

April 21, 2020

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Compliance Filing
Docket No. ER19-1950-001**

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) submits this filing to comply with the Commission order issued in this proceeding on February 20, 2020 (“Compliance Order”),¹ in response to the CAISO’s initial filing to comply with Order No. 845.² The Commission’s Compliance Order accepted the CAISO’s initial compliance filing effective February 20, 2020, and directed the CAISO to submit a further compliance filing.

The CAISO addresses the Commission’s directives for further compliance below, and requests that the Commission find this compliance filing satisfies these directives, consistent with Order No. 845.

I. Interconnection Customer’s Option to Build

A. Background

The Compliance Order found the CAISO tariff generally complies with

¹ *California Independent System Operator Corp.*, 170 FERC 61,112 (2019) (“Compliance Order”). Capitalized terms not otherwise defined herein have the meanings set forth in the CAISO tariff, and references to specific sections, articles, and appendices are references to sections, articles, and appendices in the current CAISO tariff as revised or proposed in this filing, unless otherwise indicated. The CAISO made all efforts to submit the instant filing on April 20, 2020, but was unable to do so due to technical difficulties. The CAISO requests that the Commission extend the deadline imposed by the Compliance Order by one day to accept the instant filing. No party will be harmed or prejudiced by such an extension, and good cause exists for extending the deadline to accept the instant filing.

² *Reform of Generator Interconnection Procedures and Agreements*, Order No. 845, 163 FERC ¶ 61,043 (2018), *errata notice*, 167 FERC ¶ 61,123, *order on reh’g*, Order No. 845-A, 166 FERC ¶ 61,137, *errata notice*, 167 FERC ¶ 61,124, *order on reh’g*, Order No. 845-B, 168 FERC ¶ 61,092 (2019).

Order No. 845's requirement to allow interconnection customers to unilaterally exercise the option to build for stand-alone network upgrades and the transmission provider's interconnection facilities, which the CAISO allowed before Order No. 845.³ The Commission found, however, that the CAISO inadvertently omitted the word "dates" in one sentence in Article 5.1.4 of Appendix EE.⁴

B. Proposed Tariff Revisions

To comply with the Commission's order, the CAISO proposes to revise Article 5.1.4 of Appendix EE to include the word "dates," as directed.⁵

II. Identification and Definition of Contingent Facilities

A. Background

The Compliance Order found that the CAISO's tariff partially complies with Order No. 845's requirement to define and identify contingent facilities.⁶ The Commission identified three issues with the CAISO's tariff and compliance filing. First, the Commission found that the CAISO had not complied with Order No. 845 for one class of network upgrades: area delivery network upgrades ("ADNUs").⁷ Second, the Commission found the CAISO tariff does not expressly require the CAISO to provide "information on contingent facilities' estimated costs and in-service completion time" upon request.⁸ Third, the Commission found that the CAISO had not included a defined term for "Contingent Facilities," and directed the CAISO to do so.⁹

B. CAISO Compliance and Proposed Tariff Revisions

1. Area Delivery Network Upgrades

The Compliance Order directs the CAISO to "explain[] which tariff provisions CAISO relies on to support the assertion that area delivery network

³ Compliance Order at P 15.

⁴ *Id.*

⁵ Proposed Article 5.1.4 of Appendix EE to the CAISO tariff.

⁶ Compliance Order at P 27.

⁷ *Id.* at PP 28-29.

⁸ *Id.* at P 30.

⁹ *Id.* at P 31.

upgrades are cost capped,”¹⁰ and specify “the method it will use to determine contingent facilities that may affect the costs or timing associated with an interconnection customer’s assigned area delivery network upgrades, including the technical screens or analyses it proposes to use to identify these facilities.”¹¹ The CAISO believes these concerns may result from an incomplete understanding of the nature of ADNUs in the interconnection process. ADNUs are a unique class of network upgrades for which interconnection customers are *not* financially responsible.¹² The CAISO tariff provisions describing how cost caps apply to RNUs and LDNUs omit ADNUs because ADNU costs are *not* assigned to interconnection customers in the first place. Section 10.1 of Appendix DD, for example, states: “The ADNU cost estimates provided in any Interconnection Study report are estimates only and do not provide a maximum value for cost responsibility to an Interconnection Customer for ADNUs.”

The CAISO only provides ADNU cost estimates to interconnection customers on an informational basis because this information helps interconnection customers understand the scope of the area delivery constraint. In any case, ADNUs are policy-driven transmission planning upgrades. They are triggered, identified, scoped, and sponsored entirely through the CAISO’s transmission planning process.¹³ The transmission planning process selects the ADNU project sponsor based on a competitive solicitation consistent with Order No. 1000.¹⁴ The project sponsor then finances and constructs the ADNU entirely on its own.

For these reasons, the CAISO tariff does not describe ADNU cost allocation rules similar to those applicable to RNUs and LDNUs. ADNU costs are not included in an interconnection customer’s cost or construction responsibilities in any way. Moreover, the CAISO’s transmission planning process provides complete transparency on the constraints and needs that trigger ADNUs, and

¹⁰ *Id.* at P 28.

¹¹ *Id.* at P 29.

¹² An interconnection customer could elect to finance its share of DNUs (LDNUs and ADNUs) on a merchant basis (without reimbursement) to guarantee a TP Deliverability allocation. This option is referred to as “Option (B)” throughout Appendix DD; however, in the many years this option has been available, no interconnection customer has ever elected to use it. In the event that an interconnection customer did elect to do so, Section 8.2.2 of Appendix DD describes how the CAISO would assign the interconnection customer’s ADNUs, and Section 8.4 describes how the CAISO would allocate the Option (B) interconnection customer’s share of LDNU and ADNU costs (as these upgrades generally are shared with other interconnection customers who trigger them).

¹³ See Section 24 of the CAISO tariff.

¹⁴ If the ADNU were an expansion of an existing facility, the transmission owner would be the project sponsor.

then their costs, timing, and construction progress.¹⁵ The CAISO believes that this explanation demonstrates that the CAISO's tariff complies with Order No. 845 regarding ADNUs.

2. *Estimated Costs and Completion Time*

To comply with the Commission's Compliance Order, the CAISO proposes to add the language from *pro forma* LGIP section 3.8 to the CAISO's tariff to clarify that the CAISO will provide, upon the interconnection customer's request, the estimated interconnection facility and network upgrade costs and estimated in-service completion times when this information is readily available and not commercially sensitive.¹⁶ The CAISO's proposed tariff revisions differ from the *pro forma* language only to list the different categories of assigned and contingent facilities the CAISO identifies—Assigned Network Upgrades, Precursor Network Upgrades, and Conditionally Assigned Network Upgrades—as explained below. In all other respects, the CAISO's tariff is consistent with the *pro forma* LGIP. The CAISO's proposed tariff revisions are thus consistent with, or superior to, Order No. 845.

