

## **40.11 Phase 2 Study**

### **40.11.1 Phase 2 Study Process Start Date and Duration**

40.11.1.1 The Phase 2 Study process for the Cluster Study Process shall commence on the first Business Day after the end date of the Phase 2 Entry Decision Period.

40.11.1.2 The duration of the Phase 2 Study process shall be set forth in Section 40.9.2.

40.11.1.3 The Phase 2 Study process period shall conclude with the ISO's Operating Committee's approval of the Cluster Study Report.

### **40.11.2 Phase 2 Study - Scope and Procedures of Energy Resource Interconnection**

#### **Services Analysis**

40.11.2.1 For the Phase 2 Study, for purposes of assessing the requested ERIS for the Cluster Study Projects on a concurrent basis, the ISO shall perform short-circuit/fault duty, steady state (thermal and voltage) and stability analyses using the CBA and CPA base cases to identify the System Upgrade Facilities and Distribution Upgrades required for the reliable interconnection of Facilities to the New York State Transmission System or to the Distribution System in compliance with the NYISO Minimum Interconnection Standard in accordance with the requirements in Section 40.12, to the extent such System Upgrade Facilities and Distribution Upgrades are not Physically Infeasible. The Connecting Transmission Owner and/or ISO, as applicable and in consultation with each other, shall complete within sixty (60) Calendar Days of the Phase 2 Study Start Date in accordance with the requirements in Section 40.10.7.1: (i) the bus flow analysis for the ISO's thermal analysis and the Connecting Transmission Owner's identification of any required solutions and (ii) the individual breaker analysis for the ISO's short-circuit analysis and the ISO's identification of any required solutions.

40.11.2.2 Within five (5) Business Days of the Phase 2 Study Start Date, the ISO will submit to the Connecting Transmission Owner and Affected Transmission Owner an updated Cluster Study Project List and an updated CPA short-circuit model. Upon the ISO's submission of these materials, the Connecting Transmission Owners and Affected Transmission Owners shall within one hundred seventy-five (175) Calendar Days: (i) provide draft updates to the Connecting Transmission Owner's Attachment Facilities, Distribution Upgrades, and System Upgrade Facilities identified in the Phase 1 Study for individual Cluster Study Projects and the related cost estimates if there are changes to this equipment and related costs resulting from another Cluster Study Project's withdrawal after the Phase 1 Study, and (ii) perform sensitivity analysis to account for the impacts of Cluster Study Projects withdrawing during the Phase 2 Study. The ISO shall establish a period of at least ten (10) Business Days for the Interconnection Customer, Affected Transmission Owner(s), and the ISO to review and provide comments on any updates to the Phase 1 Study results and for the ISO to review and provide comments on the sensitivity analysis. The Connecting Transmission Owners and Affected Transmission Owners shall review comments and issue finalized updates and sensitivities to the ISO no later than two hundred five (205) Calendar Days after the date the ISO provided it with the updated Cluster Study Project List and the updated CPA short-circuit base case pursuant to this Section

40.11.2.2.

40.11.2.3 The ISO shall also determine as set forth in Section 40.17 any electrical or functional headroom reimbursements from the current Cluster Study to prior Class Year Projects or Cluster Study Projects.

### **40.11.3 Phase 2 Study – Scope of Capacity Resource Interconnection Service Analysis**

40.11.3.1 For the Phase 2 Study, the ISO shall perform a Cluster Study Deliverability Study in accordance with Section 40.13 for the Cluster Study Projects requesting CRIS, including CRIS-Only Cluster Study Projects, on a concurrent basis to assess their reliable interconnection with the requested CRIS in compliance with the NYISO Deliverability Interconnection Standard. The ISO will: (i) assess the amount of requested CRIS that would be deliverable without System Deliverability Upgrades, if any; (ii) identify the System Deliverability Upgrades required to make the requested CRIS fully deliverable, to the extent not Physically Infeasible; and (iii) determine whether an Additional SDU Study for a new System Deliverability Upgrade is required. If a new Additional SDU Study is required as set forth in Section 40.14.1, the ISO shall perform such study in accordance with the requirements in Section 40.14.

### **40.11.4 Determination of Cost Estimates and Schedule for System Upgrade Facilities, Distribution Upgrades, and System Deliverability Upgrades Identified in Phase 2 Study**

40.11.4.1 Within sixty (60) Calendar Days of the Phase 2 Study Start Date, the ISO will submit to the Connecting Transmission Owner, Affected Transmission Owner, or Affected System Operator any System Upgrade Facilities, Distribution Upgrades, and System Deliverability Upgrades identified by the ISO in accordance with Sections 40.11.2 and 40.11.3 and their major electrical characteristics. Upon the ISO's submission of the identified upgrades, (i) the Connecting Transmission Owner identified by the ISO pursuant to Section 40.5.7.1.1 on which system a Cluster Study Project proposes to interconnect shall commence and perform a Phase 2 Study for that project as described in this Section 40.11.4, and (ii) any Affected

Transmission Owner or Affected System Operator identified by the ISO pursuant to Section 40.5.7.1.1 which system is impacted by the proposed interconnection of a Cluster Study Project shall commence and perform a separate Phase 2 Study for that project, unless the Affected Transmission Owner or Affected System Operator indicates that no study is required or agrees with the Connecting Transmission Owner to include its input with the Connecting Transmission Owner's Phase 2 Study report.

