13.8.2.2.2. The CRIS MW requested by a Resource with an Energy Duration Limitation will represent Installed Capacity based on the Interconnection Customer-selected duration (*i.e.*, its expected maximum injection capability in MW hours for the Interconnection Customer-selected duration). The CRIS MW requested by a Cluster Study Transmission Project seeking Unforced Capacity Deliverability Rights will represent Installed Capacity at the point of injection. At the conclusion of the analysis, the ISO will reconvert only the deliverable MW

and report them in terms of MW of Installed Capacity using the same derating factor utilized at the beginning of the deliverability analysis.

Facilities requesting CRIS and existing facilities with CRIS will be modeled in the deliverability analysis at MW levels described herein. A derated generator capacity incorporating availability is used. This derated generator capacity is calculated for each resource using a UCAP Deration Factor (“UCDF”). The UCDF used is an average value based on historical performance on a Capacity Region basis, as determined in accordance with ISO Procedures. The UCDF for all generators that are not Intermittent Power Resources, ~~(resources that are not Intermittent Power Resources include~~ Energy Storage Resources), or Limited Control Run of River Hydro is the average EFORD. The UCDF for Intermittent Power Resources, Energy Storage Resources, and Limited Control Run of River Hydro will be calculated based on historical production data by resource type in accordance with ISO Procedures. The UCDF for Energy Storage Resources will be calculated, and updated during the deliverability evaluation, based on the aggregated resource adequacy contribution from the total MW of Energy Storage Resources considered in the deliverability evaluation, as determined in accordance with ISO Procedures. All generators that are Energy Storage Resources in the same Capacity Region will use the same UCDF.

Facilities comprised of Generators of different technologies will be derated using a blended UCDF that combines the UCDF of the individual Generators within the Project; *provided, however*, that if the Project includes load reduction, the load reduction will not impact the UCDF of the Project.

The CRIS MW requested by a Cluster Study Transmission Project or held by an existing facility with Unforced Capacity Deliverability Rights will not be derated at the point of injection (*i.e.*, sink) for the deliverability analysis.

However, the withdrawal capability (*i.e.*, source) of such a facility that is internal to the NYCA will be modeled in the deliverability analysis at the MW of CRIS plus losses of the facility expected to occur at its CRIS injection level, in the manner set forth in Section 40.13.8.2.2.13.

The UCDF factor for proposed Projects will be applied to the requested CRIS level. For facilities modeled in the CPA, the UCDF will be applied to their CRIS level.

40.13.8.2.2.3 CRIS that will be modeled in the Expedited Deliverability Study shall include: (1) existing CRIS, including CRIS obtained in a previous Expedited Deliverability Study, for facilities not being evaluated in the instant Expedited Deliverability Study, regardless of outage state, unless (i) the CRIS will expire no later than four (4) months (*i.e.*, one hundred twenty (120) Calendar Days) after the Expedited Deliverability Study Start Date, except where the facility has provided notice of a proposed CRIS transfer anticipated to be finalized no later than four (4) months (*i.e.*, one hundred twenty (120) Calendar Days) after the Expedited Deliverability Study Start Date; or (ii) the CRIS is associated with a Retired facility that cannot transfer such rights prior to CRIS expiration; and (2) CRIS requested by Projects in, as applicable, the Class Year Study(ies) or Cluster Study(ies) pending during the Expedited Deliverability Study. For purposes of this Section 40.13.8.2.2.3, “existing CRIS” is CRIS that has not expired and CRIS

that has been obtained by Projects through Attachment HH. For Projects that undergo a Class Year Study or Cluster Study deliverability evaluation, “existing CRIS,” is CRIS obtained, upon completion of a Class Year Study or Cluster Study through which the Interconnection Customer accepted deliverable MW or accepted its Project Cost Allocation and posted Security for System Deliverability Upgrades, as applicable. For Projects that undergo an Expedited Deliverability Study deliverability evaluation, “existing CRIS,” is CRIS obtained, upon completion of an Expedited Deliverability Study through which the Interconnection Customer was deemed to have accepted its deliverable MW.

40.13.8.2.2.4 Load uncertainties will be addressed in accordance with ISO Procedures by taking the impact of Load Forecast Uncertainty (“LFU”) from the most recent base case IRM and applying it to load.

40.13.8.2.2.5 Deliverability base case conditioning steps will be consistent with those used for the Reliability Planning Process and Area Transmission Review transfer limit calculation methodology.

40.13.8.2.2.6 In deliverability testing, Emergency transfer criteria and contingency testing will be in conformance with NYSRC rules and correspond to that used in the NYISO Reliability Planning Process studies.

