

**LSA COMMENTS (IN GREEN HIGHLIGHTING)**

Business Practice Manual

For

Generator Management

**Version 36**

**PRR 1605 (2023 IPE TRACK 2 IMPLEMENTATION)**

**LSA COMMENTS**

**Revision History**

| Version | PRR | Date | Description |
| --- | --- | --- | --- |
| 36 | #### |  | 2023 Interconnection Process Enhancements updates and other process updates, including:  Implementation Deposit – Section 3.12  Commercial Viability Criteria Clarification – 6.1.5.1Clarify timing allowance for fuel type changes – 6.5.3 & 6.5.10  Construction Sequencing request timing – 6.2.1.4  Post-COD Mod request technical requirements – 6.4.2  Customer response time to modification deficiency – 6.4.4  TPD Transfer Limitations – 6.5.4  Clarification that technology change request may impact or be impacted by TPD status – 6.5.5  Limited Operation Study request timing – Section 8  Limited Operation Study and MMA timing – Section 8 |

## 3.12 Implementation Deposit

Within thirty (30) days of the effective date of the GIA, the Interconnection Customer will provide the CAISO with a $35,000 implementation deposit. Generating facilities interconnecting pursuant to a Participating TO Wholesale Distribution Access Tariff must submit a $6,000 implementation deposit at the commencement of the CAISO new resource implementation process. The CAISO will deposit the implementation deposit in an interest bearing account at a bank or financial institution designated by the CAISO.

The implementation deposit will be applied to pay for prudent costs incurred by the CAISO or third parties at the direction of the CAISO to manage the Interconnection Request between GIA execution and the Commercial Operation Date, including without limitation executing GIA amendments, modeling and testing for synchronization, preparing for metering and telemetry, and incorporating the Generating Units into the CAISO Markets. The CAISO will not use implementation deposit funds to offset or obviate processes that require separate deposits under this GIDAP, including without limitation Material Modification Assessments, Permissible Technological Advancements, and Limited Operation Studies.

The Interconnection Customer will be responsible for the actual costs incurred by the CAISO and applicable Participating TO(s). If the actual costs are less than the deposit provided by the Interconnection Customer, the Interconnection Customer will be refunded the balance, including interest earned. If the actual costs are greater than the deposit provided by the Interconnection Customer, the Interconnection Customer will pay the balance within thirty (30) days of being invoiced. The Participating TO(s) will invoice the CAISO for any work within seventy-five (75) days of the Commercial Operation Date or withdrawal, and, within thirty (30) days thereafter, the CAISO will issue an invoice or refund to the Interconnection Customer, as applicable, based upon such submitted Participating TO invoices and the CAISO’s own costs.

In the event that the CAISO confirms that the PTO has no costs under the Implementation Deposit, the CAISO will forgo the 75-day period and provide the invoice or refund within 30 days.

#### 6.1.5.1 Commercial Viability

To demonstrate commercial viability when applicable, the Interconnection Customer must meet all of the following criteria for the project:

a. the Interconnection Customer must have applied for the necessary governmental permits or authorizations appropriate at the time of the request considering the proposed construction schedule of the project, and the permitting authority must have deemed such provided documentation to be data adequate for the authority to initiate its review process. The CAISO, in consultation with the Participating TO, will determine what permits are appropriate for the project based on the project’s specific facts;

b. the Interconnection Customer has an executed power purchase agreement (PPA), and the PPA must have the following in common with the proposed Generating Facility in the GIA:

1. the Point of Interconnection;

2. MW capacity (allowing differences in utility defined project size before transformation and line losses);

3. fuel type and technology; and

4. site location;

c. the Interconnection Customer must demonstrate Site Exclusivity for 100% of the property necessary to construct the Generating Facility through the COD requested in the modification request. A Site Exclusivity Deposit does not satisfy this criterion;

d. the Interconnection Customer has an executed GIA; and

e. the GIA for the Generating Facility must be in good standing such that: (1) neither the Participating TO nor the CAISO has provided a Notice of Breach; or (2) if such Notice has been issued, the breach has either been cured or the Interconnection Customer has commenced sufficient curative actions consistent with the relevant terms of the GIA.