3. *Contingent Facilities*

As the CAISO explained in its initial compliance filing, the CAISO already informed interconnection customers of all their contingent facilities, including those facilities' costs and completion times. Without this information it would be impossible for the CAISO to establish firm cost caps for interconnection customers. In the Commission's Order No. 845 proceeding, the American Wind Energy Association, NextEra, and several developers identified the CAISO processes as best practices in this regard.¹⁷ NextEra, for example, advocated that the Commission adopt the CAISO's processes nationally "to break endless start and stop restudy cycles" elsewhere.¹⁸

Nevertheless, the CAISO recognized it could provide even more detail on contingent facilities and their potential cost impacts, consistent with Order No.

¹⁵ See, e.g. Section 3.5 and 3.8 of the CAISO's 2018-19 Transmission Plan, available at <http://www.caiso.com/Documents/ISOBoardApproved-2019-2020TransmissionPlan.pdf>. (ADNUs have been less common in recent years as it remains an open question whether the California Public Utilities Commission will require incremental policy-driven capacity to be deliverable during on-peak hours.)

¹⁶ Proposed Section 6.5 of Appendix DD to the CAISO tariff. To avoid confusion, the CAISO will clarify in its business practice manual that this request process is in addition to the same information already being provided in the interconnection customer's study reports.

¹⁷ See, e.g., AWEA Petition, p. 24, Docket No. RM15-21-000 (June 19, 2015).

¹⁸ NextEra Comments, p. 9, Docket No. RM15-21-000 (Sep. 8, 2015).

845. After the CAISO's initial compliance filing, the CAISO dedicated a new phase of its Interconnection Process Enhancement stakeholder initiative to identifying contingent facilities and explaining how they affect interconnection customers' cost caps. The CAISO filed these tariff revisions with the Commission under Section 205 of the Federal Power Act on August 23, 2019. The Commission approved the CAISO's tariff revisions on October 18, 2019.¹⁹ The CAISO believes these revisions ensure the CAISO complies with Order No. 845 and the Compliance Order. As explained below, they create two new defined terms in the CAISO tariff to identify contingent facilities—Conditionally Assigned Network Upgrades and Precursor Network Upgrades—and require the CAISO to identify these facilities and their potential cost impacts in all interconnection studies. Additionally, the CAISO now breaks the interconnection customer's cost responsibility into three categories: Current Cost Responsibility; Maximum Cost Responsibility; and Maximum Cost Exposure. Although the CAISO's previous processes and adherence to cost caps already obviated any need for serial restudies, these new terms provide an additional level of clarity so interconnection customers can understand exactly how contingent facilities may impact their financing obligations.

Where the CAISO previously categorized network upgrades by function, the CAISO's Section 205 2019 interconnection process enhancement filing created additional terms to categorize network upgrades by cost responsibility. The first set of new terms describes whether an interconnection customer has, may have, or will *not* have cost responsibility for network upgrades (but still requires them for interconnection):

¹⁹ *California Independent System Operator Corp.*, Letter Order Approving Tariff Revisions, Docket No. ER19-2679-000 (Oct. 18, 2019).

Term	Definition
Assigned Network Upgrade	Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to the Interconnection Customer. Assigned Network Upgrades exclude (1) Conditionally Assigned Network Upgrades unless they become Assigned Network Upgrades, and (2) Precursor Network Upgrades.
Conditionally Assigned Network Upgrade	Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.
Precursor Network Upgrade	Network Upgrades required for the Interconnection Customer consisting of (1) Network Upgrades assigned to an Interconnection Customer in an earlier Queue Cluster, Independent Study Process, or Fast Track Process, that has executed its Generator Interconnection Agreement (“GIA”) pursuant to Section 14.2.2 of the Generator Interconnection Deliverability Allocation Procedures (“GIDAP”); and (2) Network Upgrades in the approved CAISO Transmission Plan.

The first new term, Assigned Network Upgrade, describes the set of network upgrades for which the interconnection customer presently has cost responsibility. This set excludes network upgrades in the other two new terms: Conditionally Assigned Network Upgrade and Precursor Network Upgrade.

Conditionally Assigned Network Upgrades are the first set of “contingent facilities” identified in all study reports. They are network upgrades assigned to an earlier interconnection customer (giving them cost responsibility) that may fall to the interconnection customer and become Assigned Network Upgrades if the earlier interconnection customers assigned the network upgrade withdraw their interconnection requests without having executed a GIA.

Precursor Network Upgrades are the second set of contingent facilities identified in all study reports. They are network upgrades the interconnection customer requires for interconnection, but whose costs cannot fall to the interconnection customer. They include network upgrades assigned to earlier interconnection customers that have executed GIAs, and network upgrades approved in the CAISO transmission planning process (such as ADNUs).

Although the interconnection customer will not assume their cost responsibility, it is important the interconnection customer understand these network upgrades may affect the timing of its interconnection or deliverability status.

Under the CAISO tariff, the CAISO will apply these labels to all facilities identified in the interconnection customer’s study reports.²⁰ The CAISO study reports will describe how the upgrades were assigned to the interconnection customer and how they relate to the interconnection. The CAISO also will update study results as network upgrades change classifications or are removed.²¹

The CAISO also implemented new terms to assist interconnection customers in understanding how assigned and contingent facilities may impact their cost responsibilities as they progress through queue.

Term	Definition
Current Cost Responsibility	The Interconnection Customer’s current allocated costs for Assigned Network Upgrades, not to exceed the Maximum Cost Responsibility. This cost is used to calculate the Interconnection Customer’s Interconnection Financial Security requirement.
Maximum Cost Responsibility	Pursuant to Appendix DD, the lower sum of the Interconnection Customer’s (1) full cost of assigned Interconnection Reliability Network Upgrades and (2) allocated costs for all other Assigned Network Upgrades, from its Phase I or Phase II Interconnection Studies, not to exceed the Maximum Cost Exposure.
Maximum Cost Exposure	Pursuant to Appendix DD, the sum of (1) the Interconnection Customer’s Maximum Cost Responsibility and (2) the Conditionally Assigned Network Upgrades from its Phase I or Phase II Interconnection Study.

Current Cost responsibility describes the interconnection customer’s currently allocated costs in aggregate, which consists of the interconnection customer’s

²⁰ See, e.g., Sections 6.2, 6.3.2.2, 7.4.3, 8.1.1, and 11.3.2.5 of Appendix DD to the CAISO tariff.

