

Transition Process

BPA Transmission Business Practice

Version 42

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Transition Process

Version ~~4~~2

This business practice clarifies the processes and procedures that are necessary to comply with Attachment R of the BPA Open Access Transmission Tariff (OATT) for Large Generator Interconnection Requests already in the BPA interconnection queue to transition from the serial study process to a cluster study process.

BPA Policy Reference

- [Open Access Transmission Tariff \(OATT\)](#): Attachment R

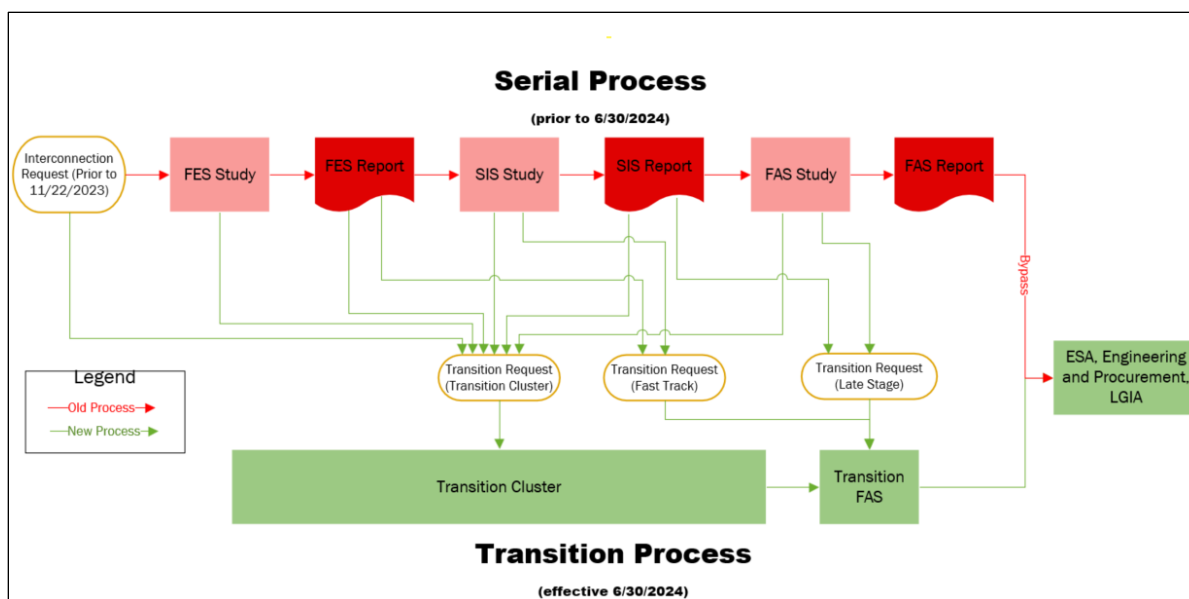
For more information, visit the [BPA Transmission Business Practice webpage](#) or submit questions to techforum@bpa.gov.

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1. In 2024, BPA revised Attachment L (Standard Large Generator Interconnection Procedures (LGIP)) to implement a new cluster study approach, and added a new Attachment R (Large Generator Interconnection Transition Process) to implement the transition to the revised process.
2. Attachment R sets forth the requirements for Interconnection Requests that are in BPA's interconnection queue by the Transition Close Date of November 22, 2023, to transition from the serial process to the new cluster study process.
3. Interconnection Requests that BPA received after November 22, 2023, are invalid and BPA will withdraw them from the interconnection queue. Interconnection Customers with such requests may apply during a future Cluster Request Window.
4. Interconnection Requests in BPA's interconnection queue on November 22, 2023, that have completed an Interconnection Facilities Study or executed a Standard Large Generator Interconnection Agreement (LGIA) by June 30, 2024 (Bypass Interconnection Requests), will bypass the Transition Process and continue to be processed under the serial process. Interconnection Requests that were in BPA's interconnection queue on November 22, 2023, that are not Bypass Interconnection Requests must submit a Transition Request to participate in the Transition Process or submit a new Interconnection Request during a future Cluster Request Window.
5. BPA will open the Transition Request Window on June 30, 2024, and close it on September 28, 2024. To participate in the Transition Process, Interconnection Customers with Interconnection Requests that were in BPA's interconnection queue on November 22, 2023, and that remain valid as of June 30, 2024, must send a Transition Request to BPA in the form of Appendix 1 to Attachment R electing which Transition Process they wish to proceed in: Late-Stage, Fast Track into Late-Stage, or Transition Cluster Study.



B. Serial Projects that Bypass Transition

1. BPA will notify Interconnection Customer via email by June 30, 2024, if an Interconnection Customer's Interconnection Request in BPA's interconnection queue qualifies as a Bypass Interconnection Request, which is not subject to the requirements for Transition Requests in Attachment R.
2. Bypass Interconnection Requests are not subject to the Transition Process and the study requirements of Attachment R and continue to later stages of the interconnection process (i.e., Environmental Study, Engineering & Procurement, and LGIA), consistent with Section 1.1 of Attachment R. Interconnection Customers do not need to take any action to ensure a Bypass Interconnection Request continues to be studied in a serial manner.
3. Bypass Interconnection Requests continue to be subject to requirements in the LGIP and the [Large Generator Interconnection Business Practice](#) for later stages in the interconnection process as applicable (i.e., Environmental Study).
4. As applicable, BPA will tender a draft LGIA to an Interconnection Customer with a Bypass Interconnection Request in the form of Appendix 6 of Attachment R.

C. Late-Stage Projects

1. Consistent with Section 1.4.1 of Attachment R, Interconnection Customer with a valid Interconnection Request that meets the following requirements may apply by submitting a Transition Request during the Transition Request Window to enter the Transition Process and be considered a Late-Stage Project:
 - a. The Interconnection Request was submitted by close of business on November 22, 2023, and remains valid as of June 30, 2024.
 - b. BPA issued an Interconnection System Impact Study report for the Interconnection Request by June 30, 2024.