* + - 1. Exceptions to Commercial Viability Criteria

**Limited Exception for Interconnection Customers who do not have a PPA**

If an Interconnection Customer satisfies all commercial viability criteria except criterion (b) above, the CAISO will postpone converting the Generating Facility to Energy-Only Deliverability Status for one year from the day the Interconnection Customer submits the modification request, or eight years after the CAISO received the Interconnection Request, whichever is later. Interconnection Customers exercising this provision must continue to meet all other commercial viability criteria during this period.

**One-time Exception for Customers with Recently Published Phase II Study Results**

Interconnection Customers in Queue Cluster 7 and beyond whose Phase II Interconnection Study reports identify a Network Upgrade required for the project that is beyond the 7-year threshold are exempt from the commercial viability criteria provided that they modify their project dates, including the COD within six (6) months of the CAISO’s publishing the Phase II Interconnection Study report. Such change should be enacted by the Interconnection Customer providing an MMA in accordance with Section 6 of this BPM. This exemption is inapplicable to report addenda or revisions required by a request from an Interconnection Customer to modify its project for any reason. In other words, if, at the time the Phase II study results are published, the earliest achievable In-Service and CODs for the project are beyond 7 years, the Generating Facility will not be subject to the commercial viability criteria if they request to extend the project milestones to the earliest achievable In-Service Date and COD.

If the Interconnection Customer desires In-Service and CODs beyond these earliest-achievable dates, such a request will be subject to the commercial viability criteria.

**Commercial Operation Date acceleration:** VCriteria are, even where the current Commercial Operation Date is beyond 7 years time in queue, even though such an extension was not requested, thenCVCriteria arecompliance with those criteria

**PTO delay:** Commercial Viability Criteria are not applicable if the COD must be extended due to a delay beyond the dates in the executed GIA in Participating TO construction of required PTO’s Interconnection Facilities or Network Upgrades, as long as the delay is not caused by any action or inaction by the Interconnection Customer. Documentation supporting such a COD extension can be from: (1) a formal PTO delay notice; (2) a study report (e.g., Reassessment report); or (3) a Transmission Development Forum (TDF) spreadsheet revision.

**FCDS timeline:** Commercial Viability Criteria are not applicable for COD extensions to match the in-service dates of Network Upgrades needed to support a TPD Allocation award.

#### 6.2.1.4 Construction Sequencing[[1]](#footnote-2)

If a Generating Facility requires a COD extension or acceleration by no more than 6 months, then the requested change for the In-Service Date, Initial Synchronization Date, and COD may be requested and approved without going through the MMA process.

Interconnection Customers with executed GIAs, where the Generating Facility has commenced construction, and is within nine (9) months of the then-current Initial Synchronization Date may request Construction Sequencing to delay or accelerate the COD by up to a cumulative six (6) months before triggering the need for an MMA request. If a COD must be extended because both Network Upgrades or PTO’s Interconnection Facilities are delayed, and because of a construction sequencing issue, the Network Upgrade delay will be considered first, and then the clock will start on 6 months of allowable construction sequencing.

6.4 Modification Assessment Process and Timeline[[2]](#footnote-3)

### 6.4.1 Obligation for Assessment

Each modification assessment will be performed under the direction and oversight of the CAISO, although the Participating TO or third parties engaged by the Participating TO may perform certain parts of the assessment work pursuant to agreement between the CAISO and the Participating TO as to their allocation of responsibilities.[[3]](#footnote-4) During the 60 calendar days, the CAISO and the Participating TO shall also determine whether a facility reassessment is required if the modification is deemed non-material. In case a facility reassessment is required to update the Interconnection Facilities or Network Upgrades for the generator that is requesting the modification, the CAISO and the Participating TO shall use reasonable efforts to complete the modification assessment within 120 calendar days. The CAISO shall notify the Interconnection Customer that the assessment will take an additional 60 calendar days. The CAISO will conduct or cause to be performed the required modification assessment and any additional assessment the CAISO determines to be reasonably necessary, and will direct the applicable Participating TO to perform portions of the assessment where the Participating TO has specific and non-transferable expertise or data and can conduct the assessment more efficiently and cost-effectively than the CAISO.

The CAISO shall use reasonable efforts to commence and complete modification assessments within 60 calendar days.[[4]](#footnote-5) For any portion of an assessment performed at the direction of the CAISO by the Participating TOs or by a third party, the CAISO shall require that this work also be completed within the timelines set forth in this BPM. If an assessment cannot be completed within those timelines, the CAISO will notify the Interconnection Customer and provide an estimated completion date with an explanation of the reasons why additional time is required.