40.13.8.2.2.7 The ISO will monitor all transmission facilities that are part of the New York State Transmission System.

40.13.8.2.2.8 When either the voltage or stability transfer limit of an interface calculated in the CPA is more binding than the calculated thermal transfer limit, then the

lower of the CPA voltage or stability transfer limit will be included in the deliverability testing as a proxy limit.

40.13.8.2.2.9 External system imports will be adjusted as necessary to eliminate or minimize overloads, other than the following external system imports: (i) the grandfathered import contract rights listed in Attachment E to the Installed Capacity Manual, (ii) the operating protocols set forth in Schedule C of Attachment CC to the ISO OATT, (iii) the appropriate rules for reflecting PJM service to RECo load, (iv) the Existing Transmission Capacity for Native Load listed for the New York State Electric & Gas Corporation in Table 3 of Attachment L to the ISO OATT, (v) any External CRIS Rights awarded pursuant to Section 40.13.11, either as a result of the conversion of grandfathered rights over the Quebec (via Chateauguay) Interface or as a result of a Class Year Deliverability Study or a Cluster Study Deliverability Study, until, as of the Expedited Deliverability Study start date, the time available to renew the External CRIS Rights has expired, as described in Section 40.18.2.4.

40.13.8.2.2.10 Flows associated with generators physically located in the NYCA but selling capacity out of the market will be modeled as such in the deliverability base cases.

40.13.8.2.2.11 Resources and demand are brought into balance in the baseline. If resources are greater than demand in the ~~Capacity Region~~New York Control Area, ~~existing generators~~all resources within the ~~Capacity Region~~New York Control Area are prorated down; provided, however, doing so would not cause baseline violations. If prorating down all resources within the New York Control

~~Area causes baseline violations between Capacity Regions, all resources in the impacted Capacity Region can be increased to mitigate the baseline violations.~~  
~~resources are lower than demand in the Capacity Region, additional external resources are included in the model.~~

40.13.8.2.2.12 PARs within the applicable Capacity Region will be adjusted as necessary, in either direction and within their angle capability, to eliminate or minimize overloads without creating new ones. PARs controlling external ties and ties between the Capacity Regions will be modeled, within their angle capability, to hold the individual tie flows to their respective deliverability baseline schedules, which shall be set recognizing firm commitments and operating protocol set forth in Schedule C of Attachment CC to the ISO OATT.

40.13.8.2.2.13 Deliverability testing will proceed as follows - The generation/load mix is split into two groups of generation and load, one upstream and one downstream for each zone or sub-zone tested within the Capacity Region. For a Cluster Study Transmission Project seeking Unforced Capacity Deliverability Rights, the MW of requested CRIS plus losses of the facility at the point of withdrawal are modeled as negative generation in the Capacity Region (*i.e.*, as a proxy generating facility withdrawing power from the New York State Transmission System in the Capacity Region). All elements that are part of the New York State Transmission System within the Capacity Region will be monitored. If there is excess generation upstream (that is, more upstream generation than is necessary to serve the upstream load plus LFU), then the generation excess, taking into account generator derate factors described in Section 40.13.8.2.2.2 above, is assumed to

displace downstream generation to serve the downstream load plus LFU. If the lesser of either the dispatch of the upstream excess generation or the downstream load plus LFU causes an overload, this overload is flagged as a potential deliverability problem and will be used to determine the amount of partial CRIS, if any, for the applicable Projects in the Expedited Deliverability Study.

40.13.8.2.2.14 For Highway interfaces, the Projects in an Expedited Deliverability Study, whether or not they are otherwise deliverable, will not be considered deliverable if their aggregate impact degrades the transfer capability of the interface more than the lesser of 25 MW or 2 percent (2%) of the transfer capability identified in the CPA and results in an increase to the NYCA LOLE determined for the CPA of .01 or more. To the extent possible, the ISO will determine partial CRIS, if any, for any applicable Project in the Expedited Deliverability Study.