- c. The Interconnection System Impact Study was not identified as needing Re-Study.
 - d. BPA has not issued an Interconnection Facilities Study report for the Interconnection Request as of June 30, 2024.
 - e. Site Control requirements are met in accordance with the [Site Control Business Practice](#).
 - f. Commercial Readiness requirements are met in accordance with Section J.
2. Interconnection Customers with eligible Late-Stage Projects must provide all of the following to enter the Transition Process as a Late-Stage Project during the Transition Request Window to Interconnection@bpa.gov:
- a. A Transition Request, in the form of Appendix 1 of Attachment R (including applicable technical information), with a selection that the project is “Late-Stage Process.”
 - i. Interconnection Customer must indicate in Section 3 of the Transition Request that it would like the Interconnection Request to be considered for inclusion in the Transition Cluster Study, if BPA determines the request is ineligible to proceed in the Late-Stage Process, or the Interconnection Request will be deemed withdrawn consistent with Section 3.7 of the LGIP.
 - b. Demonstration of exclusive Site Control in accordance with the [Site Control Business Practice](#).
 - c. Consistent with Section 2.1.2 of Attachment R, a Commercial Readiness Milestone Option or a Commercial Readiness Deposit as specified in Section J.

D. Fast Track Projects

1. Consistent with Section 1.4.2 of Attachment R, Interconnection Customer with a valid Interconnection Request that meets the following requirements may apply by submitting a Transition Request during the Transition Request Window to enter the Transition Process and meet Fast Track eligibility to be considered a Late-Stage Project:
 - a. The Interconnection Request was submitted by close of business on November 22, 2023, and remains valid as of June 30, 2024.
 - b. Interconnection Customer meets all the requirements specified in Section 1.4.2(a) – (f) of Attachment R.
 - c. The Interconnection Request was not issued an Interconnection Facilities Study report as of June 30, 2024.
 - d. Site Control requirements are met in accordance with the [Site Control Business Practice](#).
 - e. Commercial Readiness requirements are met in accordance with Section J.

2. To have an Interconnection Request considered Fast Track and therefore an eligible Late-Stage Project, Interconnection Customers must provide all of the following during the Transition Request Window to Interconnection@bpa.gov:
 - a. A Transition Request in the form of Appendix 1 of Attachment R (including applicable technical information), with selection that the project is “Fast track into Late-Stage Process.”
 - i. Interconnection Customer must indicate in Section 3 of the Transition Request that it would like the Interconnection Request to be considered for inclusion in the Transition Cluster Study, if BPA determines the request is ineligible for Fast Track, or the Interconnection Request will be deemed withdrawn consistent with Section 3.7 of the LGIP.
 - b. Demonstration of exclusive Site Control in accordance with the [Site Control Business Practice](#).
 - c. Consistent with Section 2.1.2 of Attachment R, must submit a Commercial Readiness Milestone Option or a Commercial Readiness Deposit as specified in Section J.

E. Initiating a Transition Cluster Study Request

1. Consistent with Section 1.4.3 of Attachment R, Interconnection Customer with a valid Interconnection Request that meets the following requirements may apply by submitting a Transition Request during the Transition Request Window to enter the Transition Process and be eligible to be included in the Transition Cluster Study:
 - a. The Interconnection Request was submitted by close of business on November 22, 2023, and remains valid as of June 30, 2024.
 - b. BPA has not issued an Interconnection Facilities Study report for the Interconnection Request by June 30, 2024.
 - c. Site Control requirements are met in accordance with the [Site Control Business Practice](#).
 - d. Commercial Readiness requirements are met in accordance with Section J.
2. Interconnection Customers with an Interconnection Request eligible to be included in the Transition Cluster Study must provide all of the following during the Transition Request Window to Interconnection@bpa.gov:
 - a. A Transition Request, in the form of Appendix 1 of Attachment R (including applicable technical information), with selection that the project is proceeding with the “Transition Cluster Study Process.”
 - b. Demonstration of exclusive Site Control in accordance with the [Site Control Business Practice](#).
 - c. Consistent with Section 2.1.2 of Attachment R, must submit a Commercial Readiness Milestone Option or a Commercial Readiness Deposit as specified in Section J.
 - d. A completed “Generation Model and Performance Attestation for a Generating Facility” form (a copy of the Attachment A to Appendix 1) from Interconnection Customer’s original Interconnection Request.

3. The completed application and any additional documents must be attached to the email as Portable Document Format (PDF) files; if the files exceed 30 MB, the Interconnection Administrator must be contacted for directions on how to submit the files. PDF files should be referenced and specified by their exact names in the email.

F. Processing of Transition Requests

1. BPA will acknowledge receipt of a Transition Request within five (5) Business Days of receipt of the request via email, including a copy of the received Transition Request, consistent with Section 2.1.3 of Attachment R.
2. BPA will notify Interconnection Customer that a Transition Request is not valid via email and the Interconnection Request is deemed withdrawn within 20 Business Days of receipt of the Transition Request via email consistent with Section 2.1.4 of Attachment R and Section 3.7 of the LGIP.
 - a. Consistent with Section 3.7 of the LGIP, Interconnection Customer must include an explanation of specific information or actions Interconnection Customer has taken to cure any deficiency BPA identified with the Transition Request or notify BPA of the Interconnection Customer's intent to initiate a dispute following the requirements in the [Large Generator Interconnection Procedures Dispute Resolution Business Practice](#) and Section 13.5 of the LGIP.
 - b. Consistent with Section 2.1.4 of Attachment R and Section 3.7 of the LGIP, BPA will terminate any existing Interconnection Study Agreements 15 Business Days upon receipt from BPA that the Transition Request is not valid.
 - c. BPA will accept only one Transition Request per Interconnection Request that qualifies for the Transition Process. BPA will not accept additional Transition Requests for the Transition Cluster Study for projects that have been withdrawn.
3. After BPA validates a Fast Track Transition Request or Late-Stage Transition Request, the Interconnection Request is considered a valid Late-Stage Project.
 - a. Late-Stage Projects will retain the Queue Position based upon the date and time of receipt of the original Interconnection Request and continue serially in an un-clustered manner without BPA identified Scalable Plan Blocks or cost sharing of Network Upgrades.
 - i. Interconnection Customers may elect to share costs of identified serial Network Updates with other Bypass Interconnection Requests or Late-Stage Projects only upon agreement of BPA and Interconnection Customers with Bypass Interconnection Requests and/or Late-Stage Projects.
 - b. BPA will tender a Late-Stage Interconnection Facilities Study Agreement to all Late-Stage Projects no later than 15 Business Days after the close of the Transition Request Window or as soon as practicable for Fast Track Transition Requests validated later than 15 Business Days after the close of the Transition Request Window.