²¹ See, e.g., Sections 7.4.3, 8.1.1, and 11.3.2.5 of Appendix DD to the CAISO tariff.

allocated shares of Assigned Network Upgrade costs. Interconnection customers will post interconnection financial security based on this figure.²²

Maximum Cost Responsibility and Maximum Cost Exposure both describe the interconnection customer's *potential* total costs due to contingent facilities. Maximum Cost Responsibility consists of the interconnection customer's currently allocated costs for Assigned Network Upgrades, and the full costs of assigned Interconnection Reliability Network Upgrades.²³ Compared to the Current Cost Responsibility, the Maximum Cost Responsibility allows interconnection customers to understand how changes to their own interconnection cluster may affect their costs.²⁴ For example, if other interconnection customers in their interconnection cluster that share an Interconnection Reliability Network Upgrade withdraw, the interconnection customer's Current Cost Responsibility could rise to its Maximum Cost Responsibility. Maximum Cost Exposure consists of the interconnection customer's Maximum Cost Responsibility plus the costs of Conditionally Assigned Network Upgrades.²⁵ Compared to the Maximum Cost Responsibility, the Maximum Cost Exposure helps interconnection customers understand the costs they may inherit based on the actions of earlier interconnection customers.

None of the aforementioned terms resulted in substantial changes to previous CAISO policy. They simply introduced labels designed to help interconnection customers, financiers, and load serving entities understand how a project's contingent facilities may affect its assigned costs as it progresses through queue, consistent with Order No. 845. The Maximum Cost Responsibility is still capped by the lower of the figures provided in the interconnection customer's phase I and phase II interconnection studies. The Maximum Cost Exposure will be capped by the figure provided in the interconnection customer's phase II interconnection study. Any costs from network upgrades included in these terms that exceed those caps would be borne by the transmission owner.²⁶

²² Sections 7.4.3(v); 7.6(b); 8.4; 10.1; 11; and 14.3 of Appendix DD to the CAISO tariff.

²³ The CAISO also created new terms to distinguish between reliability network upgrades with different cost allocation rules.

²⁴ Sections 6.3 and 8.3 of Appendix DD to the CAISO tariff (in addition to the Appendix A definitions).

²⁵ *Id.*

²⁶ Likewise, the Maximum Cost Responsibility and Maximum Cost Exposure provide distinct caps for different types of costs. Although the Maximum Cost Exposure will provide the highest figure, the interconnection customer's costs cannot rise to that level unless Conditionally Assigned Network Upgrades are assigned to the interconnection customer (e.g., if all previously assigned interconnection customers withdraw without having executed a GIA). If the costs of Assigned Network Upgrades eventually exceed the interconnection customer's Maximum Cost Responsibility

The Commission should find that these terms and their use throughout the CAISO tariff comply with Order No. 845 and the Compliance Order's directive to identify and explain each specific contingent facility and how it relates to the Interconnection Request.²⁷ The CAISO has created two new terms to describe categories of contingent facilities, and has created three new terms to ensure interconnection customers understand how contingent facilities may affect their cost caps in queue. Contingent facilities are identified as early as the Phase I Interconnection Study.²⁸ Interconnection customers thus have complete transparency regarding their contingent facilities.

III. Transparency regarding Study Models and Assumptions

A. Background

The Compliance Order found that the CAISO complies with Order No. 845's requirement that transmission providers maintain network models and underlying assumptions on a password-protected website.²⁹ However, the Commission found that the CAISO had not represented whether it provides a link to its password-protected website on OASIS. The Commission directed the CAISO to revise its tariff to require maintaining a link on OASIS to the CAISO's site with all network models and underlying assumptions.³⁰

B. Proposed Tariff Revisions

In compliance with the Commission's order, the CAISO proposes to revise Section 2.3 of Appendix DD to include the following provision: "The CAISO will maintain a link on OASIS to the secured section of the CAISO website with the Interconnection Base Case Data."³¹

(without the conversion of Conditionally Assigned Network Upgrades), the interconnection customer would not inherit those costs. Examples were included as Attachment C to the CAISO's § 205 filing.

²⁷ See, e.g., Sections 6.2, 6.3.2.2, 7.4.3, 8.1.1, and 11.3.2.5 of Appendix DD to the CAISO tariff.

²⁸ Section 6.2 of Appendix DD to the CAISO tariff.

²⁹ Compliance Order at P 35.

³⁰ *Id.*

³¹ Proposed Section 2.3 of Appendix DD to the CAISO tariff.

IV. Interconnection Study Deadlines

A. Background

The Compliance Order found that the CAISO generally complies with Order No. 845's requirement to calculate and maintain on the CAISO's public websites summary statistics related to the timing of interconnection studies.³² The Commission directed the CAISO to revise its tariff to require maintaining a link on OASIS to the CAISO's website with the interconnection statistics.³³ The Commission also directed the CAISO to revise its tariff to use the verbiage in the Commission's *pro forma* tariff.³⁴

B. Proposed Tariff Revisions

In compliance with the Commission's order, the CAISO proposes to add tariff language requiring the CAISO to maintain a link on OASIS to the public website where the CAISO maintains its interconnection statistics.³⁵ The CAISO also has revised Section 3.6.1 of Appendix DD to use the verbiage in the Commission's *pro forma* tariff.³⁶

V. Requesting Interconnection Service below Generating Facility Capacity

A. Background

The Compliance Order found that the CAISO generally complies with Order No. 845's requirement to allow interconnection customers to request interconnection service for less than the proposed generating facility's capacity.³⁷ The Commission found, however, that the CAISO tariff included financial penalty language that the Commission had removed from its original *pro forma* draft and directed the CAISO to remove such language.³⁸ The Commission also found that in revising Appendix DD, section 7, the CAISO filed section 8 twice in eTariff, once where it belongs and once where section 7 belongs. The Commission directed the CAISO to fix this error.

³² Compliance Order at P 41.

³³ *Id.* at P 42.

³⁴ *Id.* at P 43.

³⁵ Proposed Section 3.6.1 of Appendix DD to the CAISO tariff.

³⁶ Proposed Sections 3.6.1, 3.6.2, and 3.6.3 of Appendix DD to the CAISO tariff.

³⁷ Compliance Order at P 54.

³⁸ *Id.* at P 56.

B. Proposed Tariff Revisions

In compliance with the Commission's order, the CAISO proposes to revise 3.1 of Appendix DD to remove the reference to financial penalties.³⁹ The CAISO also has corrected the section numbering in Appendix DD in eTariff.