#### **40.13.9 Deliverability Test Methodology for Other Interfaces**

##### **40.13.9.1 Cluster Study Deliverability Test Methodology for External Other Interfaces**

The Cluster Study Projects in the current Cluster Study Deliverability Study, whether or not they are otherwise deliverable across Highways and Byways, will not be considered deliverable if their aggregate impact degrades the transfer capability of any External Other Interface more than the lesser of 25 MW or 2 percent (2%) of the transfer capability of the External Other Interface identified in the CBA. Each Interconnection Customer will be responsible for its *pro rata* Cluster share of one hundred percent (100%) of the cost of System Deliverability Upgrades needed to restore transfer capability on the External Other Interfaces impacted by the Cluster Study CRIS Projects but only to the extent that the degradation of transfer capability on the External Other Interfaces, compared to that measured in the current

CBA for the Cluster Study, would not occur but for the aggregate impact of the Cluster Study Projects. Where two or more Projects contribute to the degradation of the transfer capability of an External Other Interface, each Project Interconnection Customer shall pay for a share of the required System Deliverability Upgrades based on its contribution to the degradation of the transfer capability. To the extent possible, the ISO will determine partial CRIS, if any, for any applicable Project in the Cluster Study.

#### **40.13.9.2 Cluster Study Deliverability Test Methodology for Internal Other Interfaces**

The Cluster Study Projects in the current Cluster Study Deliverability Study, whether or not they are otherwise deliverable across Highways and Byways, will not be considered deliverable if their aggregate impact degrades the transfer capability of any Internal Other Interface more than the lesser of 25 MW or 2 percent (2%) of the transfer capability of the Internal Other Interface identified in the CBA and results in an increase to the NYCA LOLE determined for the CBA of .01 or more. Each Interconnection Customer will be responsible for its *pro rata* Cluster share of one hundred percent (100%) of the cost of System Deliverability Upgrades needed to restore transfer capability on the Internal Other Interfaces impacted by the Cluster Study CRIS Projects but only to the extent that the degradation of transfer capability on the Internal Other Interfaces, compared to that measured in the current CBA for the Cluster Study, would not occur but for the aggregate impact of the Cluster Study Projects. Where two or more Projects contribute to the degradation of the transfer capability of an Internal Other Interface, each Project Interconnection Customer shall pay for a share of the required System Deliverability Upgrades based on its contribution to the degradation of the transfer capability. To the extent possible, the ISO will determine partial CRIS, if any, for any applicable Project in the Cluster Study.

#### **40.13.9.23 Expedited Deliverability Study Test Methodology for External Other Interfaces**

The Projects in an Expedited Deliverability Study, whether or not they are otherwise deliverable across Highways and Byways, will not be considered deliverable if their aggregate impact degrades the transfer capability of any External Other Interface more than the lesser of 25 MW or 2 percent (2%) of the transfer capability of the External Other Interface identified in the CBACPA. To the extent possible, the ISO will determine partial CRIS, if any, for any applicable Project in the Expedited Deliverability Study.

#### **40.13.9.4 Expedited Deliverability Study Test Methodology for Internal Other Interfaces**

The Projects in an Expedited Deliverability Study, whether or not they are otherwise deliverable across Highways and Byways, will not be considered deliverable if their aggregate impact degrades the transfer capability of any Internal Other Interface more than the lesser of 25 MW or 2 percent (2%) of the transfer capability of the Internal Other Interface identified in the CPA and results in an increase to the NYCA LOLE determined for the CPA of .01 or more. To the extent possible, the ISO will determine partial CRIS, if any, for any applicable Project in the Expedited Deliverability Study.

#### **40.13.10 Deliverability of External Installed Capacity**

External Installed Capacity not associated with Unforced Capacity Deliverability Rights, External-to-ROS Deliverability Rights or External CRIS Rights will be subject to the deliverability test in Section 40.13.8 and 40.13.9 of this Attachment HH, but not as a part of the Cluster Study Deliverability Study. As described in detail in Section 5.12.2 of the ISO Services

Tariff, the deliverability of External Installed Capacity not associated with Unforced Capacity Deliverability Rights, External-to ROS Deliverability Rights or External CRIS Rights will be evaluated separately as a part of the annual process under the ISO Services Tariff that sets import rights for the upcoming Capability Year, to determine the amount of External Installed Capacity that can be imported to the New York Control Area.

#### **40.13.11 CRIS Rights for External Installed Capacity**

An entity, by following the procedures and satisfying the requirements described in this Section 40.13.11, may obtain External CRIS Rights. While the External CRIS Rights are in effect, External Installed Capacity associated with External CRIS Rights is not subject to (1) the deliverability determination described above in Section 40.13.10 of this Attachment HH, (2) the annual deliverability determination applied in the import limit setting process described in Section 5.12.2.2 of the ISO Services Tariff, or (3) to the allocation of import rights described in ISO Procedures.