- c. Interconnection Customer will have 30 Calendar Days to execute the Late-Stage Interconnection Facilities Study Agreement.
 - i. If BPA notifies Interconnection Customer of any deficiency in Interconnection Customer's executed Late-Stage Interconnection Facilities Study Agreement or submission of required technical data, Interconnection Customer will have 15 Business Days to cure the deficiency, consistent with Section 3.7 of the LGIP.
- 4. An Interconnection Request entering the Transition Cluster Study will retain the Queue Position of the project prior to transition. This Queue Position will only be used for prioritizing within Scalable Plan Blocks.

G. Existing Serial Interconnection Study Agreements

- 1. For Late-Stage Projects, once the Transition Request is determined as valid, BPA will tender a new or amended Late-Stage Interconnection Facilities Study Agreement.
 - a. All previous deposits will be carried forward and are subject to the new interest rate consistent with Section 4.7.2 of Attachment R.
- 2. Consistent with Section 2.1.5 of Attachment R, after BPA validates a Transition Cluster Study Transition Request, BPA will terminate the existing serial interconnection study agreements.
- 3. If Interconnection Customer's Interconnection Request is ineligible to proceed in the Transition Process, or Interconnection Customer fails to submit a Transition Request for which they are eligible within the Transition Request Window, BPA will withdraw the Interconnection Request and terminate any applicable agreements.
- 4. Refunds of previous study deposits for terminated study agreements will be processed consistent with Section 13.3 of the LGIP.

H. Transition Cluster Study: Phase One

- 1. Phase One Cluster Study Customer Engagement Window:
 - a. BPA will open a Customer Engagement Window as specified in Section 3.1 of Attachment R.
 - i. The Customer Engagement Window for the Transition Cluster Study ~~opened on March 5, 2025, and closed on April 18, 2025~~ will open November 19, 2024, and close on January 3, 2025.
 - b. During the Customer Engagement Window BPA will use Reasonable Efforts to post on BPA's [Interconnection webpage](#) a non-binding good faith estimate of each Interconnection Customer's share of the cost and the timeframe for completing the Phase One Cluster Study as described in Section 6.2.1 of the LGIP.
 - c. Within five (5) Business Days of the opening of the Customer Engagement Window BPA will post a link on its OASIS site to the external interconnection queue of Interconnection Requests in the Transition Cluster Study. The list will show the information required in Section 6.2.1 of the LGIP.

- d. BPA will use Reasonable Efforts to hold a Cluster Scoping Meeting within 10 Business Days of the opening of the Customer Engagement Window.
 - i. The Cluster Scoping Meeting will be held publicly with all interested Interconnection Customers.
 - ii. Interconnection Customers may submit requests for individual scoping meetings to Interconnection@bpa.gov in accordance with Section 3.4.4 of the LGIP.
 - e. BPA will tender Phase One Cluster Study Agreements as described in Section 6.1 of the LGIP.
 - i. Within 15 Business Days of BPA tendering the Phase One Cluster Study Agreement, Interconnection Customer shall send the executed Phase One Cluster Study Agreement to TPCC_Contracts@bpa.gov.
 - f. BPA will begin the Phase One Cluster Study when all Interconnection Requests are withdrawn or have an executed Phase One Cluster Study Agreement.
2. Phase One Cluster Study:
- a. BPA will post the Phase One Cluster Study Report(s) for each Cluster Area when every Cluster Area is completed or earlier at BPA's discretion.
 - b. Information considered Controlled Unclassified Information (CUI) will not be provided with the study report, but will be provided upon request contingent to Interconnection Customers agreeing to information security requirements.
 - i. Interconnection Customers can request study-related CUI by sending an email to StudyReports@bpa.gov.
3. Phase One Cluster Study Customer Review Period:
- a. BPA will open a 90 Calendar Day Customer Review Period as per Section 6.6 of the LGIP.
 - b. During the Phase One Customer Review Period BPA will use Reasonable Efforts to post on BPA's [Interconnection webpage](#) a non-binding good faith estimate of each Interconnection Customer's share of the cost and the timeframe for completing the Phase Two Cluster Study.
 - c. Within 10 Business Days of the start of the Customer Review Period BPA shall convene an open Cluster Study Report Meeting to discuss project requirements, costs, and any questions Interconnection Customers have.
 - i. BPA will not offer individual study review meetings during the Customer Review Period.
 - d. To proceed to a Phase Two Cluster Study, Interconnection Customer must submit the following together to GI_ClusterStudies@bpa.gov before the close of the Customer Review Period:
 - i. A completed Phase One Cluster Study Customer Review Period Redemonstration form (Exhibit A) signed by person with contractual signatory authority for Interconnection Customer.
 - ii. Demonstration of Commercial Readiness as specified in Section J.

~~ii~~.iii. Site Control re-demonstration consistent with the [Site Control Business Practice](#).

~~iii~~.iv. Validated detailed [positive-sequence](#) powerflow and dynamic models representing the Generating Facility, Collector System, and any associated High Voltage equipment in PowerWorld (.pwb, .aux) or GE PSLF (.epc, .sav, .dyd) file formats.

1. [Interconnection Customer shall ensure the models are accurate and validated as attested to in the Generation Model and Performance Attestation for a Generating Facility form \(Attachment A to Appendix 1 of the LGIP\) submitted with the Transition Request.](#)

2. [A dynamic model submitted for a Generating Facility with grid-charging storage must identify the fuel type of the storage \(e.g., chemical, mechanical pump, flywheel\) and connection type \(e.g., inverter-based, AC-coupled\).](#)

v. [Validated full-sequence impedance models \(short circuit\) must be submitted in ASPEN Oneliner \(.olr\) file formats.](#)

1. [Full-sequence impedance models of the generating facility and collector system must include all transformers and any additional mutual impedances for sShort cCircuit simulation readable by ASPEN Oneliner.](#)

~~iv~~.vi. Validated plant-specific Electromagnetic Transient (EMT) models that include OEM control and protection settings, and EMT model validation report.

1. [EMT models must be submitted in a file format readable by PSCAD \(.out, .psout, etc\).](#)

2. [Interconnection Customer shall ensure the models are accurate and validated as attested to in the Generation Model and Performance Attestation for a Generating Facility form \(Attachment A to Appendix 1 of the LGIP\) submitted with the Transition Request.](#)

~~v~~.vii. Single-Line diagrams of the Generating Facility's connection to the ~~Point of Interconnection (POI)~~ [identified in the Phase One Cluster Study report.](#)

4. Phase One Cluster Study processing period:

- a. After the close of the Phase One Customer Review Period, BPA will validate that each Interconnection Customer proceeding to the Phase Two Cluster Study has met the requirements.
- b. If there are no withdrawals, BPA will notify Interconnection Customers by sending an email to the email listed in Section 11 of their Transition Requests and a Tech Forum announcement within 25 Business Days of the close of the Customer Review Period.
 - i. BPA will use Reasonable Efforts to tender a Phase Two Cluster Study Agreement within five (5) Business Days of this notification.