The CAISO will also coordinate with Affected System Operators under Appendix Y, Section 3.7 and GIP BPM Section 18.1; and Appendix DD, Section 14.4 and GIDAP BPM Section 12.4. However, the Interconnection Customer is responsible for contracting with any applicable Affected System for construction of Affected System Network Upgrades which are necessary to safely and reliably connect the proposed Generating Facility to the CAISO Controlled Grid. The CAISO will provide Affected System Operators with information regarding any modification that has been approved.

### 6.4.2 How and What to Submit for a Modification

The Interconnection Customer or Participating TO should submit all modification requests to [QueueManagement@caiso.com](mailto:QueueManagement@caiso.com) for review. The subject of this email should include the project name, queue position, and study process (i.e., serial, SGIP, C4, etc.). In addition to the modification assessment deposit, all requests should include:

* a completed [Modification Request Form](http://www.caiso.com/Documents/Modification-Request-Form.docx)
  + For Post-COD modification requests, the interconnection request and technical data package must include the entire existing generating facility as well as the portions being changed, including technology addition.
  + In the event an existing generating facility submits a post-COD modification request while simultaneously proceeding through the Transmission Planning BPM Generator Model Update process, the generating facility must complete the Transmission Planning BPM Generator Model Update process prior to the modification request being processed.
* applicable technical information and diagrams (except for changes to Appendix B milestones, all change requests should be accompanied by a complete revised Attachment A to the Interconnection Request, including both PSLF load flow and dynamic models.
  + The load flow model should be provided in GE PSLF .epc format.
  + The dynamic model should be provided using GE PSLF library models in .dyd format
  + Results from the [Inverter Based Resource (IBR) Model Validation Procedure](http://www.caiso.com/Documents/ISO-Inverter-Based-Model-Validation-Procedure.zip) Tool

In case the GE PSLF library does not contain the model for the technology of the Generating Facility, a user written \*.p EPCL file should be submitted. Because of a limitation on the number of user-defined models that can be used, it is recommended that the best available WECC-approved dynamics model be used);

**Note:** A list of deficiencies frequently found in technical data submitted with modification requests can be found [here](http://www.caiso.com/Documents/guidance-for-interconnection-customers-submitting-technical-data.pdf):

* changes after the allowable time in queue must be accompanied by evidence that the Generating Facility meets the commercial viability criteria described in Section 6.1.5.1 of this BPM, including the following:
  + Proof that necessary governmental permits or authorizations have been applied for
  + A copy of the Power Purchase Agreement(s) (PPA). The CAISO will review the PPA(s) to confirm the PPA(s) align with the Point of Interconnection, MW capacity, fuel type and technology, and site location listed in the GIA. Please see Section 6.5.2.3 of this BPM for more details on aligning the PPA COD with the COD in the Generator Interconnection Agreement (GIA). The Interconnection Customer may be asked to clarify differences between the PPA(s) and GIA, should they exist, and an MMA may be required to reconcile any date differences.
  + Proof of site exclusivity for 100% of the property necessary to construct

### 6.4.4 Timeline

The modification assessment will not commence until a completed modification request (including all of the necessary technical documents) has been deemed valid and data complete by the CAISO and the Interconnection Customer’s modification assessment deposit have been received.

The applicable Participating TO will provide a list of deficiencies for the modification request, or any re-submittals from the Interconnection Customer in response to a deficiency notice, within 10 business days after the modification request or re-submittal is submitted.

Each modification assessment will be completed, and a response will be provided to the Interconnection Customer in writing, within 60 calendar days after the CAISO receives a completed modification request and modification assessment deposit, unless the modification request is submitted during the Reassessment process, the Phase I or Phase II study or any other exception provided for under the Tariff (see BPM Section 6.1.1 above). If the modification request results in a change to the Interconnection Facilities or Network Upgrades, the modification assessment could take up to one hundred and twenty (120) calendar days. If the modification assessment cannot be completed within that time period, the CAISO shall notify the Interconnection Customer and provide an estimated completion date with an explanation of the reasons why additional time is required.

During the modification request validation process, CAISO Queue Management will work with the PTOs to improve the initial and subsequent validation reviews and will host modification calls between CAISO/PTO engineering teams and the Interconnection Customer after the second or third validation turn.

If during the modification request validation process, the IC fails to provide a timely response to any given request to cure deficiencies or otherwise provide a response, the CAISO reserves the right to cancel the modification request. Therefore, if an interconnection customer does not respond to an modification package deficiency request or otherwise-related modification communication within 30 calendar days, the CAISO may cancel the request and will then refund any unused portion of the deposit. If the request is canceled, the Interconnection Customer must resubmit a new modification request and deposit to restart the process.

### 6.5.3 Changes to the Fuel Type of the Proposed Project

Generally, a change in the project’s fuel type absent a reduction in total MW capacity cannot be evaluated without a re-study, because the energy output profile of various fuel-types is different. In the deliverability study performed by the CAISO, the CAISO establishes an on-peak exceedance factor for each resource type as discussed in the table below. As outlined in Section 6.1.3 of this BPM, where the CAISO has granted modifications after the conclusion of an Interconnection Customer’s Phase II Interconnection Study phase, the CAISO must be able to evaluate the change and find it acceptable without the need to undertake a re-study (Phase I and Phase II) in order to approve it as non-material.

As detailed in Section 6.1.5 of this BPM and Section 6.7.2.5 of Tariff Appendix DD, fuel type changes are prohibited after (a) the Interconnection Customer has exceeded seven (7) years from the date the CAISO received its Interconnection Request without achieving its Commercial Operation Date, (b) the Interconnection Customer’s current Commercial Operation Date exceeds seven (7) years from the date the CAISO received its Interconnection Request, or (c) the change in fuel type will require the Interconnection Customer’s Commercial Operation Date to exceed seven (7) years from the date the CAISO received its Interconnection Request, with the exceptions for *de minimis* changes and energy storage additions. The CAISO will consider a change in fuel type before the allowable time in queue has been exceeded if the Interconnection Customer is willing to retain the maximum deliverability allowed by the deliverability transfer as described in Section 6.5.4.

### 6.5.4 Deliverability Transfer

Deliverability for Resource Adequacy purposes may not be assigned or otherwise transferred except as expressly provided by the CAISO Tariff. An Interconnection Customer may reallocate its Generating Facility’s Deliverability to another Generating Facility that has a point of interconnection at the same substation/switchyard and at the same voltage level. The Generating Facility’s aggregate output as evaluated in the Deliverability Assessment cannot increase as the result of any transfer, but may decrease based on the assignee’s Generating Unit characteristics and capacity. The CAISO will inform the Interconnection Customer of each Generating Unit’s Deliverability Status and associated capacity as the result of any transfer. The results will be based on the current Deliverability Assessment methodology.

Deliverability transfer may be requested through a deliverability transfer request, as part of a modification request, or as a part of a repowering request. For example, an Interconnection Customer could request that deliverability be transferred from the original solar photovoltaic Generating Facility to an energy storage Generating Facility when requesting modification to add energy storage component to the solar PV generation project. Alternatively, the Interconnection Customer could first request a modification to add an energy storage Generating Facility, and request a deliverability transfer after the approval of the modification.

The Generating Facility receiving TPD transfers are subject to the same tariff requirements, obligations, limitations, and required timelines, as applicable, as the project that received the original TPD allocation. In other words, TPD transfers may not be used to circumvent existing tariff requirements. Two examples that highlight potential situations:

1. Project A requested and received FCDS via a Group Three (3) TPD request. Project A wants to transfer its TPD to Project B, a later queued project. Since Group 3 is prohibited from extending its COD (otherwise it is converted to Energy Only deliverability status), Project B must have the same or an earlier COD as Project A and cannot extend that COD unless aligning the COD with the COD in an executed power purchase agreement (PPA) for Project B.
2. If Project A requested and received FCDS via Group Three (3), and then requested a COD extension to align with the COD in an executed PPA, and a subsequent PTO extension is necessary, the COD would be based on the PTO extension date. Due to the initial request to align the project COD with the COD in an executed PPA, if Project A requests to transfer TPD to Project B, Project B must also have an executed PPA.
3. If Project A requested and received FCDS via Group D, retained that TPD allocation in the following retention cycle via demonstration of being shortlisted or actively negotiating a power purchase agreement, and then requested a TPD Transfer to Project B, Project B must comply with the Group D retention requirements, including the demonstration of an executed power purchase agreement by the next TPD retention cycle.

Additionally, unless the Interconnection Customer provides the CAISO with an executed Energy Only power purchase agreement for the capacity transferring Deliverability at the time it requests the Deliverability transfer, the resulting Energy Only capacity must be removed from queue by withdrawal or downsizing the Generating Facility. The withdrawal or downsizing request must be submitted concurrent with the transfer request and such request cannot be canceled.

### 6.5.5 Project Technology Changes

#### 6.5.1 Projects may request technology changes as identified below. However, any changes that result in COD/milestone extensions will be evaluated as an Interconnection Customer requested change and will be subject to any applicable time in queue and TPD allocation obligations or restrictions.

### 6.5.10 Energy Storage Capacity Conversions or Additions

Interconnection Customers may request to add or convert project’s technology to energy storage into an Interconnection Request in the queue. The request will be reviewed through the MMA process outlined in Section 6.4 of this BPM. These requests will either be (option 1) to replace up to 100% of an Interconnection Request with energy storage or (option 2) to add energy storage to an existing Interconnection Request.

**Option 1 – MW capacity conversion**

Interconnection Customers may request to replace a portion or all of the requested MW interconnection capacity in their Interconnection Request with energy storage, except as prohibited as outlined in this BPM Section 6.5.3, Changes to Fuel Type of the Proposed Project. Replacing existing capacity with storage is allowed provided the electrical characteristics of the Generating Facility are substantially unchanged. Likewise, at any point in evaluating a fuel-type change, the CAISO may determine that the change is material such that it must come in the form of a new Interconnection Request.

**Option 2 – energy storage capacity addition**

# 8. Limited Operation Study

In the event that a generation facility’s associated RNU(s) are not reasonably expected to be In-Service prior to the COD, the Interconnection Customer can request and fund a Limited Operation Study (“LOS”) in accordance with Article 5.9 of the GIA. The LOS will determine the extent to which the generating facility can generate without the RNU(s) being In-Service. The CAISO will accept requests for an LOS no earlier than 9 (nine) months prior to the Generating Facility’s Initial Synchronization. If the Generating Facility is proposing to make other changes then an MMA will be required. However, the LOS will not commence until a modification request is deemed technically valid.

Interconnection Customers may request a LOS by emailing [QueueManagement@caiso.com](mailto:QueueManagement@caiso.com) and will be responsible for the actual costs incurred for the LOS. A $10,000 study deposit is required. Upon receipt of the request, the CAISO will coordinate a discussion of the RNU(s) that are delayed among the Interconnection Customer, the Participating TO, and the CAISO to determine the correct assumptions for the study. The CAISO and Participating TO will develop a draft study plan that identifies the scope and assumptions including test schedule for the generating facility, and the schedule for the study. The study scope and assumptions will be mutually agreed upon by the Interconnection Customer, Participating TO, and CAISO prior to the start of work. The Interconnection Customer will receive invoices from the CAISO that list study expenses incurred and corresponding amounts due. The Interconnection Customer shall pay all invoices within thirty (30) calendar days.

In addition, if the testing of the generating facility is delayed due to delays in RNUs, the Interconnection Customer should notify the CAISO by emailing [QueueManagement@caiso.com](mailto:QueueManagement@caiso.com) so that the CAISO can determine if an operating study similar to the LOS would be beneficial to establishing testing opportunities and limitations. If it is determined that an operating study would be informative, then the process described above for the LOS deposit and study plan will be used.

If an interconnection request package for any modification request is submitted simultaneously with a LOS that may impact the LOS, the results of the modification request must be deemed complete and valid prior to the ISO starting the LOS. If a MMA is submitted after a LOS is completed and the MMA results may impact the LOS, the LOS may be re-evaluated or potentially restarted where a new LOS request may be required.



1. See Appendix U, Section 12.2; Appendix Y, Section 12.2; or Appendix DD, Section 14.2; as applicable. [↑](#footnote-ref-2)
2. See Appendix S, Section 1.3.4.2; Appendix U, Section 4.4.6; Appendix Y, Section 6.9.2.3; or Appendix DD, Section 6.7.2.3; as applicable.. [↑](#footnote-ref-3)
3. See Appendix U, Section 13.2, 13.3 and 13.4; Appendix Y, Appendix 4; and Appendix DD, Appendix 4; as applicable. [↑](#footnote-ref-4)
4. See Appendix S, Section 1.3.4.2; Appendix U, Section 4.4.6; Appendix Y, Section 6.9.2.3; Appendix DD, Section 6.7.2.3 and this BPM Section 6.4. [↑](#footnote-ref-5)