VI. Provisional Interconnection Service

A. Background

The Compliance Order found that the CAISO did not comply with Order No. 845's requirement to allow all interconnection customers to request provisional interconnection service because the CAISO's existing Limited Operation Study is restricted to instances where the transmission owner is not able to complete facilities by the interconnection customer's commercial operation date.⁴⁰ The Commission further found that the CAISO tariff did not outline language specifying the frequency for updating the Limited Operation Study. The Commission noted that the CAISO's Limited Operation Study would comply with Order No. 845 if the CAISO revised these two elements.⁴¹

B. Proposed Tariff Revisions

In compliance with the Commission's order, the CAISO proposes to revise Section 14.2.4.1 of Appendix DD to remove the language restricting the Limited Operation Study to instances where the transmission owner is not able to complete facilities by the interconnection customer's commercial operation date.⁴² The CAISO also has added a provision stating it will update Limited Operation Study results whenever study assumptions change in a way that impacts the initial Limited Operation Study results. Although the CAISO does not believe such topology changes are likely, this provision will ensure that the CAISO will update Limited Operation Study results if they occur.⁴³

³⁹ Proposed Section 3.1 of Appendix DD to the CAISO tariff.

⁴⁰ Compliance Order at P 67.

⁴¹ *Id.* at P 69.

⁴² Proposed Section 14.2.4.1 of Appendix DD to the CAISO tariff.

⁴³ Proposed Section 14.2.4.3 of Appendix DD to the CAISO tariff.

VII. Surplus Interconnection Service

A. Background

The Compliance Order found that the CAISO generally complies with Order No. 845's requirement to establish surplus interconnection service, which the Commission defined as any unneeded portion of interconnection service capacity.⁴⁴ Surplus interconnection service enables a new interconnection customer to utilize the unused portion of an existing interconnection customer's interconnection service within specific parameters.⁴⁵ However, the Commission found the CAISO did not include tariff revisions requiring the transmission provider, original interconnection customer, and surplus interconnection service customer to file a surplus interconnection service agreement with the Commission that includes the terms and conditions of surplus interconnection service.

B. CAISO Compliance

As the CAISO explained in its original compliance filing, the CAISO conducted a stakeholder process on its Order No. 845 compliance to ensure developers, transmission owners, and other stakeholders supported the CAISO's generator interconnection procedures. In implementing surplus interconnection service transfers, stakeholders and the CAISO preferred memorializing these transfers by amending the assignor's GIA, and again in the assignee's new GIA. For this reason the CAISO did not include tariff provisions requiring the parties to execute a four-party surplus interconnection service agreement, and instead included provisions stating:

The Interconnection Customer may assign Surplus Interconnection Service pursuant to Section 3.4 of the GIDAP. The CAISO, Participating TO, and original Interconnection Customer will work in good faith to amend this GIA to reflect the transfer of Surplus Interconnection Service before the execution of the assignee's GIA. The assignee must execute a separate GIA with the CAISO and Participating TO to memorialize its Interconnection Service.⁴⁶

The CAISO and stakeholders believe this requirement is consistent with Order

⁴⁴ Compliance Order at P 80.

⁴⁵ *Id.*

⁴⁶ Article 19.1 of Appendix EE to the CAISO tariff; see *also* Section 3.4 of Appendix DD to the CAISO tariff ("The CAISO, Participating TO, and original Interconnection Customer will work in good faith to amend the original Interconnection Customer's GIA to reflect the transfer of Surplus Interconnection Service before the execution of the assignee's GIA").

No. 845's intent to ensure that the new terms of service after the transfer are memorialized and then filed with the Commission.

Additionally, the CAISO's proposal has two significant benefits. First, it avoids the need to negotiate, execute, and file a separate agreement whose terms can, and should, be set forth in the GIAs. Both interconnection customers need their own GIAs, and these GIAs should acknowledge the surplus interconnection service, so there is no reason why another, redundant agreement is required. The CAISO and stakeholders also believed that any surplus interconnection agreement would only contain terms relating to interconnection service, and therefore could conflict with the GIAs, which do the same. Second, the CAISO's approach avoids future issues enforcing an agreement with two interconnection customers. Instead, the CAISO and transmission owner can address any issues with the individual interconnection customer under its own, separate GIA. This avoids affecting the other interconnection customer, and it avoids potential conflicts between the terms of the GIA and the terms of a surplus interconnection agreement.

If interconnection customers use surplus interconnection service, the result will be identical to situations where multiple generation owners share the same interconnection facilities, which is very common today. The CAISO, transmission owners, and developers execute GIAs for these situations frequently, and have extensive experience negotiating terms among the parties to ensure safe and reliable interconnections. The CAISO's proposal thus treats similarly situated parties similarly by treating interconnections separately rather than tying them into a precarious multi-party agreement.

To the extent the CAISO's proposal differs in format from the Commission's *pro forma* revisions, the CAISO's proposal is based on significant experience with similar situations, and supported by stakeholders. It also ensures that the parties will still meet Order No. 845's goal of memorializing the terms of surplus interconnection service for the parties, and filing these agreements with the Commission. As such, the CAISO's tariff is consistent with, or superior to, Order No. 845. The CAISO's proposal also meets all five of the elements in Order No. 845 for variations consistent with the Commission's requirements.⁴⁷

⁴⁷ Order No. 845 at P 477; Order No. 845-A at PP 140-1.

VIII. Material Modifications and Incorporating Advanced Technologies

A. Background

The Compliance Order found the CAISO partially complies with Order No. 845's requirement allowing an interconnection customer to incorporate certain technological advancements into its interconnection request.⁴⁸ First, the Commission found the CAISO's requirement that these requests include the "technical data required to assess the request" lacks sufficient detail.⁴⁹ Second, the Commission found the CAISO did not adequately explain how it will evaluate the technological advancement request to determine whether it is a material modification.⁵⁰ Third, the CAISO proposed a flat fee of \$2,500 to assess a technological change request, and that within 30 days of receipt, CAISO, in consultation with the transmission owner, will notify the interconnection customer whether the request constitutes an approved permissible technological advancement, or why the interconnection customer must submit a material modification assessment request and \$10,000 assessment deposit. The Commission found that the CAISO's proposal was inconsistent with Order No. 845 because the CAISO would not begin assessing the request until after receiving the deposit.⁵¹ Finally, the Commission was unsure whether the work or costs for a technological assessment are duplicated in the subsequent modification assessment, and directed the CAISO to "further justify[] the flat fee approach."⁵²

B. CAISO Compliance

1. Technical Data

The CAISO understands that interconnection customers modify their interconnection requests as they progress in queue. The CAISO always has accepted this reality, and in fact processes more modification requests than interconnection requests every year. Critically, and unlike other ISO/RTOs, requesting a modification through the CAISO's material modification assessment process *never* results in losing a queue position. Because the CAISO already allows modifications through its material modification assessment process without any loss in queue position, the CAISO designed its permissible technological advancement process to be a faster, cheaper option for simple and

⁴⁸ Compliance Order at P 95.

⁴⁹ *Id.* at P 96.

⁵⁰ *Id.* at P 97.

⁵¹ *Id.* at P 98.