- c. If there are withdrawals from the Phase One Cluster Study Customer Review Period, BPA will determine if a Phase One Cluster Re-Study is necessary within 30 Business Days of the end of the Customer Review Period.
 - i. If BPA determines a Phase One Cluster Re-Study is necessary, BPA will notify Interconnection Customers by sending an email to the email listed in Section 11 of their Transition Requests and a Tech Forum announcement within 30 Calendar Days of making that determination and begin the Phase One Cluster Re-Study.
 - 1. BPA will make Reasonable Efforts to complete the Phase One Cluster Re-Study within 120 Calendar Days of this notification.
 - ii. If BPA determines a Phase One Cluster Re-Study is not necessary, BPA will notify Interconnection Customers that no Phase One Cluster Re-Study is necessary by sending an email to the email listed in Section 11 of their Transition Requests and a Tech Forum announcement and provide Interconnection Customers with an updated Phase One Cluster Study Report within 30 Calendar Days of making that determination.
- d. BPA will tender Phase Two Cluster Study Agreements as described in Section 7.1 of the LGIP.
- e. Within 15 Business Days of BPA tendering the Phase Two Cluster Study Agreement, Interconnection Customer shall return the executed Phase Two Cluster Study Agreement to TPCC_Contracts@bpa.gov.
- f. BPA will begin the Phase Two Cluster Study when all Interconnection Requests are withdrawn or have an executed Phase Two Cluster Study Agreement.

I. Transition Cluster Study: Phase Two

- 1. Phase Two Cluster Study:
 - a. BPA will post the Phase Two Cluster Study Report(s) when every Cluster Area is completed or earlier at BPA's discretion.
 - b. Information considered CUI will not be provided with the study report, but will be provided upon request contingent to Interconnection Customers agreeing to information security requirements.
 - i. Interconnection Customers can request study-related CUI by sending an email to StudyReports@bpa.gov.
- 2. Phase Two Cluster Study Customer Review Period:
 - a. BPA shall commence a 90 Calendar Day Customer Review Period as described in Section 7.5 of the LGIP.
 - b. During the Phase Two Cluster Study Customer Review Period, BPA will provide each Interconnection Customer an estimate of the Interconnection Facilities Study cost and schedule as described in Section 7.5.(c) of the LGIP.
 - c. Within 10 Business Days of the start of the Customer Review Period BPA shall convene an open Cluster Study Report Meeting to discuss project requirements, costs, and any questions Interconnection Customers have.

- d. To proceed to an Interconnection Facilities Study, Interconnection Customer must submit the following to GI_ClusterStudies@bpa.gov before the close of the Customer Review Period:
 - i. Demonstration of Commercial Readiness as specified in Section J.
 - ii. Site Control re-demonstration consistent with the [Site Control Business Practice](#).
3. Phase Two Cluster Study processing period:
- a. After the close of the Phase Two Cluster Study Customer Review Period, BPA will validate each Interconnection Customer proceeding to the Interconnection Facilities Study has met the requirements.
 - b. If there are no withdrawals during the Phase Two Cluster Study Customer Review Period, BPA will notify Interconnection Customers by sending an email to the email listed in Section 11 of their Transition Requests and a Tech Forum announcement within 25 Business Days of the close of the Customer Review Period.
 - i. BPA will use Reasonable Efforts to tender a Facilities Study Agreement within five (5) Business Days of this notification.
 - c. If there are withdrawals from the Phase Two Cluster Study Customer Review Period, BPA will determine if a Phase Two Cluster Re-Study is necessary within 30 Business Days of the end of the Customer Review Period.
 - i. If BPA determines a Phase Two Cluster Re-Study is necessary, BPA will notify Interconnection Customers by sending an email to the email listed in Section 11 of their Transition Requests and a Tech Forum announcement within 30 Calendar Days of making that determination and begin the Phase Two Cluster Re-Study.
 - 1. BPA will make Reasonable Efforts to complete the Phase Two Cluster Re-Study within 180 Calendar Days of this notification.
 - ii. If BPA determines a Phase Two Cluster Re-Study is not necessary, BPA will notify Interconnection Customers that no Phase Two Cluster Re-Study is necessary by sending an email to the email listed in Section 11 of their Transition Requests and a Tech Forum announcement and provide Interconnection Customers with an updated Phase Two Cluster Study Report within 30 Calendar Days of making that determination.
 - d. BPA will tender Interconnection Facilities Study Agreements as described in Section 8.1 of the LGIP.
 - e. Within 15 Business Days of BPA tendering the Interconnection Facilities Study Agreement, Interconnection Customer shall return the executed Interconnection Facilities Study Agreement to TPCC_Contracts@bpa.gov.

J. Transition Commercial Readiness Requirements

1. Interconnection Customers shall submit Commercial Readiness Milestone Options in accordance with the [Commercial Readiness Business Practice](#). The following highlights aspects of Commercial Readiness Milestone Options specific to the Transition Process:
 - a. The milestone option listed in Section 6.6.1(b) of the LGIP, and Sections 2.1.2.(b) and 3.2.1.(b) of Attachment R (documentation of active negotiations), has the following requirements specific to the transition process:
 - i. This option is available for Interconnection Customers submitting a Transition Request to be included in the Transition Cluster Study, consistent with Section E, or Interconnection Customers demonstrating Commercial Readiness during the Phase One Cluster Study Customer Review Period and a Customer Review Period after any Phase One Cluster Re-Study to continue to Phase Two Cluster Study.
 - ii. This milestone option is not available as a Commercial Readiness demonstration during the Phase Two Cluster Study Customer Review Period or any Customer Review Period after any Phase Two Cluster Re-Study to continue to the Interconnection Facilities Study.
 - iii. Interconnection Customers using this option when submitting a Transition Request for Late-Stage or Fast Track into Late-Stage Process must provide a different form of evidence for Commercial Readiness within 120 Calendar Days after Interconnection Customer has been issued an Interconnection Facilities Study Report consistent with Section 2.1.2(b) of Attachment R.
 - b. The Commercial Readiness Deposit in lieu of a Milestone Option shall be:
 - i. For projects applying for Late-Stage or Fast Track into Late-Stage Process during the Transition Request Window: 100% of an Interconnection Customer's allocated Interconnection Facility and Network Upgrade costs identified in the Interconnection System Impact Study Report (or Interconnection Feasibility Study report for Fast Track) as described in Section 2.1.2.(g).(i) of Attachment R.
 - ii. For projects applying for the Transition Cluster Study during the Transition Request Window: \$6,000 per MW of total requested Interconnection Service as described in Section 2.1.2.(g).(ii) of Attachment R.
 - iii. For projects preparing to continue to the Transition Phase Two Cluster Study during the Phase One Cluster Study Phase One Customer Review Period and a Customer Review Period after any Phase One Cluster Re-Study: 10% of an Interconnection Customer's allocated Interconnection Facility and Network Upgrade costs identified in the Phase One Cluster Study Report as described in Section 3.2.1.(g) of Attachment R.
 - iv. For projects preparing to enter the Transition Interconnection Facilities Study during the Phase Two Cluster Study Phase Two Review Period and a Customer Review Period after any Phase Two Cluster Re-Study: 20% of an Interconnection Customer's allocated Interconnection Facility and Network Upgrade costs identified in the Phase Two Cluster Study Report as described in Section 3.3.1.(f) of Attachment R.