##### **40.13.11.1 Required Commitment of External Installed Capacity**

An entity requesting External CRIS Rights for a specified number of MW of External Installed Capacity must commit to supply that number of MW of External Installed Capacity for a period of at least five (5) years (“Award Period”). The entity’s commitment to supply the specified number of MW for the Award Period may be based upon either an executed bilateral contract to supply (“Contract Commitment”) or based upon another kind of long-term commitment (“Non-Contract Commitment”), both as described herein.

#### **40.13.11.1.1 Contract Commitment**

An entity making a Contract Commitment of External Installed Capacity must have one or more executed bilateral contract(s) to supply a specified number of MW of External Installed Capacity (“Contract CRIS MW”) to a Load Serving Entity or Installed Capacity Supplier for an Award Period of at least five (5) years. The entity must have ownership or contract control of External Installed Capacity to fulfill its bilateral supply contract throughout the Award Period, and that otherwise satisfies ISO requirements.

40.13.11.1.1.1 The bilateral supply contract(s) individually or in the aggregate, must be for all months of the Summer Capability Periods over the term of the bilateral supply contract(s), but need not include any of the months of the Winter Capability Periods over that term. The entity seeking External CRIS Rights must specify which, if any, months of the Winter Capability Period it will supply External Installed Capacity under the bilateral supply contract(s) (“Specified Winter Months”).

40.13.11.1.1.2 The bilateral supply contract(s) must be for the same number of MW for all months of the Summer Capability Periods (“Summer Contract CRIS MW”) and the same number of MW for all Specified Winter Months (“Winter Contract CRIS MW”). The Winter Contract CRIS MW level must be less than or equal to the Summer Contract CRIS MW level.

40.13.11.1.1.3 An entity holding External CRIS Rights under a Contract Commitment must certify the bilateral supply contract for every month of the Summer Capability Periods and all Specified Winter Months for the applicable Contract CRIS MW. The Summer Contract CRIS MW must be certified for every month

of the Summer Capability Period, and the Winter Contract CRIS MW must be certified for every Specified Winter Month (if any).

#### **40.13.11.1.2 Non-Contract Commitment**

An entity holding External CRIS Rights under a Non-Contract Commitment must offer the committed number of MW of External Installed Capacity for every month of the commitment, as described below, in the ISO Installed Capacity auctions for an Award Period of at least five (5) years. The entity must have ownership or contract control of External Installed Capacity to fulfill its Non-Contract Commitment throughout the Award Period.

40.13.11.1.2.1 The Non-Contract Commitment must be made for all months of the Summer Capability Periods over the term of the Award Period but need not include any months in the Winter Capability Periods. The entity must identify the Specified Winter Months, if any, of the Winter Capability Periods for which it will make the commitment.

40.13.11.1.2.2 The commitment must be for the same number of MW for each month of the Summer Capability Period (“Summer Non-Contract CRIS MW”), and the same number of MW for all Specified Winter Months (“Winter Non-Contract CRIS MW”). The Winter Non-Contract CRIS MW level must be less than or equal to the Summer Contract CRIS MW level.

40.13.11.1.2.3 An entity holding External CRIS Rights under a Non-Contract Commitment must offer the committed capacity (a) in at least one of the following NYCA auctions: the Capability Period Auction, the Monthly Auction or the ICAP Spot Market Auction, or (b) through a certified and scheduled Bilateral Transaction (as such terms not defined in this Attachment HH are

defined in the ISO Services Tariff). The Summer Non-Contract CRIS MW must be offered for every month of the Summer Capability Period, and the Winter Non-Contract CRIS MW must be offered for every Specified Winter Month (if any).

40.13.11.1.2.4 Notwithstanding other capacity mitigation measures that may apply, the offers to sell Installed Capacity into an auction submitted pursuant to this Non-Contract Commitment will be subject to an offer cap for each month of the Summer Capability Periods and each Specified Winter Month. This offer cap will be determined in accordance with the provisions contained in Section 5.12.2.4 of the ISO Services Tariff.

#### **40.13.11.1.3 Failure to Meet Commitment**

If an entity fails to certify or offer the full number of Contract CRIS MW or Non-Contract CRIS MW in accordance with the terms stated above, in Sections 40.13.11.1.1 and 40.13.11.1.2, the entity shall pay the ISO an amount equal to 1.5 times the Installed Capacity Spot Auction Market Clearing Price for the month in which either the capacity under Non-Contract Commitment was not offered or the Contract Commitment to supply ICAP was not certified (“Supply Failure”), times the number of MW committed under the Non-Contract or Contract Commitment but not offered.