⁵² *Id.* at P 99.

straightforward modifications. This proposal was supported by both developers and transmission owners during the CAISO's Order No. 845 stakeholder process. Moreover, stakeholders supported the CAISO's proposal to create a purposefully *flexible* permissible technological advancement process. Rather than create a limited, rigid list of permissible technological advancements, the CAISO created a list of known permissible advancements, and allowed for any other advancements that meet the CAISO's definition:

Changes to generating facilities that do not require a material modification assessment, new interconnection request, restudy, or other substantial evaluation because they have little or no potential to substantially change generating unit electrical characteristics or affect other interconnection customers or affected systems.⁵³

As the CAISO explained in its initial compliance filing, the CAISO expects the list of known permissible changes to grow as more interconnection customers find modifications that meet its definition. To ensure interconnection customers know all modifications that constitute Permissible Technological Advancements, the CAISO included a tariff requirement that it will update its business practice manual to list any additional Permissible Technological Advancements approved but not already specifically enumerated in the tariff.⁵⁴ This will allow more interconnection customers to make myriad permissible technological advancements in the future more quickly and less expensively than through the material modification assessment process.

To those ends, the CAISO purposely only included the broad requirement that permissible technological advancement requests include the "technical data required to assess the request."⁵⁵ This tariff requirement provides sufficient flexibility to cover the various types of requests the CAISO may see, which may differ greatly in technical data required. Some proposed modifications may require no data, while others may require a variety of diagrams, models, and technical information. Consistent with its existing practices and the tariff requirement to continue to update the business practice manual on permissible technological advancement, the CAISO intends to describe what technical data will be required to assess different types of known advancements in its business practice manual. Prescribing in the tariff the exact technical data needed for every permissible technological advancement only makes the process inflexible and thus less useful for interconnection customers. For this reason the Commission should find that the CAISO's tariff language is consistent with Order No. 845's intent to allow interconnection customers to make a variety of

⁵³ "Permissible Technological Advancement," Appendix A to the CAISO tariff.

⁵⁴ *Id.* The list would be in the CAISO's Business Practice Manual for Generator Management.

⁵⁵ Section 6.7.2.4 of Appendix DD to the CAISO tariff.

technological advancements while in queue.

2. *Assessing Permissible Technological Advancements*

The Commission also asks the CAISO “to provide a more detailed explanation of the studies that CAISO will conduct to determine whether the technological advancement request will result in a material modification.”⁵⁶ As described above, the CAISO’s intent in assessing Permissible Technological Advancements is to provide a faster, cheaper option for simple and straightforward modifications. Through the material modification assessment process, interconnection customers already can make virtually any change to their projects while in queue, including generating technology changes. In other words, if the Permissible Technological Advancement process is indistinguishable from the CAISO’s material modification assessment process (which only requires a \$10,000 deposit and finishes within 45 days),⁵⁷ it does not provide any incremental benefit to interconnection customers.

Accordingly, it would be misleading to suggest the CAISO and transmission owner will “study” Permissible Technological Advancement requests. That would duplicate the material modification assessment process, and thus defeat the purpose of a separate, faster process. Instead, the CAISO and transmission owner will review the request simply to assess that the request meets the definition of Permissible Technological Advancement (without any study). The definition itself states that a Permissible Technological Advancement is a change that would not require (1) a material modification assessment or (2) a new interconnection request. Those tests are described in the CAISO tariff. A material modification is a change that negatively impacts the cost or timing of another interconnection request.⁵⁸ New interconnection requests are required for capacity increases at the point of interconnection⁵⁹ or for substantial changes to electrical characteristics, namely, short-circuit duty, stability, and voltage.⁶⁰ In reviewing Permissible Technological Advancement requests, CAISO engineers and transmission owner engineers will use their experience and engineering judgment to review the proposed changes. This review will simply determine whether it is clear *without performing any study* that the changes have little or no potential to require a material modification assessment or new interconnection request.

⁵⁶ Compliance Order at P 97.

⁵⁷ Section 6.7.2.3 of Appendix DD to the CAISO tariff.

⁵⁸ “Material Modification,” Appendix A to the CAISO tariff; section 6.7.2.2 *et seq.* of Appendix DD to the CAISO tariff.

⁵⁹ Section 25.1(b) of the CAISO tariff.

⁶⁰ Section 25.1(c) of the CAISO tariff.

Consistent with Order No. 845, the CAISO included the Permissible Technological Advancements the CAISO and stakeholders already knew would not require a new interconnection request or material modification assessment: removing equipment; aligning the commercial operation date with an executed power purchase agreement; and adding less than 5 MW of energy storage without increasing the net output at the point of interconnection. The CAISO and stakeholders explored other possibilities during the CAISO stakeholder process, but were unaware of other common changes that would not require a material modification assessment to determine whether they affect other interconnection customers. Nevertheless, the CAISO and stakeholders were open to expanding the list as they gained more experience, and therefore included the broad provision “other changes that have little or no potential to affect other Interconnection Customers or Affected Systems, require a new Interconnection Request, or otherwise require re-study or evaluation.”⁶¹ Pursuant to the CAISO tariff requirement, as the CAISO approves other Permissible Technological Advancement requests, it will update its business practice manual to include them.⁶²

3. *Flat Fee and Timing*

The CAISO selected a low flat fee of \$2,500 for Permissible Technological Advancements based on its analysis of the study costs of the prior most modification requests that most resemble Permissible Technological Advancements. The CAISO proposed a flat fee instead of a deposit to avoid the need to track time and expenses, thereby increasing the speed and ease of processing such requests for interconnection customers.⁶³ Because the Permissible Technological Advancement is a flat fee, it would not offset other deposits, including if the request needs a subsequent material modification assessment. The CAISO will clarify this accounting rule in its business practice manual. Offsetting potential future study deposits would require the CAISO and transmission owners to track their time against the \$2,500, which would defeat the purpose of the flat fee, delay the assessment, and curb the efficiency of the Permissible Technological Advancement.

⁶¹ Section 6.7.2.4 of Appendix DD to the CAISO tariff.

⁶² *Id.* (“The CAISO will update its Business Practice Manual to list any additional Permissible Technological Advancement approved but not specifically enumerated here when identified”).

⁶³ If the CAISO had proposed to use a study deposit, the amount would have needed to be higher because CAISO and transmission owner staff would need to create a specific charge code for that interconnection customer’s request, then track their time and bill against it, a process which itself takes more time and thus more funding. The CAISO and stakeholders believed that doing so was inconsistent with the intent of Order No. 845, and would be too similar to the material modification assessment process to provide any incremental value.

Interconnection customers' initial interconnection study deposits are used for their Phase I and Phase II interconnection studies and annual reassessments.⁶⁴ They do not cover any elective study or modification; hence, all elective studies and modifications require deposits or fees to cover study expenses.⁶⁵ These funds offset operating expenses for the CAISO and transmission owners for the interconnection study work. In 2019, for example, \$2,239,948 in interconnection study revenues offset the CAISO's operating expenses of \$183 million. The CAISO employs 637 employees, 14 of whom work exclusively on administering generator interconnections, and another 26 work on generator interconnection and transmission engineering. Moreover, CAISO figures are dwarfed by the transmission owners whose engineers perform the bulk of the study work.