K. Deposits

1. For Commercial Readiness Deposits and refunds/releases reference the [Commercial Readiness Business Practice](#).
2. Study deposits shall be remitted in accordance with the criteria described below:
 - a. For instructions to pay the deposit by electronic funds transfer to BPA, either through FedWire or Automated Clearing House (ACH), please reference [BPA Payment Instructions](#). Interconnection Customer may contact BPA's Accounts Receivable at (503) 230-5788 or Interconnection Customer's assigned Transmission Account Executive with questions.
 - b. When using FedWire for electronic transfer, after "OBI" include the words "Transition Deposit" and include the queue number.
 - c. When using the ACH type of electronic transfer, include the words "Transition Deposit" and include the queue number in the "memo" field on the transfer.
 - d. For all follow-on payments, include the BPA contract number.
 - e. If a bank removes information from the "OBI" or "memo" field, BPA will not declare an Interconnection Request INVALID.
 - f. In limited circumstances, paper checks will be acceptable if Interconnection Customer demonstrates they are unable to pay electronically. Contact your Transmission Account Executive for instructions.
3. Study deposit refunds will be processed consistent with Section 13.3 of the LGIP.
4. Deposit refunds/releases will be made to the entity whose name is on the Transition Request (or Interconnection Request if no Transition Request is available) and W9e:Request for Taxpayer Identification Number and Certification form.
5. For all Transition Requests, prior to BPA tendering a new or amended Late-Stage Interconnection Facilities Study Agreement as set forth in Section G.1 or refunding a previous study deposit for a terminated agreement as set forth in Section G.3, all reasonable costs incurred by BPA in processing, validating, and scoping the Transition Request shall be deducted from the current study deposit(s).
6. When paying study deposits, Interconnection Customer must include the queue number of the request and the contract number of the study agreement (if known) the deposit is for.
7. Failure to include the key details listed in this Section K, with any payment to BPA, will allow BPA's Accounts Receivable Department the right to reject your payment and BPA to deem the request withdrawn and provide written notice to Interconnection Customer consistent with Section 3.7 of the LGIP.

L. Modifications

1. To make a change to the information provided in a Transition Request application for a Late-Stage or Fast Track to Late-Stage Project, a request for Material Modification analysis must be submitted to GI_ClusterStudies@bpa.gov.
 - a. The request must be submitted consistent with the requirements set forth in Section I, [Material Modifications](#), of the [Large Generator Interconnection Business Practice](#).
 - b. If the change to the Transition Request is deemed a Material Modification and Interconnection Customer chooses to proceed, that project's Queue Position will be reset to the date Interconnection Customer agreed to proceed and the request will have to be re-studied in the next available Cluster Study.
2. To make a change to the information provided in a Transition Request application for a project in the Transition Cluster Study process, a request must be submitted to GI_ClusterStudies@bpa.gov.
 - a. ~~The~~ A request to make a modification to information in a Transition Request other than modifications permitted in Sections 4.4.1, 4.4.2, and 4.4.5 of the LGIP, must be submitted consistent with the requirements set forth in Section I, [Material Modifications](#), of the [Large Generator Interconnection Business Practice](#).
 - i. Interconnection Customers must submit requests for Material Modification analysis by submitting the materials identified in Section I of the [Large Generator Interconnection Business Practice](#), and the applicable Customer Review Period Modifications form (Exhibit B) during the first forty-five (45) Calendar Days of a Customer Review Period during the Transition Cluster Study.
 - b. The following changes are permitted without a request for Material Modification analysis, as outlined in Section L.2, during the first Phase One Cluster Study Customer Review Period by submitting a single Phase One Cluster Study Customer Review Period Modification form (Exhibit A), within the first forty-five (45) Calendar Days of the Customer Review Period:
 - i. A decrease of up to 60% of electrical output of the project through a reduction in proposed MW plant size of Large Generating Facility; and/or a reduction in proposed Interconnection Service level.
 1. Proposed MW output; and/or The decrease of up to 60% reduction is based on the information in the Interconnection Request at the start of the first Phase One Cluster Study Customer Review Period.
 2. Proposed MW interconnection service level. A reduction in proposed Interconnection Service level may take the form of up to 60% reduction of the maximum MW for each season.
 3. A reduction in MW plant size of a Large Generating Facility must have a corresponding reduction in the Interconnection Service level if the Interconnection Service level would exceed the MW plant size of the Large Generating Facility.