40.13.11.1.3.1 Within a given Award Period and each subsequent renewal of an Award Period pursuant to Section 40.18.2.4 herein, for the first three (3) instances of a Supply Failure, no additional actions will be taken. Upon the fourth instance within the Award Period or the fourth instance within a subsequent renewal period of a Supply Failure, the associated External CRIS Rights will be terminated in their entirety with no ability to renew. Entities that had External

CRIS Rights terminated may reapply for External CRIS in accordance with Section 40.13.11.1.4.2 below. Nothing in this Section 40.13.11.1.3 shall be construed to limit or diminish any provision in the Market Power Mitigation Measures or the Market Monitoring Plan.

#### **40.13.11.1.4 Obtaining External CRIS Rights**

An entity making a Contract Commitment or Non-Contract Commitment of External Installed Capacity may obtain External CRIS Rights for a specified number of MW of External Installed Capacity in one of two different ways, either (i) by converting MW of grandfathered deliverability rights over the External Interface with Quebec (via Chateauguay), or (ii) by having its specified MW of External Installed Capacity evaluated in a Cluster Study Deliverability Study, both as described herein.

40.13.11.1.4.1 One-Time Conversion of Grandfathered Rights. An entity can request to convert a specified number of MW pursuant to the conversion process established in Section 5.12.2.3 of the ISO Services Tariff.

40.13.11.1.4.2 ~~Cluster Study~~~~Class-Year~~ Deliverability Study. An entity may seek to obtain External CRIS Rights for its External Installed Capacity by requesting that its External Installed Capacity be evaluated for deliverability in a Cluster Study Process. To make such a request an entity must submit a CRIS-Only Request in accordance with Section 40.2 of this Attachment HH.

40.13.11.1.4.2.1 Upon satisfaction of the CRIS-Only Request requirements in Section 40.2.3 of this Attachment HH, the entity requesting External CRIS Rights for its External Installed Capacity is made a Cluster Study Project.

40.13.11.1.4.2.2 The entity's MW of External Installed Capacity covered by its bilateral contract(s) or, in the case of a Non-Contract Commitment the number of MW committed by the entity, are evaluated for deliverability within the Rest of State Capacity Region. The entity's External Installed Capacity is not subject to the NYISO Minimum Interconnection Standard. The ISO will determine whether the requests for External CRIS Rights within a given Cluster Study exceed the import limit, established pursuant to ISO procedures, for the applicable External Interface that is in effect on the Phase 1 Study Start Date when combined, to the extent not already reflected in the import limit, with the following: (1) awarded External CRIS Rights at the same External Interface, (2) Grandfathered External Installed Capacity Agreements listed in Attachment E of the ISO Installed Capacity Manual at the same External Interface, and (3) the Existing Transmission Capacity for Native Load listed for New York State Electric & Gas Corporation in Table 3 of Attachment L to the ISO OATT (applies to the PJM interface only) ("Combined Total MW"). In addition to the other requirements stated herein, External CRIS Rights will only be awarded to the extent that the Combined Total MW does not exceed the import limit, as described above.

40.13.11.1.4.2.3 The Cluster Study Deliverability Study report will include an SDU Project Cost Allocation and a Deliverable MW number for the entity's External Installed Capacity.

40.13.11.1.4.2.4 The entity will have the same decision alternatives as other Cluster Study Projects participating in the Cluster Study Deliverability Study only. That is, the entity may either (a) accept its SDU Project Cost Allocation, (b) decline its

SDU Project Cost Allocation and accept its Deliverability MW figure, or (c) decline both its SDU Project Cost Allocation and its Deliverable MW. If the entity does decline both its SDU Project Cost Allocation and its Deliverable MW, the entity's External Installed Capacity will be removed from the Cluster Study Deliverability Study.

40.13.11.1.4.2.5 If the entity accepts its SDU Project Cost Allocation, it must pay cash or provide Security for the System Deliverability Upgrades, like any other Cluster Study Project.

40.13.11.1.4.2.6 If the entity accepts its SDU Project Cost Allocation and pays cash or posts Security for the System Deliverability Upgrades as required by this Attachment HH, the entity must also execute and fulfill agreement(s) with the ISO and the Connecting Transmission Owner and any Affected Transmission Owner to cover the engineering, procurement and construction of the System Deliverability Upgrades pursuant to Section 40.21.