40.11.4.2 The applicable Connecting Transmission Owner, Affected Transmission Owner, or Affected System Operator shall determine a +30%/-15% estimate of the costs of the equipment, engineering and design work, procurement and construction work and commissioning of the required System Upgrade Facilities, Distribution Upgrades, and System Deliverability Upgrades described in Sections 40.11.2.1 and 4.11.3 that are identified by the ISO and, for each of these cost categories, shall specify and estimate the cost of the required work. The Transmission Owner will calculate cost estimates based on the assumption that the activities for which the cost estimates are calculated are performed by the Transmission Owner and shall be subject to reasonable exclusions (e.g., environmental, subsurface conditions, permitting, site acquisition costs). The categories of costs excluded from the estimate shall be identified in the Phase 2 Study report and the Standard Interconnection Agreement. The Connecting Transmission Owner, Affected Transmission Owner, or Affected System Operator shall also determine a preliminary schedule showing the estimated time required to complete the engineering and design, procurement, construction, installation and commissioning phases for the required System Upgrade Facilities, Distribution Upgrades, and System Deliverability Upgrades.

40.11.4.3 The Connecting Transmission Owner, Affected Transmission Owner, or Affected System Operator shall provide the ISO with a draft Phase 2 Study of the cost estimates and preliminary schedule for the upgrades identified by the ISO within one hundred fifty (150) Calendar Days after the date the ISO provided it with the identified upgrades in accordance with Section 40.11.4.1. The ISO shall establish a period of at least (10) Business Days for the Interconnection Customer, Affected Transmission Owner(s)/Affected System Owners, and the ISO to review and provide comments on the draft Phase 2 Study. The Connecting Transmission Owners and Affected Transmission Owners shall review comments and issue finalized Phase 2 Study to the ISO no later than one hundred eighty (180) Calendar Days after the date the ISO provided it with the identified upgrades in accordance with Section 40.11.4.1.

#### **40.11.5 Phase 2 Study – Additional Requirements**

40.11.5.1 The Phase 2 Study shall evaluate the use of static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. The ISO shall evaluate each identified alternative transmission technology and determine whether the above technologies should be used, consistent with Good Utility Practice, Applicable Reliability Requirements, and Applicable Laws and Regulations. The ISO shall include an explanation of the results of the ISO's evaluation for each technology in the Cluster Study Report.

40.11.5.2 The Cluster Study Report will provide a list of the non-Local System Upgrade Facilities and System Deliverability Upgrades required as a result of the Interconnection Requests and CRIS-Only Requests within the Cluster and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.

40.11.5.3 The ISO shall coordinate the Phase 2 Study with the Connecting Transmission Owner and Affected Transmission Owners, and with any other Affected System pursuant to Section 40.8. The ISO shall utilize existing studies to the extent practicable in performing the Phase 2 Study, including in performing the CBA, CPA, and Cluster Study Deliverability Study.

40.11.5.4 Upon request, the ISO, Connecting Transmission Owner, Affected Transmission Owner, or Affected System Operator shall provide each Cluster Study Project supporting documentation, workpapers, and databases or data developed in the preparation of the Phase 2 Study, subject to non-disclosure arrangements consistent with Section 40.24.1.

#### **40.11.6 Status of Cluster Study Projects**

40.11.6.1 At the completion of the first calendar quarter following the Phase 2 Study Start Date, and at the conclusion of each subsequent calendar quarter, Interconnection Customer shall submit to the ISO an updated proposed Initial Backfeed Date, an updated proposed Synchronization Date, and an updated proposed Commercial Operation Date.

40.11.6.2 At the completion of the first month following the Phase 2 Study Start Date, and at the conclusion of every other month, for each Cluster Study Project not yet in-service, the Cluster Study Project, that Cluster Study Project's Connecting Transmission Owner and each Affected Transmission Owner(s) shall report on the progress of their respective activities to the ISO and to each other. Such reports shall be in a format consistent with, and include the content required by, applicable ISO Procedures.

#### **40.11.7 Stakeholder Review of the Cluster Study Report**

Following the ISO's receipt of the finalized Phase 2 Study reports from the Connecting Transmission Owners, Affected Transmission Owners, and Affected System Operators pursuant to Section 40.11.4, the ISO shall complete the draft Cluster Study Report, which shall include the

results of the Cluster Baseline Assessment, Cluster Project Assessment and Cluster Study Deliverability Study components of the Phase 2 Study. For a Facility comprised of multiple Generators, the Cluster Study Report will identify the allocation of the Cluster Study Project's requested CRIS among its multiple Generators, as applicable. The ISO will present the draft Cluster Study Report to the ISO Operating Committee's Transmission Planning Advisory Subcommittee and Interconnection Project Facilities Study Working Group, and the ISO will then present the draft Cluster Study Report to the ISO's Operating Committee for its approval. Upon the Operating Committee's approval, the Cluster Study Report will be final, subject to any revisions during the Final Decision Period.

#### **40.11.8 Re-Study**

If re-study of the Cluster Study and cost allocation report is required pursuant to Section 40.15.2 and Section 40.15.3, the ISO shall so notify Cluster Study Projects and conduct such re-study in accordance with the requirements of this Attachment HH. Any cost of re-study shall be borne by the Cluster Study Projects being re-studied.