4. For Large Generating Facility with a grid-charged storage component, the 60% reduction may reduce both the range of grid-charging and generation by up to 60%.
 - ii. Modifying technical parameters of Large Generating Facility technology or step-up transformer impedance characteristics.
 1. Permissible changes to the Large Generating Facility's technology may include changes in the generator/invertor/turbine/battery manufacturer or model when the fuel type of the Large Generating Facility is not altered and there is no increase to the proposed MW size of the Large Generating Facility.
 2. Permissible changes to Generator Step-Up Transformers (GSUs) may include changes to the impedance characteristics of GSUs, MVA ratings of GSUs, number of GSUs, and number of feeders to GSUs.
 3. Modifications must be reflected in models and diagrams required during the Phase One Cluster Study Customer Review Period as outlined in Section H.3.d, as applicable.
 4. Modifications that result in a project that BPA cannot reliably or feasibly interconnect will be rejected.
 - iii. Modifying the interconnection configuration.
 1. Permissible changes include changes to the arrangement of Interconnection Customer's generating and transmission equipment and facilities, such as changes in the number of feeders, changes in the use of GSUs, and changes in use of shunt devices.
 2. Changes that impact a plan of service identified in the Phase One Cluster Study report or the POI of an Interconnection Request may be impermissible, which could include changes in the capacity/impedance, number, or electrical connection of gen-tie lines, meaning the transmission line extending from Interconnection Customer's collector station, identified by the coordinates of the Large Generating Facility in the Transition Request, to the POI.
 3. Modifications must be reflected in maps required under the Site Control Business Practice, as applicable, and in models and diagrams required during the Phase One Cluster Study Customer Review Period as outlined in Section H.3.d, as applicable.
 4. Modifications that result in a project that BPA cannot reliably or feasibly interconnect will be rejected.
 - c. The following changes are permitted without analysis during the first Phase Two Cluster Study Customer Review Period:
 - i. An additional decrease of up to 15% of either:
 1. Proposed MW output; or
 2. Proposed MW interconnection service level.

- ii. Modifying technical parameters of Large Generating Facility technology or step-up transformer impedance characteristics.
 - 1. The incremental cost of these modifications will be the responsibility of Interconnection Customer.
- iii. A Permissible Technological Advancement.
 - 1. A request for a Permissible Technological Advancement may be subject to requirements in Section M. [Request for Technological Advancement](#), of the [Large Generator Interconnection Business Practice](#).

M. Study Cost Allocation

- 1. An Interconnection Request that is withdrawn after a Phase One or Phase Two Cluster Study agreement is executed is responsible for Interconnection Customer's portion of the study costs incurred until the start of the next study (which may be any Re-Study of either a Phase One Cluster Study or Phase Two Cluster Study).
- 2. The unspent portion of Interconnection Customer's study deposit will be refunded 4-6 months after the start of the next study.
- 3. All reasonable costs incurred by BPA in performing cluster studies or re-studies shall be deducted from study deposits.
 - a. If the estimated cost to perform the study is larger than the deposits held for the Interconnection Requests being studied, BPA will notify Interconnection Customers by email and collect funds according to Interconnection Customer's study agreement.
- 4. The cost of each Interconnection Customer's share of the cost of all cluster studies will be allocated as set forth in Section 4.2.2 of the LGIP.

N. Network Cost Allocation

- 1. For Late-Stage Projects, BPA will allocate network costs in an un-clustered manner, without Scalable Plan Blocks or cost sharing of Network Upgrades. Interconnection Customers with Late-Stage Projects may elect to share Network Upgrade costs among themselves other Bypass Interconnection Requests or Late-Stage Projects only upon agreement with BPA and the applicable Interconnection Customers.
- 2. For Transition Cluster Study requests, BPA will allocate network costs as per Section 4.2.3 of the LGIP.

3. Example 1 (assumption that all are for same Cluster Area, with no Scalable Plan Blocks, connecting to the same substation):

Network Upgrade Costs									
Queue #	Requested MW	Station Equipment	Station Equipment Allocation Ratio (Per Capita)	Non-Station Equipment (1)	Non-Station Equipment (1) Allocation Ratio (Per MW)	Non-Station Equipment (2)	Non-Station Equipment (2) Allocation Ratio (Per MW)	Cost Assignment	Equation
G001	500MW @230kV	500kV Substation Bay, 2x 230kV Substation Bay:	1/3	500kV loop-in \$20m	1/3	500/230kV Transformer	500/1000	\$46m	$(1/3)*\$100,000,000+(500\text{MW}/1500\text{MW})*\$20,000,000+(500\text{MW}/1000\text{MW})*\$12,000,000$
G002	500MW @230kV		1/3		1/3		500/1000	\$46m	$(1/3)*\$100,000,000+(500\text{MW}/1500\text{MW})*\$20,000,000+(500\text{MW}/1000\text{MW})*\$12,000,000$
G003	500MW @500kV		1/3		1/3		0	\$40m	$(1/3)*\$100,000,000+(500\text{MW}/1500\text{MW})*\$20,000,000$
TOTAL		\$100m		\$20m		\$12m		\$132m	

4. Example 2 (assumption that all are for same Cluster Area, with Scalable Plan Blocks identified, connecting to the same substation):

Network Upgrade Costs										
Queue #	Requested MW	MW Split	Plan of Service	MW Enabled	Station Equipment	Station Equipment Allocation Ratio (Per Capita)	Non-Station Equipment	Non-Station Equipment Allocation Ratio (Per MW)	Cost Assignment	Equation
G001	40	40	Scalable Plan Block 1	200	\$2.4m	1/3	\$7.6m	40/200	\$2.32m	$(1/3)*\$2,400,000+(40\text{MW}/200\text{MW})*\$7,600,000$
G002	80	80				1/3		80/200	\$3.84m	$(1/3)*\$2,400,000+(80\text{MW}/200\text{MW})*\$7,600,000$
G003	160	80				1/3		80/200	\$31.84m	$(1/3)*\$2,400,000+(80\text{MW}/200\text{MW})*\$7,600,000+$
		80	1/3	80/300	$(1/3)*\$24,000,000+(80\text{MW}/300\text{MW})*\$75,000,000$					
G004	100	100	Scalable Plan Block 2	300	\$24m	1/3	\$75m	100/300	\$33m	$(1/3)*\$24,000,000+(100\text{MW}/300\text{MW})*\$75,000,000$
G005	220	120				1/3		120/300	\$1.038b	$(1/3)*\$24,000,000+(120\text{MW}/300\text{MW})*\$75,000,000+$
		100	Scalable Plan Block 3	150	\$250m	1	\$750m	150/150		$(1/1)*\$250,000,000+(150\text{MW}/150\text{MW})*\$750,000,000$
TOTAL	600	600		650	\$276.4m		\$832.6m		\$1.109b	

O. Scalable Plan Blocks

- BPA may identify Scalable Plan Blocks as described in Section 4.2.4 of the LGIP. Scalable Plan Blocks may be defined by such characteristics as reliability performance, site location, and other factors as determined by the applicable cluster study results.
- Interconnection Customers' share of costs for Network Upgrades identified in a Scalable Plan Block will be determined as described in Section 4.2.3 of the LGIP.
- MW Capacity enabled by each Scalable Plan Block will be allocated to applicable participants using Queue Position to determine priority placement within a Scalable Plan Block, as described in Section 4.2.4 of the LGIP.
- During the course of the interconnection studies, BPA may identify changes to the plan of service for the Cluster Area to improve the reliability benefits, costs and/or benefits of interconnection. These changes may impact the ability of a plan of service to accommodate the Interconnection Request. This could result in a change to the

Scalable Plan Block plan of service itself, and/or could result in a change to which Interconnection Requests are included in a particular Scalable Plan Block.