40.13.11.1.4.2.7 By the end of the Initial Decisional Round of the Final Decision Period (*i.e.*, thirty (30) days from ISO Operating Committee approval of the Cluster Study Deliverability Study), an entity making a Contract Commitment and accepting either its SDU Project Cost Allocation or Deliverable MW quantity, must provide specific contract and resource information to the ISO. Unless entities are supplying External Installed Capacity as Control Area System Resources, requests for External Installed Capacity shall be resource-specific. Entities are permitted to substitute resources located in the same External Control

Area. Such substitutions shall be subject to review and approval by ISO consistent with ISO Procedures and deadlines specified therein.

40.13.11.1.4.2.8 If the entity satisfies the requirements described in this Section 40.13.11.1.4, the entity will obtain External CRIS Rights for the number of MW determined to be deliverable, made deliverable through a System Deliverability Upgrade (with an accepted SDU Project Cost Allocation), or deemed deliverable through a commitment to pay for a System Deliverability Upgrade.

#### **40.13.12 Cost Allocation for Highway System Deliverability Upgrades**

40.13.12.1 If the portion of the Highway System Deliverability Upgrades (measured in MW) required to make one or more Cluster Study CRIS Projects in a Cluster Study deliverable is ninety percent (90%) or more of the total size (measured in MW) of the System Deliverability Upgrades, each Interconnection Customer(s) of such Cluster Study CRIS Project(s) will be responsible for its *pro rata* Cluster share of one hundred percent (100%) of the cost of the System Deliverability Upgrades.

40.13.12.2 If the portion of the System Deliverability Upgrades required to make one or more Cluster Study CRIS Projects in a Cluster Study deliverable is less than ninety percent (90%) of the total size (measured in MW) of the Highway System Deliverability Upgrade, the Interconnection Customer(s) will be required to pay or commit to pay for a percentage share of the total cost of the Highway System Deliverability Upgrades equal to the estimated percentage megawatt usage by the Class Year CRIS Project of the total megawatts provided by the System Deliverability Upgrades. Other Cluster Study Projects in the current Cluster

Study Deliverability Study may share in the cost of these System Deliverability Upgrades, on the same basis. Projects in the current Cluster Study Deliverability Study will not be allocated all of the cost of these System Deliverability Upgrades. The rest of the cost of these System Deliverability Upgrades will be allocated to Load Serving Entities and subsequent Interconnection Customers, as described in this Section 40.13.12. The Interconnection Customer may either (1) make a cash payment of its proportionate share of the upgrade, which will be held by the Connecting Transmission Owner and Affected Transmission Owner(s) in interest-bearing account(s); or (2) post Security (as defined in this Attachment HH) meeting the commercially reasonable requirements of the Connecting Transmission Owner and Affected Transmission Owner(s) for the Interconnection Customer's proportionate share of the cost of the upgrade. The amount(s) of cash or Security that an Interconnection Customer must provide to its Connecting Transmission Owner and any Affected Transmission Owners will be included in the Cluster Study Deliverability Study report. If the Interconnection Customer chooses to provide Security, its allocated cost will be increased by an annual construction-focused inflation index. The Interconnection Customer will update its Security on an annual basis to reflect this increase. Except for this adjustment for inflation, the cost allocated to the Interconnection Customers will not be increased if the estimated cost of the Highway System Deliverability Upgrade increases. However, the costs allocated to subsequent Interconnection Customers will be based on a current cost estimate of the Highway System Deliverability Upgrade project.

40.13.12.3 If requesting CRIS, the Cluster Study Project in the current Cluster Study Deliverability Study will be considered deliverable, and eligible to become a qualified Installed Capacity Supplier or to receive Unforced Capacity Deliverability Rights or External-to-ROS Deliverability Rights, as applicable and subject to eligibility requirements in the ISO Procedures, when the Project associated with the CRIS request is in service, provided the Interconnection Customer has paid its share of the total cost of System Deliverability Upgrades necessary to support the requested CRIS level, or made a satisfactory commitment to do so. Highway System Deliverability Upgrades – where the System Deliverability Upgrades are below the ninety percent (90%) threshold discussed in Section 40.13.12.2 above – will be constructed and funded either (i) according to Sections 40.13.12.3.1 and 40.13.12.3.2 below, or (ii) according to Section 40.13.12.3.3 below.

40.13.12.3.1 When a threshold of sixty percent (60%) of the most current cost estimate of the System Deliverability Upgrade has been paid or posted as Security by Interconnection Customers, the Highway System Deliverability Upgrade will be built by the Transmission Owner that owns the facility to be upgraded. If the facility to be constructed will be entirely new, construction should be completed by the Transmission Owner that owns or controls the necessary site or right of way. If no Transmission Owner(s) has such control, construction should be completed by the Transmission Owner in whose Transmission District the facility would be constructed. If the upgrade crosses multiple Transmission Districts,

each Transmission Owner will be responsible for the portion of the upgrade in its Transmission District.