The CAISO cannot begin to evaluate Permissible Technological Advancement requests without first receiving funds to cover the time expended by CAISO and transmission owner engineers and staff. Doing otherwise would unreasonably shift costs to ratepayers. For example, the CAISO formerly validated initial interconnection requests before it received interconnection study deposits. Many interconnection customers would withdraw before submitting a deposit, leaving the CAISO and transmission owner staff with no ability to recoup funds for the time spent working on these interconnection requests. The CAISO revised its tariff to require interconnection study deposits *before* validating an interconnection request to avoid shifting these shortfalls to ratepayers.⁶⁶

The CAISO tariff requires a deposit or fee before performing any elective study, and interconnection customers receive refunds for remaining funds the majority of the time. Nevertheless, the CAISO and transmission owners are not always able to cover their study costs given the required deposits. This can cause a variety of financial issues for the CAISO and transmission owners. Even though the tariff requires interconnection customers to cover all study costs,⁶⁷ interconnection customers frequently withdraw from queue before covering study costs that exceeded initial deposits. Between 2014 and 2018, for example, the CAISO sent invoices to 203 interconnection customers for shortfalls that exceeded study deposits.⁶⁸ The average invoice was for \$20,000; however, this figure underrepresents the cost to the CAISO. Interconnection projects are

⁶⁴ Section 3.5.1.1 of Appendix DD to the CAISO tariff.

⁶⁵ See, e.g., Sections 6.7.2.3 and 14.2.4.2 of Appendix DD to the CAISO tariff; Section 25.1.2 of the CAISO tariff.

⁶⁶ See Section 3.5.1 of Appendix DD to the CAISO tariff ("The CAISO will not initiate any review of an Interconnection Request for completeness until the Interconnection Study Deposit is received by the CAISO").

⁶⁷ See, e.g., Section 6.7.2.3 of Appendix DD to the CAISO tariff.

⁶⁸ Ranging from 26 to 55 invoices per year.

frequently transferred among developers, and CAISO accounting staff expends significant time having to track ownership changes. The CAISO also notes that interconnection customers are typically limited liability corporations set up for that specific interconnection request, and frequently dissolve after withdrawing from queue, leaving the CAISO and transmission owners no recourse to collect shortfalls owed. When the CAISO and transmission owners cannot recoup costs from non-paying interconnection customers, the CAISO and transmission owners are left with no choice but to write off the costs as bad debts. The CAISO alone has had to write-off over \$100,000 in uncollectible debts owed by interconnection customers. This directly affects ratepayers, even though they are not at fault for the interconnection customers' actions. For this reason, the CAISO tariff requires deposits or fees for all interconnection studies *before* the request is deemed complete. Without this requirement, interconnection customers have little to no incentive to submit fees or deposits for elective studies.

The CAISO also believes its tariff revisions comply with the Commission's requirement to complete the Permissible Technological Advancement process within 30 days of the request. As explained above, the CAISO and transmission owners cannot begin without first receiving the flat fee, consistent with all other study processes in the CAISO tariff. Once the CAISO has received the request and the fee, it will notify the interconnection customer whether the request is approved within 30 days.⁶⁹ This is a firm deadline. The CAISO did not include any language allowing the CAISO to extend the deadline or avail itself of the "best efforts" standard. The CAISO expects that the CAISO and transmission owners can process Permissible Technological Advancement requests quickly.

If an interconnection customer fails the Permissible Technological Advancement process, and it still wants the modification, the interconnection customer can request a material modification assessment. Unlike other ISO/RTOs' modification procedures, the CAISO's modification process allows the interconnection customer complete flexibility to request changes without loss of queue position. But the CAISO and transmission owner do not gain time or advantage because the interconnection customer has first failed the Permissible Technological Advancement. Shortening the material modification assessment from 45 days to 30 days after an unsuccessful Permissible Technological Advancement request only would incentivize interconnection customers to submit all modifications to the Permissible Technological Advancement process first, even if they are large, complex changes that require study. This would undermine the Permissible Technological Advancement process and the material modification assessment, rendering one or the other redundant.

⁶⁹ Section 6.7.2.4 of Appendix DD to the CAISO tariff.

During the CAISO's Order No. 845 stakeholder process, developers, transmission owners, and stakeholders all supported the flat fee as a requirement to begin the Permissible Technology Request. These stakeholders also understood that the CAISO already offers a flexible, efficient modification process without loss of queue position. Where other ISO/RTOs' Order No. 845 compliance filings received numerous comments and protests, there were no substantive comments on the CAISO's compliance filing. Because the CAISO already has a flexible, well-functioning modification process, the Permissible Technology Advancement process should be as simple as possible to provide any incremental value. Requiring the CAISO to alter its proposal would contravene the goals of Order No. 845 and subvert or supplant the CAISO's material modification assessment process, which Order No. 845 expressly noted it was *not* altering, and which functions efficiently in the CAISO.⁷⁰ The Commission should therefore approve the CAISO's proposal. To the extent the CAISO's proposal differs from the Commission's *pro forma* procedures, the CAISO's tariff is consistent with, or superior to, Order No. 845. The CAISO's proposal also meets all five of the elements in Order No. 845 for variations consistent with the Commission's requirements.⁷¹

IX. Effective Date

The CAISO requests that the Commission accept the tariff revisions contained in this compliance filing effective February 20, 2020.

X. Service

The CAISO has served copies of this filing on the California Public Utilities Commission, the California Energy Commission, all parties with scheduling coordinator agreements under the CAISO tariff, and all parties in this proceeding (Docket No. ER19-1950). In addition, the CAISO has posted a copy of the filing on the CAISO website.

⁷⁰ Order No. 845-A at P 152.

⁷¹ Order No. 845 at P 477; Order No. 845-A at PP 140-1.

XI. Contents of Filing

Besides this transmittal letter, this compliance filing includes these attachments:

- | | |
|--------------|---|
| Attachment A | Clean CAISO tariff sheets incorporating this compliance filing; and |
| Attachment B | Red-lined document showing the revisions in this compliance filing. |

XII. Conclusion

For the reasons explained herein, the CAISO tariff, as modified by this compliance filing, satisfies the requirements of the Compliance Order and Order No. 845. The CAISO requests that the Commission accept this compliance filing effective February 20, 2020.