5. Inclusion in a particular Scalable Plan Block is also subject to change as a result of withdrawals of Interconnection Requests from the study.

P. Point of Interconnection

1. The requirements in this section for ~~Points of Interconnection (POI)~~ only apply to Interconnection Requests included in the Transition Cluster Study. Interconnection Requests that are Late-Stage Projects do not have the ability to modify their POI consistent with Section 4.6.1 of Attachment R .
2. Interconnection Customers applying for the Transition Cluster Study Process may provide a single, requested POI in their Transition Request but no alternative requested POIs may be included. Any additional POI submitted by Interconnection Customer will not be considered by BPA.
 - a. If the Transition Request does not include the optional requested POI, BPA will use the provided ~~Site Control boundaries and~~ coordinates of the Generating Facility provided in the Transition Request to determine a POI.
3. In general, BPA will site POIs in reasonable locations that meet reliability requirements and are accessible to as many Interconnection Customers ~~as possible~~ seeking interconnection to those facilities as possible.
4. Prior to the start of the Phase Two Cluster Study, BPA will make reasonable efforts to consult with Interconnection Customer if their requested POI is infeasible because of: reliability concerns, Phase One participant withdrawals, Phase One Re-Studies, any new technical information, or any unexpected study results so long as such consultations do not delay issuance of the Phase One Cluster Study Report.
 - a. BPA may consult with Interconnection Customer concerning their requested POI via email or a scheduled meeting.
 - b. After notification, BPA will modify the requested POI to align with the best one utility plan of service.

Exhibit A

Transition Cluster Study Phase One Cluster Study Customer Review Period Redemonstration

Each request to interconnect a Large Generating Facility, identified by G#, requires a separate Transition Cluster Study Phase One Cluster Customer Review Period Redemonstration.

1. Interconnection Request Information:

- A. Queue # of requested Large Generating Facility:
- B. Name of Interconnection Customer:

2. Site Control Redemonstration (Section 6.6.3 of the LGIP):

Interconnection Customer submitted an updated Site Control Demonstration form, evidence of Site Control, and maps, as identified in the Site Control Business Practice.

Were new or different documents evidencing Site Control submitted?

- ☐ No – I affirm that there have been no changes to the site used for the Large Generating Facility or the documentation evidencing Site Control.
- ☐ Yes – I affirm that all extensions required to maintain Site Control were performed and are identified in the Site Control Demonstration form and documentation evidencing Site Control.
- ☐ Yes – I affirm that actions to execute a lease or close a purchase were performed and are identified in the Site Control Demonstration form and documentation evidencing Site Control.
- ☐ Yes – Other actions were taken and such actions are identified in the Site Control Demonstration form and documentation evidencing Site Control.

3. Commercial Readiness Redemonstration (Section 3.2.1 of Attachment R):

Interconnection Customer identifies the Commercial Readiness Milestone Option or Options utilized to demonstrate Commercial Readiness below. Interconnection Customer has submitted supplementary documents evidencing Commercial Readiness when using a non-financial Commercial Readiness Milestone Option and has remitted funds when using a Commercial Readiness Deposit, where applicable.

*Note that Commercial Readiness Deposits are calculated under Sections 3.2.1(g) or (h) of Attachment R.

A. Non-financial Commercial Readiness Milestone Options:

In the following table, Interconnection Customer must identify the non-financial Commercial Readiness Milestone Option or Options being used, the MW of an Interconnection Request's requested Interconnection Service level being met by each option, and the name of the file supplementing this form that contains the document evidencing the option:

Non-financial Commercial Readiness Milestone Option	MW of requested Interconnection Service met w/option	Title of File/s containing documentation provided
<i>(drop-down options: Active Negotiations; Executed Term Sheet; Executed Contract; Selection in a Resource Plan; Site Specific Purchase Order; Transmission Service Reservation)</i>		
* Customers using Site Specific Purchase Orders or Transmission Service Reservation options may only use a single form of non-financial Commercial Readiness Milestone Option but may supplement the option with a Commercial Readiness Deposit. ** Customers using a Transmission Service Reservation option only need to provide supplementary documentation as indicated in Section 3.A.b of this form.		

a. Executed Term Sheet or Executed Contract:

If using non-financial Commercial Readiness Milestone Option of executed term sheet or executed contract, complete the following for each document:

- i. Identify title of file containing documentation provided:
- ii. Type of documentation: Executed Term Sheet; Executed Contract
- iii. Interconnection Customer party to the agreement? Yes / No

If no, provide an explanation on why BPA should treat documentation as if Interconnection Customer is a party.

(Name of document file containing explanation)

- iv. Counter-Party:
- v. Citation to counter-party (page/section):
 - i. Citation to signature of both parties (page/section):
 - v. Citation to Queue number of the request (page/section):
- vi. Product purchased? Facility; generation or capacity; ancillary services
- vii. Citation to identification of product purchased/sold (page/section):
 - i. Term of sale:
 - ii. Citation to term of sale (page/section):
- viii. Generator fuel type matches request? Yes / No
- ix. Citation to fuel type (page/section):
- x. MW to be purchased/sold:
- xi. Citation to MW to be purchased/sold (page/section):

b. Transmission Service Reservation:

If using non-financial Commercial Readiness Milestone Options of selection transmission service reservation:

AREF	MW Reserved	POR matches POI identified in last study report?	CONFIRMED?
		Yes / No	Yes / No

If Transmission Service Reservation is not CONFIRMED or the Point of Receipt of the Transmission Service Reservation does not match the Interconnection Request's POI as identified in the most recently issued study report, provide an explanation of how Interconnection Customer has reasonable evidence of transmission service reservation (or comparable evidence) for the Generating Facility. If transmission service reservation is owned by an entity other Interconnection Customer, Interconnection Customer must provide an explanation on why BPA should treat transmission service reservation as if it is owned by Interconnection Customer.