40.13.12.3.2 The actual cost of the Highway System Deliverability Upgrade project described above that was paid for by Interconnection Customers will be funded by Load Serving Entities, using the rate mechanism contained in Schedule 12 of the ISO OATT. Load Serving Entity funding responsibility for the Highway System Deliverability Upgrade will be allocated among Load Serving Entities based on their proportionate share of the ICAP requirement in the statewide capacity market, adjusted to subtract their locational capacity requirements; *provided, however*, that Load Serving Entities will not be responsible for actual costs in excess of their share of the final Class Year estimated cost of the Highway System Deliverability Upgrade if the excess results from causes, as described in Section 40.16.3.4 of this Attachment HH, within the control of a Transmission Owner(s) responsible for constructing the Highway System Deliverability Upgrade.

40.13.12.3.3 If the ISO triggers a transmission project under the Reliability Planning Process, selects a transmission project under the Short-Term Reliability Process, selects a transmission upgrade under the Public Policy Transmission Planning Process, or results in a Regulated Economic Transmission Project being approved under the Economic Planning Process (collectively “CSPP transmission upgrade”) and the CSPP transmission upgrade requires construction of a transmission facility that provides the same or greater transfer limit capability as the Highway facility identified as a Highway System Deliverability Upgrade to be constructed earlier than would be the case pursuant to Section 40.13.12.3.1, the CSPP

transmission upgrade will be constructed as determined in the CSPP or the Short-Term Reliability Process, as applicable. Funds collected from Interconnection Customers (pursuant to Section 40.13.12.2, above) will be used to cover a portion of the regulated solution costs to the extent that the funds collected from Interconnection Customers were collected for System Deliverability Upgrades that are actually constructed by the regulated solution. To the extent this is true, these funds originally collected (or posted as Security) for System Deliverability Upgrades will be used as an offset to the total CSPP transmission upgrade cost, with the remainder of the upgrade cost to be allocated per the requirements of the CSPP, as set forth in Section 31.5 of Attachment Y to the ISO OATT, or the Short-Term Reliability Process, as set forth in Section 38.22 of Attachment FF to the ISO OATT.

To the extent funds collected from Interconnection Customers for System Deliverability Upgrades are insufficient to cover the entire cost of the CSPP transmission upgrades, the Interconnection Customers' contribution to the System Deliverability Upgrades allocated to the CSPP transmission upgrades will not exceed the Interconnection Customers' respective Project Cost Allocations for the System Deliverability Upgrade. To the extent funds collected from Interconnection Customers for System Deliverability Upgrades exceed the cost of the CSPP transmission upgrades, the funds collected for the System Deliverability Upgrades will be allocated to the CSPP transmission upgrade *pro rata* with the Interconnection Customers' contribution to the System Deliverability Upgrades,

and excess funds or Security for System Deliverability Upgrades above the cost of the CSPP transmission upgrade will be returned to the Interconnection Customers.

40.13.12.4 If an Interconnection Customer has accepted its Project Cost Allocation, the Interconnection Customer may elect before the construction of an identified Highway System Deliverability Upgrade is commenced, to be retested for deliverability by entering a Cluster Study. The Interconnection Customer's cost responsibility for System Deliverability Upgrades shall not increase as a result of such retesting. It may decrease or be eliminated. If the Interconnection Customer's Project is found to be deliverable without the System Deliverability Upgrades previously identified, the Affected System Operator, Affected Transmission Owner, or Connecting Transmission Owner will terminate Interconnection Customer's Security posting, or will return the Interconnection Customer's cash payment with the interest earned.

40.13.12.5 When the Highway System Deliverability Upgrades are placed in to Commercial Operation and any resulting Incremental TCCs related to the Highway System Deliverability Upgrade become effective in accordance with Section 19.2.4 of Attachment M of the ISO OATT, an Interconnection Customer electing to receive its proportionate share of such Incremental TCCs, as further described in Section 40.13.2.2 of this Attachment HH, will receive its proportionate share of such Incremental TCCs.

40.13.12.5.1 Load Serving Entities required by this Section 40.13.12 to fund a portion of the costs of a Highway System Deliverability Upgrade will receive the corresponding financial value of any Incremental TCCs related to the System

Deliverability Upgrade held by the Transmission Owner(s) responsible for constructing the Highway System Deliverability Upgrade, as further described in Section 40.13.2.2 of this Attachment HH. The corresponding financial value of any such Incremental TCCs will be accounted for in determining the applicable Highway Facilities Charge in accordance with Schedule 12 of the ISO OATT. The eligibility of the Load Serving Entities to the financial value of any Incremental TCCs related to the System Deliverability Upgrade held by the Transmission Owner(s) responsible for constructing the Highway System Deliverability Upgrade shall commence as of the date such Incremental TCCs become effective in accordance with Section 19.2.4 of Attachment M to the OATT and continue until the earlier of: (i) the expiration of any such Incremental TCCs; or (ii) the termination of the obligation of the Load Serving Entities to fund a portion of the costs of the Highway System Deliverability Upgrade.

40.13.12.6 As new generators, Class Year Transmission Projects, and Cluster Study Transmission Projects come on line and use the Headroom on System Deliverability Upgrades created by a prior Highway System Deliverability Upgrade, the Interconnection Customers of those new facilities will reimburse the prior Interconnection Customers or will compensate the Load Serving Entities who funded the System Deliverability Upgrades for use of the Headroom created by the prior Interconnection Customers and Load Serving Entities in accordance with Sections 40.17.1.4 and 40.17.1.5 of these rules.

40.13.12.6.1 In accordance with Section 40.13.2.2 of this Attachment HH, as subsequent Interconnection Customers make Headroom payments to prior

Interconnection Customers and if a subsequent Interconnection Customer elects to receive its proportionate share of any Incremental TCCs related to the Highway System Deliverability Upgrade, such Incremental TCCs will be transferred to the subsequent Interconnection Customers; *provided, however*, that Incremental TCCs that were previously deemed reserved and are transferred to a subsequent Interconnection Customer will become effective on the first day of the Capability Period that commences following the next Centralized TCC Auction conducted after the subsequent Interconnection Customer makes the necessary Headroom payment and elects to receive its proportionate share of Incremental TCCs.

40.13.12.6.2 In accordance with Section 40.13.2.2 of this Attachment HH, as subsequent Interconnection Customers compensate Load Serving Entities for use of their Headroom by providing any such Headroom payments to the Transmission Owner(s) responsible for constructing a Highway System Deliverability Upgrade and if a subsequent Interconnection Customer elects to receive its proportionate share of any Incremental TCCs related to the Highway System Deliverability Upgrade, such Incremental TCCs will be transferred to the subsequent Interconnection Customer.

40.13.12.7 The Transmission Owner responsible for constructing a System Deliverability Upgrade or an Interconnection Customer contributing toward the cost of a System Deliverability Upgrade can elect to construct upgrades that are larger and/or more expensive than the System Deliverability Upgrades identified to support the requested level of CRIS for the Cluster Study CRIS Project in the Cluster Study Deliverability Study, provided that those upgrades are reasonably

related to the Cluster Study Project. The party electing to construct the larger upgrade will pay for the incremental cost of the upgrade; *i.e.*, the difference in cost between the cost of the System Deliverability Upgrades as determined by these rules, and the cost of the larger and/or more expensive upgrade.

#### **40.13.13 Agreements for the Engineering, Procurement, and Construction of System Deliverability Upgrades**

40.13.13.1 If a System Deliverability Upgrade on the Connecting Transmission Owner's system is cost allocated to an Interconnection Customer and such Interconnection Customer accepts its SDU Project Cost Allocation and pays cash or posts Security for the System Deliverability Upgrade, the Standard Interconnection Agreement among the Interconnection Customer, Connecting Transmission Owner, and ISO will provide for the engineering, procurement and construction of such System Deliverability Upgrade.

40.13.13.2 If a System Deliverability Upgrade on an Affected System is cost allocated to an Interconnection Customer and such Interconnection Customer accepts its SDU Project Cost Allocation and pays cash or posts Security for the System Deliverability Upgrade, the ISO shall tender to the Interconnection Customer and Affected System Operator a Standard Upgrade Construction Agreement in accordance with the requirements in Section 40.21 to this Attachment HH to provide for the engineering, procurement and construction of the System Deliverability Upgrades on the Affected System.

40.13.13.3 If a System Deliverability Upgrade is cost allocated to multiple Interconnection Customers and multiple Interconnection Customers accept their SDU Project Cost Allocation and pays cash or posts Security for the System Deliverability Upgrade, the ISO shall tender to the Interconnection Customer(s) and, as applicable, Affected System Operator or

Connecting Transmission Owner, a Standard Multiparty Upgrade Construction Agreement to provide for the engineering, procurement and construction of the System Deliverability Upgrade.