Respectfully submitted,

/s/ William H. Weaver

Roger E. Collanton
General Counsel
Sidney L. Mannheim
Assistant General Counsel
William H. Weaver
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 351-4400
Fax: (916) 608-7222
E-mail: bweaver@caiso.com

Counsel for the California Independent
System Operator Corporation

Attachment A – Clean Tariff

Filing in Compliance with February 20, 2020 Order re Order No. 845 Compliance

California Independent System Operator Corporation

April 21, 2020

Appendix DD

* * * *

2.3 Interconnection Base Case Data

For each Interconnection Study Cycle, the CAISO, in coordination with applicable Participating TO(s), shall maintain updated Interconnection Base Case Data, including, as applicable, separate Interconnection Base Case Data for each Group Study to reflect system conditions particular to the Group Study, to a secured section of the CAISO Website. Interconnection Base Case Data will represent the network model and underlying assumptions used during the most recent Interconnection Study and represent system conditions in the near term planning horizon.

The CAISO will update and publish the Interconnection Base Case Data:

- (1) prior to the Phase I Interconnection Study with the Generation reflected in valid Interconnection Requests for the Interconnection Study Cycle, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions;
- (2) after the Phase I Interconnection Study with the Generation reflected in valid Interconnection Requests submitted in the Cluster Application Window for the Interconnection Study Cycle, and the identified preliminary transmission upgrades or additions, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions;
- (3) prior to the Phase II Interconnection Study, including all remaining Generation from the Phase I Interconnection Study for the Interconnection Study Cycle, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions; and
- (4) after the Phase II Interconnection Study, including all remaining Generation from the applicable Phase I Interconnection Study and the identified transmission upgrades and additions for the Interconnection Study Cycle, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions.

Interconnection Base Case Data shall include information subject to the confidentiality provisions in Section 15.1.

The CAISO shall require current and former Interconnection Customers, Market Participants, and electric utility regulatory agencies within California to sign a CAISO confidentiality agreement and, where the current or former Interconnection Customer or Market Participant is not a member of WECC, or its successor, an appropriate form of agreement with WECC, or its successor, as necessary. All other entities or persons seeking Interconnection Base Case Data must satisfy the foregoing requirements as well as all requirements under 18 C.F.R. Section 388.113 for obtaining the release of Critical Energy Infrastructure Information (as that term is defined by FERC). The CAISO will maintain a link on OASIS to the secured section of the CAISO website with the Interconnection Base Case Data.

* * * *

Section 3 Interconnection Requests

3.1 General

Pursuant to CAISO Tariff Section 25.1, a duly authorized officer or agent of the Interconnection Customer will submit to the CAISO (1) an Interconnection Request consistent with Appendix 1 to this GIDAP, including (2) an executed Generator Interconnection Study Process Agreement consistent with Appendix 3 to this GIDAP. All forms may be submitted electronically as provided on the CAISO website. Interconnection customers will submit Appendix B to the Generator Interconnection Study Process Agreement pursuant to Section 7 of this GIDAP. The CAISO will forward a copy of the Interconnection Request to the applicable Participating TO within five (5) Business Days of receipt.

The Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. The Interconnection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests.

Interconnection Customers may request Interconnection Service Capacity below the Generating Facility Capacity. The CAISO will study these requests for Interconnection Service at the level of Interconnection Service Capacity requested for purposes of Interconnection Studies, Network Upgrades, and associated costs. If the Generating Facility Capacity requires additional Network Upgrades beyond the Interconnection Service Capacity, the CAISO will provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade cost required for safety and reliability will be assigned to the Interconnection Customer and eligible for reimbursement consistent with the treatment of Interconnection Facilities and Network Upgrade provided in this GIDAP. Interconnection Customers may be subject to additional control technologies, as well as testing and validation of those technologies consistent with Article 6 of the GIA and Article 2 of the SGIA. The necessary control technologies and protection systems shall be established in Appendix C of that executed, or requested to be filed unexecuted, GIA.

* * * *

3.6.1 Interconnection Studies Statistics

The CAISO will maintain on its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. The CAISO will maintain a link on OASIS to the CAISO website with the interconnection statistics. These statistics will include:

3.6.1.1 Phase I Interconnection Studies

- (A) The number of Interconnection Requests to the CAISO Controlled Grid that had Phase I Interconnection Studies completed;
- (B) The number of Interconnection Requests to the CAISO Controlled Grid that had Phase I Interconnection Studies completed beyond the one hundred seventy (170) days planned for the Phase I Interconnection Study pursuant to Section 6.6 of this GIDAP;

* * * *

3.6.3 FERC Reporting

In the event that any of the percentages calculated in any subparagraph E of Section 3.6.1.1 and 3.6.1.2 exceeds twenty five (25) percent for two (2) consecutive quarters, the CAISO will, for the next four quarters and until those percentages fall below twenty five (25) percent for two (2) consecutive quarters:

- (i) submit a report to FERC describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline for completion (excluding any allowance for Reasonable Efforts). The CAISO will describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The CAISO will file the report with FERC within forty five (45) days of the end of the calendar quarter.
- (ii) aggregate and publish on the CAISO Website the total number of employee-hours and third party consultant hours expended towards its Interconnection Studies. The CAISO will publish these figures within thirty (30) days of the end of the calendar quarter.

* * * *

6.5 Assigned and Contingent Facilities

The CAISO and Participating TO will provide, upon request of the Interconnection Customer, its estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each Assigned Network Upgrade, Conditionally Assigned Network Upgrade, or Precursor Network Upgrade when this information is readily available and not commercially sensitive.

* * * *

14.2 Construction Sequencing

* * * *

14.2.4 Limited Operation Study

- 14.2.4.1** Pursuant to Article 5.9 of the Large Generator Interconnection Agreement set forth in Appendices V, BB, CC, and EE, Generating Facilities may request a limited operation study. The Participating TO and/or the CAISO, as applicable, will, upon the request and at the expense of the Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Generating Unit and the Interconnection Customer's Interconnection Facilities may operate prior to the completion of the Participating TO's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice. The Participating TO and the CAISO will permit the Interconnection Customer to operate the Generating Unit and the Interconnection Customer's Interconnection Facilities in accordance with the results of such studies. To the extent study assumptions change, the CAISO and Participating TO will update study results as needed.

* * * *

Appendix EE

* * * *

ARTICLE 5. INTERCONNECTION FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION

* * * *

- 5.1.4 Negotiated Option.** If the dates designated by the Interconnection Customer are not acceptable to the CAISO and Participating TO, the Parties shall in good faith attempt to negotiate terms and conditions, including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than the Participating TO's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3. If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), the Participating TO shall assume responsibility for the design, procurement and construction of all facilities other than the Participating TO's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

Attachment B – Marked Tariff

Filing in Compliance with February 20, 2020 Order re Order No. 845 Compliance

California Independent System Operator Corporation

April 21, 2020

Appendix DD

* * * *

2.3 Interconnection Base Case Data

For each Interconnection Study Cycle, the CAISO, in coordination with applicable Participating TO(s), shall maintain updated Interconnection Base Case Data, including, as applicable, separate Interconnection Base Case Data for each Group Study to reflect system conditions particular to the Group Study, to a secured section of the CAISO Website. Interconnection Base Case Data will represent the network model and underlying assumptions used during the most recent Interconnection Study and represent system conditions in the near term planning horizon.

The CAISO will update and publish the Interconnection Base Case Data:

- (1) prior to the Phase I Interconnection Study with the Generation reflected in valid Interconnection Requests for the Interconnection Study Cycle, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions;
- (2) after the Phase I Interconnection Study with the Generation reflected in valid Interconnection Requests submitted in the Cluster Application Window for the Interconnection Study Cycle, and the identified preliminary transmission upgrades or additions, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions;
- (3) prior to the Phase II Interconnection Study, including all remaining Generation from the Phase I Interconnection Study for the Interconnection Study Cycle, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions; and
- (4) after the Phase II Interconnection Study, including all remaining Generation from the applicable Phase I Interconnection Study and the identified transmission upgrades and additions for the Interconnection Study Cycle, as well as all Generation reflected in the Interconnection Requests in the Independent Study Process that entered the CAISO's interconnection queue prior to the creation of the Base Case, along with any associated transmission upgrades or additions.

Interconnection Base Case Data shall include information subject to the confidentiality provisions in Section 15.1.

The CAISO shall require current and former Interconnection Customers, Market Participants, and electric utility regulatory agencies within California to sign a CAISO confidentiality agreement and, where the current or former Interconnection Customer or Market Participant is not a member of WECC, or its successor, an appropriate form of agreement with WECC, or its successor, as necessary. All other entities or persons seeking Interconnection Base Case Data must satisfy the foregoing requirements as well as all requirements under 18 C.F.R. Section 388.113 for obtaining the release of Critical Energy Infrastructure Information (as that term is defined by FERC). [The CAISO will maintain a link on OASIS to the secured section of the CAISO website with the Interconnection Base Case Data.](#)

* * * * *

Section 3 Interconnection Requests

3.1 General

Pursuant to CAISO Tariff Section 25.1, a duly authorized officer or agent of the Interconnection Customer will submit to the CAISO (1) an Interconnection Request consistent with Appendix 1 to this GIDAP, including (2) an executed Generator Interconnection Study Process Agreement consistent with Appendix 3 to this GIDAP. All forms may be submitted electronically as provided on the CAISO website. Interconnection customers will submit Appendix B to the Generator Interconnection Study Process Agreement pursuant to Section 7 of this GIDAP. The CAISO will forward a copy of the Interconnection Request to the applicable Participating TO within five (5) Business Days of receipt.

The Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. The Interconnection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests.

Interconnection Customers may request Interconnection Service Capacity below the Generating Facility Capacity. The CAISO will study these requests for Interconnection Service at the level of Interconnection Service Capacity requested for purposes of Interconnection Studies, Network Upgrades, and associated costs. If the Generating Facility Capacity requires additional Network Upgrades beyond the Interconnection Service Capacity, the CAISO will provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade cost required for safety and reliability will be assigned to the Interconnection Customer and eligible for reimbursement consistent with the treatment of Interconnection Facilities and Network Upgrade provided in this GIDAP. Interconnection Customers may be subject to additional control technologies, as well as testing and validation of those technologies consistent with Article 6 of the GIA and Article 2 of the SGIA. The necessary control technologies and protection systems ~~as well as any potential penalties for exceeding the level of Interconnection Service Capacity established in the executed, or requested to be filed unexecuted, GIA~~ shall be established in Appendix C of that executed, or requested to be filed unexecuted, GIA.

* * * * *

3.6.1 Interconnection Studies Statistics

~~The CAISO will maintain on its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. On a quarterly basis, the CAISO will publish to the CAISO Website summary quarterly statistics related to processing Interconnection Studies pursuant to Interconnection Requests. The CAISO will maintain a link on OASIS to the CAISO website with the interconnection statistics.~~ These statistics will include:

3.6.1.1 Phase I Interconnection Studies

- (A) The number of Interconnection Requests to the CAISO Controlled Grid that had Phase I Interconnection Studies completed;
- (B) The number of Interconnection Requests to the CAISO Controlled Grid that had Phase I Interconnection Studies completed beyond the one hundred seventy (170) days planned for the Phase I Interconnection Study pursuant to Section 6.6 of this GIDAP;

* * * * *

3.6.3 FERC Reporting

In the event that any of the percentages calculated in any subparagraph E of Section 3.6.1.1 and 3.6.1.2 exceeds twenty five (25) percent for two (2) consecutive quarters, the CAISO will, for the next four quarters and until those percentages fall below twenty five (25) percent for two (2) consecutive quarters:

- (i) submit a report to FERC describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline for completion (excluding any allowance for Reasonable Efforts). The CAISO will describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The CAISO will file the report with FERC within forty five (45) days of the end of the calendar quarter.
- (ii) aggregate and publish on the CAISO Website the total number of employee-hours and third party consultant hours expended towards its Interconnection Studies. The CAISO will publish these figures within thirty (30) days of the end of the calendar quarter.

* * * *

6.5 ~~Intentionally Omitted~~ Assigned and Contingent Facilities

The CAISO and Participating TO will provide, upon request of the Interconnection Customer, its estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each Assigned Network Upgrade, Conditionally Assigned Network Upgrade, or Precursor Network Upgrade when this information is readily available and not commercially sensitive.

* * * *

14.2 Construction Sequencing

* * * *

14.2.4 Limited Operation Study

- 14.2.4.1** Pursuant to Article 5.9 of the Large Generator Interconnection Agreement set forth in Appendices V, BB, CC, and EE, Generating Facilities may request a limited operation study ~~if any of the Participating TO's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Generating Unit.~~ The Participating TO and/or the CAISO, as applicable, will, upon the request and at the expense of the Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Generating Unit and the Interconnection Customer's Interconnection Facilities may operate prior to the completion of the Participating TO's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice. The Participating TO and the CAISO will permit the Interconnection Customer to operate the Generating Unit and the Interconnection Customer's Interconnection Facilities in accordance with the results of such studies. To the extent study assumptions change, the CAISO and Participating TO will update study results as needed.

* * * *

Appendix EE

* * * *

ARTICLE 5. INTERCONNECTION FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION

* * * *

5.1.4 Negotiated Option. If the dates designated by the Interconnection Customer are not acceptable to the CAISO and Participating TO, the Parties shall in good faith attempt to negotiate terms and conditions, including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than the Participating TO's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3. If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), the Participating TO shall assume responsibility for the design, procurement and construction of all facilities other than the Participating TO's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.