[Please provide the title/s of the file/s containing the explanation]

c. Selection in a Resource Plan or Site Specific Purchase Order:

If using non-financial Commercial Readiness Milestone Options of selection in a resource plan or a site-specific purchase order, provide an explanation of how documentation meets the requirements of the BPA OATT and Commercial Readiness Business Practice. Provide citation to the file name containing evidence and pages/sections within that file/document where information meeting those requirements is located.

[Please provide the title/s of the file/s containing the explanation for each document provided to meet a Commercial Readiness Milestone Option]

B. Commercial Readiness Deposits:

Interconnection Customer is demonstrating Commercial Readiness with the following Commercial Readiness Deposit option and has remitted the required Commercial Readiness Deposit as indicated below. Commercial Readiness Milestone Deposit is equal to 10% of the Network Upgrade costs allocated to Interconnection Customer in the Phase One Cluster Study report less any amounts already paid as part of a previous Commercial Readiness Deposit or the amount required to supplement a non-financial Commercial Readiness Milestone Option, as identified under Sections 3.2.1(g) or (h) of Attachment R respectively.

- a. Form of Commercial Readiness Deposit: Cash; Letter of Credit; Escrow Agreement
- b. Calculating the Commercial Readiness Deposit:

- i. 10% of the Network Upgrade costs allocated to Interconnection Customer identified in the Phase One Cluster Study report:

- ii. If Commercial Readiness Deposit is the entire demonstration of Commercial Readiness, Interconnection Customer has remitted the following amount when a positive number:

$(10\% \text{ Network Upgrades}) - (\text{previous deposit of the same type}) = \text{amount submitted with redemonstration.}$

- iii. If a Commercial Readiness Deposit is supplementing a non-financial Commercial Readiness Milestone Option, Interconnection Customer has remitted the following amount when a positive:

$(10\% \text{ Network Upgrades}) - (10\% \text{ Network Upgrades} * (\text{MW of Interconnection Service demonstrated with non-financial options} / \text{MW of Interconnection Service})) - (\text{previous deposit of the same type}) = \text{amount submitted with redemonstration.}$

C. Model Submissions (Section 6.6.2 of the LGIP):

- a. Interconnection Customer submitted the following items:
 - i. validated detailed positive-sequence powerflow and dynamic models representing the Generating Facility, Collector System, and any associated High Voltage equipment in PowerWorld (.pwb, .aux) or GE PSLF (.epc, .sav, .dyd) file formats;
 - ii. validated full-sequence impedance models (short circuit) in ASPEN Oneliner (.olr) file formats;
 - iii. validated plant-specific Electromagnetic Transient (EMT) models that include OEM control and protection settings in a file format readable by PSCAD, and EMT model validation report; and
 - iv. single-line diagrams of the Generating Facility's connection to the POI identified in the Phase 1 Transition Cluster Study report.
- b. Interconnection Customer is identifying ambient temperatures assumed for Generating Facility ratings used in models:

Season	Ambient Temperature of Seasonal Rating (Degree Celsius)
Spring	Example: 30
Summer	Example: 45
Fall	Example: 20
Winter	Example: -5

- ☐ Yes – I affirm that Interconnection Customer submitted the models and information required under Section 6.6.2 of the LGIP and Section H.3. of the Transition Process business practice. I affirm that Interconnection Customer validated the models and diagrams to ensure accurate information about the Large Generating Facility and compliance with modeling and design standards as attested to in the Generation Model and Performance Attestation for a Generating Facility form (Attachment A to Appendix 1 of the LGIP) submitted with the Transition Request. I affirm that all modifications that will be made to the Interconnection Request during the Phase One Cluster Study Customer Review Period were made and that those modifications, if any, are reflected in the validated models and diagrams submitted to BPA.

4. Affirmation

I, the undersigned, am a person holding contractual signatory authority on behalf of the Interconnection Customer.

I have reviewed this form and the referenced attachments and documents and have personal knowledge of their contents.

I affirm that any documents provided to demonstrate Commercial Readiness are provided in their entirety and only commercially sensitive information is redacted. I acknowledge that Interconnection Customer may not make multiple submissions to demonstrate Commercial Readiness during this Phase One Cluster Study Customer Review Period and that Interconnection Customer may only change the Commercial Readiness Milestone Options selected in this form if necessary to correct any deficiencies in this demonstration that BPA identifies. I acknowledge that Interconnection Customer has an obligation to correct any deficiencies in the models and diagrams that BPA identifies at any time.

By (signature):

Name (type or print):

Job Title:

Date:

Exhibit B

Phase One Cluster Study Customer Review Period Modifications

Each request to interconnect a Large Generating Facility, identified by G#, requires a separate modification form. This form must be submitted to BPA via email within the first forty-five (45) Calendar Days of the Phase One Cluster Study Customer Review Period.

- A. Queue # of requested Large Generating Facility:
- B. Name of Interconnection Customer:

Interconnection Customer elects to make the following modifications:

A decrease of ____% [up to 60%] of MW electrical output through a reduction to the proposed MW plant size of the Large Generating Facility and/or a reduction to the MW interconnection service level, as reflected in the following:

Season	Interconnection Service Level (max/min MW)	Generator Nameplate (max/min MW)
Spring	Example: (200/-100)	Example: PV: (100/0) Wind: (100/0) BESS: (100/-100)
Summer		
Fall		
Winter		

A modification to the technical parameters of Large Generating Facility technology or step-up transformer impedance characteristics, as explained below:

[Please provide the title/s of the file/s containing the explanation if attached]

A modification to the interconnection configuration of the project, as explained below:

[Please provide the title/s of the file/s containing the explanation if attached]

☐

Interconnection Customer requests that BPA evaluate whether a modification would be a Material Modification under Section 4.4.3 of the LGIP. Interconnection Customer has submitted all materials required to make a request for Material Modification analysis, as outlined in BP References.

I, the undersigned, am a person holding contractual signatory authority on behalf of the Interconnection Customer.

I have reviewed the information provided herein and confirmed its contents. I acknowledge that Interconnection Customer may not make multiple submissions of this form to make modifications under Section 4 of the LGIP during this Phase One Cluster Study Customer Review Period. I acknowledge that any modifications requested through this form that are accepted by BPA must be reflected in redemonstrations of Commercial Readiness and Site Control, including Site Control maps, and models and diagrams, as outlined in the BPA OATT and business practices.

By (signature):

Name (type or print):

Job Title:

Date: