August 23, 2019

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

Re: California Independent System Operator Corporation
Docket No. ER19-___-000

Tariff Amendment to Implement 2018 Interconnection Process Enhancements

Dear Secretary Bose:

The California Independent System Operator Corporation ("CAISO") submits this tariff amendment to improve its generator interconnection procedures.[1] The changes proposed in this tariff amendment were part of the CAISO's most recent Interconnection Process Enhancements ("IPE") stakeholder initiative. The CAISO's proposed amendment comprises five distinct sets of revisions:

A. Increasing the reimbursement limit established in 2012 for reliability network upgrades to account for inflation and higher construction costs;

B. Clarifying the rules for transferring deliverability among an interconnection customer's generating units;

C. Clarifying the cost allocation rules for affected Participated Transmission Owners and the interconnecting Participating Transmission Owner;

D. Clarifying the cost allocation rules for different categories of network upgrades; and

E. Removing the requirement that interconnection customers execute

[1] The CAISO submits this filing pursuant to section 205 of the Federal Power Act, 16 U.S.C. § 824d. 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 and revised or proposed in this filing, unless otherwise indicated.

To the extent the CAISO's proposed revisions diverge from the generator interconnection procedures in Order Nos. 2003 and 845, the CAISO believes that they represent needed improvements to existing provisions of the CAISO's current tariff.

generator interconnection agreements ("GIAs") within one year of receiving a deliverability allocation.

The CAISO discusses each enhancement in Section I, below. The CAISO notes that each set of revisions is separate and not dependent on the other, from both a substantive and an implementation perspective. The CAISO has filed them together because they were part of the same stakeholder process, because they represent enhancements to generator interconnection procedures, and because a single filing promotes administrative efficiency. The CAISO respectfully requests that the Commission approve these revisions as just and reasonable, effective October 23, 2019, 61 days from this filing.

I. Interconnection Enhancements

A. Raising the Limit for Reliability Network Upgrade Reimbursement to account for Increased Costs

1. Current Process

Interconnection customers may require new network upgrades to interconnect new generation reliably.[2] In the CAISO, interconnection customers finance the construction of these network upgrades, and the transmission owner reimburses the interconnection customer within five years of the commercial operation date.[3] The transmission owner then includes the cost of the new network upgrades in its transmission revenue requirement ultimately to be reimbursed by ratepayers. The CAISO has different cost allocation and reimbursement rules for different types of network upgrades, including "Reliability Network Upgrades." Reliability network upgrades are the transmission facilities a generator needs to interconnect safely to the grid and generally address short circuit, stability, and thermal issues.[4]

Transmission owners reimburse interconnection customers for their contribution to the cost of reliability network upgrades, up to a maximum amount of $60,000 per MW of generating capacity. The CAISO established this cap in 2012 to help ensure that transmission owners and ratepayers only incur costs for prudent network upgrades. The cap incentivizes interconnection customers to avoid siting projects in locations where the costs of reliability network upgrades would be inappropriately high.

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[2] The CAISO transmission planning process identifies network upgrades based on the location and the amount of new resources anticipated to be ultimately developed in discrete geographic areas.

[3] Section 14.3.2.1 of Appendix DD; Section 11.4.1.1 of Appendix EE; Section 5.3.1.1 of Appendix FF to the CAISO tariff.

[4] *See* Appendix A to the CAISO tariff. The other major category of network upgrades is "Delivery Network Upgrades," which allow the new generator to deliver its full output to load during peak grid conditions.

The CAISO established the $60,000 per MW figure in 2012 and has not updated it. As a result of increased costs and inflation, the CAISO and its stakeholders believe this figure may no longer be sufficient to compensate interconnection customers for necessary and prudent Reliability Network Upgrades up to the level the tariff intended. Network upgrade construction costs obviously can increase for a variety of reasons including inflation, tariffs, and increased procurement costs. For example, according to the Handy-Whitman Index of Public Utility Construction Costs in the Pacific Region, $60,000 in 2012 is equal in spending power to $69,326 in 2018.[5]

2. Proposed Revisions

The CAISO proposes to maintain the cost cap for Reliability Network Upgrades, but to publish an annual cost escalation factor for the $60,000 figure.[6] Consistent with industry standards and the CAISO's existing per-unit cost guide, the CAISO intends to use the Handy-Whitman Index of Public Utility Construction Costs for Total Transmission Plant (Pacific Region). This will allow the CAISO to increase the $60,000 figure as actual costs increase over time for such upgrades. The CAISO already administers a similar adjustment process for the per-unit cost guide for the estimates and cost escalation factors used to develop cost estimates in the interconnection studies.[7] The CAISO will publish the annual escalation factor for the $60,000 figure on the CAISO website with the per unit cost guide. This revision will account for the time value of money and relevant cost increases for procurement and construction. Accounting for such will help to compensate interconnection customers fairly without sacrificing the original intent of the cap. Interconnection customers will be entitled to repayment based on the figure corresponding to their commercial operation date.[8] All stakeholders supported this revision.

B. Clarifying when an Interconnection Customer can Transfer Deliverability

1. Current Process

Included in each interconnection request is a request for a "deliverability"

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5 Calculations were based upon the Consumer Price Index, published by the United States Department of Labor. United States Department of Labor, "CPI Inflation Calculator," *available at* https://www.bls.gov/data/inflation_calculator.htm.

6 Proposed Section 14.3.2.1 of Appendix DD to the CAISO tariff. The CAISO included a similar provision in the *pro forma* large and small generator interconnection agreements . *See* Proposed Section 11.4.1.1 of Appendix EE; Section 5.3.1.1(a) of Appendix FF to the CAISO tariff.

7 *See* Section 6.4 of Appendix DD.

8 Proposed Section 14.3.2.1(1) of Appendix DD to the CAISO tariff.

designation: Full Capacity Deliverability Status ("FCDS") or Energy-Only.[9] An FCDS designation represents that the grid is capable of delivering the generator's maximum output to the grid under peak load conditions.[10] An Energy-Only designation represents that the generator's full output can be delivered only subject to grid conditions.[11] These designations play a key role in being eligible to provide resource adequacy capacity in California: Energy-Only generators are ineligible to provide resource adequacy capacity.

An interconnection customer may effect a deliverability transfer among its own generating units though certain modifications that require disaggregation of an interconnection request. Examples include when interconnection customers elect to divide a single generating facility into different generating units for market purposes, or when interconnection customers construct their generating units in phases. Currently, the CAISO tariff does not provide substantial guidance on how deliverability can be transferred among generating units in these situations.

2. Proposed Revisions

The CAISO proposes to clarify the rules for allocating deliverability among generating units. This proposal makes no substantive changes to CAISO policy or procedure, but will provide a single provision in the CAISO tariff that outlines the methods and rules for transferring deliverability. Several rules apply to deliverability transfers. An interconnection customer may transfer deliverability among its generating units at its generating facility.[12] The generating units must be located at the same point of interconnection and operate under the same GIA. Deliverability cannot increase for the interconnection customer as a result of the transfer.[13] The deliverability allocations

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[9] Generating Facilities also can have Partial Capacity Deliverability Status (*e.g.*, as they await the completion of additional construction to be FCDS), but this designation is not germane to this discussion.

[10] *California Independent System Operator Corp.*, 124 FERC ¶ 61,292 at PP 94-112 (2008) ("For generators selecting full capacity deliverability, the maximum output of each facility can be delivered under peak conditions. Deliverability assessment(s) will be performed to determine the need for delivery network upgrades. The costs for delivery network upgrades will be assigned based on the flow impact of each generating facility on the ISO controlled grid. In addition, an analysis for reliability impacts will be done to determine the need for reliability network upgrades"). Deliverability designations are slightly different for wind resources because their "maximum capacity" is not necessarily commensurate with their nameplate capacity (minus auxiliary load), like it is for most generators. In any case, being designated FCDS or PCDS is not a guarantee that such a generator's energy will be delivered. All generators—regardless of designation—are subject to security-constrained economic dispatch and curtailment by the CAISO.

[11] *Id*. at P 95.

[12] Or among its Resource IDs.

[13] Proposed Section 8.9.9 of Appendix DD, Section 3.3.3.3 of Appendix U, and Section 4.6.1 of Appendix Y to the CAISO tariff.

resulting from the transfer will be based on the CAISO's Deliverability Assessment.[14] The CAISO also proposes to clarify that the two methods for requesting such transfers are (1) a conventional modification request, and (2) as part of a repowering request.[15] All stakeholders supported these clarifications. The Commission should find them as just and reasonable because they will increase transparency and clarify existing processes.

C. Affected Participating Transmission Owners

1. Current Process

An interconnection customer may affect a transmission owner other than the customer's interconnecting transmission owner. Consistent with Order No. 2003,[16] when these transmission owners are not CAISO participating transmission owners, they are referred to as "Affected Systems."[17] Although the CAISO tariff has detailed provisions on Affected Systems,[18] the CAISO tariff has few provisions addressing affected *participating* transmission owners that are not the interconnecting participating transmission owner.

The figure below illustrates this issue:

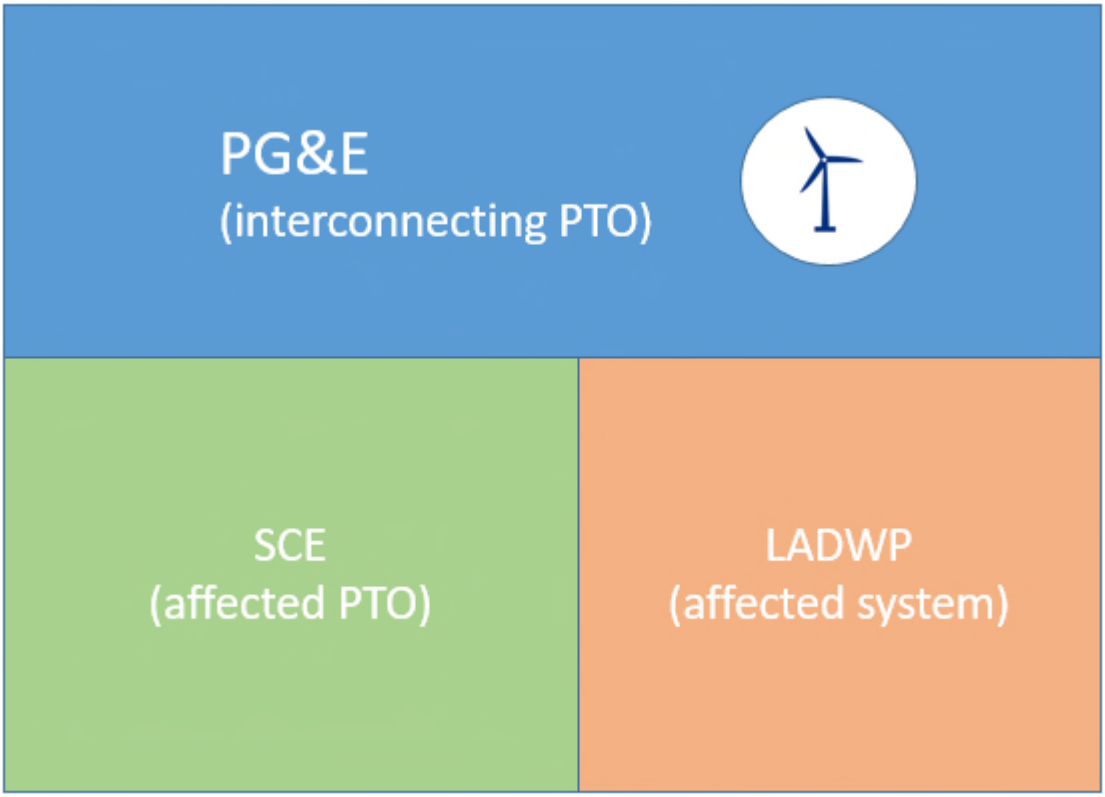
[14] Appendix A to the CAISO tariff defines the Deliverability Assessment as "An evaluation performed pursuant to the CAISO On-Peak Deliverability Assessment posted on the CAISO website, to determine if a Generating Facility or a group of Generating Facilities could provide Energy to the CAISO Controlled Grid and be delivered to the aggregate of Load on the CAISO Controlled Grid at peak Load, under a variety of severely stressed conditions."

[15] Proposed Section 8.9.9. of Appendix DD to the CAISO tariff (citing Section 6.7.2.2 of Appendix DD and Article 5.19 of Appendix EE (for modifications), and Section 25.1.2 of the CAISO tariff (for repowering requests)). The CAISO notes that the two methods are not mutually exclusive. For example, an interconnection customer could repower, then later transfer deliverability through a modification request. The order could be reversed, too.

[16] *Standardization of Generator Interconnection Agreements and Procedures,* Order No. 2003, 104 FERC ¶ 61,103 (2003).

[17] Appendix A to the CAISO tariff defines "Affected System" as "An electric system other than the CAISO Controlled Grid that may be affected by the proposed interconnection."

[18] *See* Section 3.7 of Appendix DD.



Here we see a hypothetical interconnection customer that seeks to interconnect its wind turbine to a point of interconnection in the Pacific Gas & Electric ("PG&E") territory. PG&E is a participating transmission owner in the CAISO, and it is the interconnecting transmission owner.[19] However, the interconnection of this wind turbine may affect two other adjacent transmission owners: Southern California Edison ("SCE") and the Los Angeles Department of Water and Power ("LADWP"). LADWP is not a participating transmission owner in the CAISO, so it is an Affected System.[20] The interconnection also affects SCE, which is a participating transmission owner in the CAISO. SCE is the affected participating transmission owner. Importantly, SCE is *not* considered an Affected System under the CAISO tariff; rather, it is a second participating transmission owner.

Because both PG&E and SCE are participating transmission owners, the

[19] "Interconnecting transmission owner" is not a term in the CAISO tariff or any policy; it's only used here to distinguish from the affected participating transmission owner.

[20] LADWP as the Affected System will study this interconnection, identify required mitigation, and enter into an affected system agreement with the interconnection customer. These studies and agreements will be governed by LADWP's tariff, independent of the CAISO, PG&E, and SCE. (Although the CAISO will provide LADWP its study results and include LADWP in all study meetings.)

CAISO's studies will identify the required network upgrades on both systems for this interconnection.[21] These studies will include the estimated costs for each upgrade on each system, the sum of which will comprise the interconnection customer's maximum cost responsibility.[22]

Although the CAISO tariff is clear that the interconnection customer's studies comprise its maximum cost responsibility, the CAISO tariff currently does not specify whether the interconnection customer has a single maximum cost responsibility (for all network upgrades on participating transmission owners' systems) or multiple maximum cost responsibilities (*i.e.*, one for each participating transmission owner). This ambiguity confuses how cost shifts within the maximum cost responsibility can be allocated between the applicable participating transmission owners. Moreover, the CAISO tariff does not specify whether interconnection customers post interconnection financial security to each participating transmission owner or only to the interconnecting participating transmission owner.

2. Proposed Revisions

The CAISO proposes to clarify the rules governing cost allocation among interconnecting and affected transmission owners. First, the CAISO tariff will specify that interconnection studies will list separate network upgrade cost estimates for the interconnecting and affected participating transmission owners.[23] These cost estimates will sum to establish a single maximum cost responsibility for the interconnection customer's entire project.[24] A single cost cap for the participation transmission owners' costs will maintain the interconnection customer's cost certainty while providing grid planners flexibility as interconnection customers withdraw and upgrade cost responsibilities change.[25] For example, if an interconnection customer requires upgrades to systems of two separate participating transmission owners, and each system requires $5 million in upgrades, then the interconnection customer has a maximum cost responsibility of $10 million. This is a binding cost cap for the interconnection customer it can rely on. But if upgrades change due to project

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[21] But not LADWP's. LADWP will study the project pursuant to its own tariff.

[22] *See* Sections 6.2, 8.1, and 10.1 of Appendix DD to the CAISO tariff.

[23] Proposed Section 14.4.1 of Appendix DD; Section 11.4.1.1(e) of Appendix EE; Section 5.3.1.1(e) of Appendix FF to the CAISO tariff.

[24] *Id*. Consistent with the new terms proposed below, the CAISO also will provide a Current Cost Responsibility and Maximum Cost Exposure.

[25] Any affected system mitigation costs cannot be included in the CAISO's studies. Affected systems inherently are not subject to the CAISO tariff, and the vast majority of affected systems in California are expressly exempt from the Commission's jurisdiction under the Federal Power Act. Interconnection customers execute separate study agreements with affected systems, and, where necessary, agreements to finance the construction of network upgrades on the affected systems to mitigate reliability impacts.

withdrawals after the cost cap is established, it could be that a single $7 million upgrade on the interconnecting participating transmission owner's system will mitigate the impact on the affected participating transmission owner's system. A single aggregate cost cap allows planners to exceed the original $5 million estimate for the interconnecting participating transmission owner's upgrades as long as the total costs do not exceed the aggregate cost cap. As a result, the interconnection customer only has to finance $7 million toward construction, and ratepayers ultimately save $3 million. This framework enables the CAISO to consider potential alternative network upgrades that might provide more efficient and lower overall cost solutions without being constrained by multiple maximum cost responsibilities.

Second, the CAISO proposes to amend its tariff to instruct interconnection customers to make their first and second interconnection financial security postings to the interconnecting participating transmission owner only. These early postings are only for a portion of network upgrade costs (15 and 30 percent, respectively), and are designed to demonstrate that the interconnection customer is financially able and committed to developing its project.[26] Because third postings are designed to finance all costs upon construction, the interconnection customer will make its third financial security posting to each transmission owner separately based on their respective network upgrade cost estimates.[27]

Third, the CAISO proposes to specify that each participating transmission owner will reimburse the interconnection customer for its contribution to the cost of network upgrades. Reimbursement for reliability network upgrades will be paid by each transmission owner, proportional to the amounts provided by the interconnection customer.[28] However, the reimbursement is subject to a single, combined maximum based upon the interconnection customer's generating capacity, as discussed in Section I.A.2 of this filing.

These revisions are just and reasonable measures that will eliminate ambiguity and provide clarity on how costs are allocated among the interconnecting and affected transmission owners. Stakeholders unanimously supported the CAISO's proposal.

D. Cost Allocation Clarifications

1. Current Process

The CAISO's interconnection study process is unique among ISO/RTOs in (1) identifying all contingent facilities that could affect an interconnection customer's

[26] Sections 11.2 and 11.3.1 of Appendix DD to the CAISO tariff.

[27] Proposed Section 14.4.1 of Appendix DD to the CAISO tariff. As discussed below, the posting requirements will be based on the new term proposed herein, "Current Cost Responsibility."

[28] *Id*.

costs or timing, (2) providing cost estimates for these facilities, and, most critically, (3) creating binding cost caps based on those estimates. If upgrade assignments or cost allocations change after the interconnection customer has been studied, the interconnection customer cannot inherit any new costs exceeding the cost caps provided in its interconnection studies. Such exceedance would be covered by the non-refundable portion of interconnection financial security of withdrawn interconnection customers and the interconnecting transmission owner. Although to date transmission owners rarely have to cover such costs,[29] interconnection customers' binding cost caps provide crucial transparency to interconnection customers as they develop, market, and finance their projects. The cost caps also obviate any need to conduct serial restudies based on changes in upgrade cost responsibility. Interconnection customers can rely on their interconnection studies without fear of changes late in their projects' development. In the Commission's Order No. 845 proceeding, the American Wind Energy Association, NextEra, and several developers identified the CAISO processes as best practices.[30] NextEra, for example, advocated that the Commission adopt the CAISO's processes nationally "to break endless start and stop restudy cycles" elsewhere.[31]

Although the CAISO's overall process works well, certain provisions in the CAISO tariff are ambiguous regarding the different cost estimates interconnection studies provide. "Cost responsibility" is not a defined term in the CAISO tariff, but it currently appears in Appendix DD 115 times. Some provisions refer to the interconnection customer's maximum cost responsibility, meaning its binding overall cost cap.[32] Other provisions use the term "total cost responsibility" to refer to the same.[33] Some provisions refer to an interconnection customer's cost responsibility as its current, allocated cost responsibility, and not its maximum potential cost responsibility.[34] But some of these references also use the word "total" to mean

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[29] Intuitively, the most common change in study premises is the presence of other interconnection customers: The vast majority will withdraw because they could not secure a power purchase agreement. As interconnection customers withdraw, fewer upgrades are required to interconnect the remaining interconnection customers. As such, overall costs usually decrease as an interconnection customer remains in queue. As explained below, however, there can be exceptions. The most common would be when an interconnection customer shares a single upgrade with other interconnection customers that each customer would need regardless of the others. If the others withdraw and the upgrade is still needed, the remaining interconnection customer's share of the upgrade's costs would rise. For this reason, the current share and the potential share are identified in each interconnection customer's studies.

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

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

[32] *See, e.g.*, Sections 6.2, 7.4.3, and 10.1 of Appendix DD to the CAISO tariff.

[33] *See, e.g.*, Sections 6.7.3, 7.5.11, and 11.2.3.1 of Appendix DD to the CAISO tariff.

[34] *See, e.g.*, Sections 6.3.2.2 and 11.3.2.1 of Appendix DD to the CAISO tariff.

something different than "maximum."[35] New Interconnection customers can thus be confused whether a tariff reference to cost responsibility refers to its current cost responsibility, maximum cost responsibility, or both.[36]

Likewise, the CAISO tariff only has three categories of network upgrades: reliability network upgrades,[37] local delivery network upgrades,[38] and area delivery network upgrades.[39] These categories only differ based on the electrical need requiring their construction. Although the CAISO's interconnection studies identify all the network upgrades an interconnection customer needs to interconnect and could be responsible for, the tariff itself could be clearer in distinguishing between network upgrades currently assigned to the interconnection customer and conditional network upgrades the interconnection customer might also inherit depending on the action of other interconnection customers. The CAISO tariff lacks defined terms that distinguish among network upgrades for purposes of cost allocation and responsibility. For example, if an interconnection customer is assigned a network upgrade, it may not always know whether the network upgrade is an absolute necessity, may go away if other customers drop out, may become free to the interconnection customer once an earlier-assigned customer executes its GIA, or will always be free to the interconnection customer but may affect its commercial operation date.[40] Although the interconnection customer will understand its total risk and why each upgrade is required, it may be difficult to determine and track the probability of different specific eventualities for each

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35 *See, e.g.*, Sections 11.3.1.4.2 and 11.3.2.1 of Appendix DD to the CAISO tariff.

36 Many provisions can refer to both current and maximum cost responsibility, such as the provisions stating which events will *not* lead to changes in cost responsibility. *See, e.g.*, Sections 6.7.2.5 and 6.7.4 of Appendix DD to the CAISO tariff.

37 Appendix A to the CAISO tariff defines "Reliability Network Upgrade" as "The transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or thermal overloads. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which system operating limits cannot be adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating."

38 Appendix A to the CAISO tariff defines "Local Delivery Network Upgrades" as "A transmission upgrade or addition identified by the CAISO in the GIDAP interconnection study process to relieve a Local Deliverability Constraint."

39 Appendix A to the CAISO tariff defines "Area Delivery Network Upgrades" as "A transmission upgrade or addition identified by the CAISO to relieve an Area Deliverability Constraint."

40 Section 14.2.2 of the CAISO tariff.

upgrade. New developers also may not understand that interconnection financial security posting requirements are based on their current allocated cost responsibility, not their maximum cost responsibility.

The CAISO's cost allocation methodology varies based on the type of network upgrade. The costs for reliability network upgrades related to short circuit duty are allocated based on interconnection customers' short circuit duty contributions.[41] Other reliability network upgrade costs are allocated based on maximum output.[42] The costs for delivery network upgrades are allocated based on the distribution factor methodology in the CAISO's deliverability assessment.[43] Some of these allocations remain constant throughout an interconnection customer's development, but others can change based on changes in the queue. But again, the CAISO tariff currently lacks terms to clearly identify and categorize the different possibilities.

Clarifying cost allocation rules can be critical for different types of reliability network upgrades, especially, "Interconnection" reliability network upgrades or "plan of service" reliability network upgrades are those upgrades unavoidably and obviously required for interconnection. Generally they are the most expensive type of upgrades. For example, if an existing substation has three bays for generator interconnections, and all three bays are already occupied by online generators, any interconnection customer proposing to interconnect to that substation will know that its interconnection will require constructing an additional substation bay, regardless of the generator's capacity or short circuit duty contribution. (And if the existing substation cannot be expanded, then a new substation will be required, significantly impacting the cost of the interconnection.) Unlike most other upgrades, if these upgrades are assigned to multiple interconnection customers, the costs do not decrease as interconnection customers withdraw. Any interconnection customer assigned such an upgrade should therefore understand up-front that if other interconnection customers that share the upgrade withdraw, its share of the upgrade will rise. In other words, interconnection customers should understand that the risk profile for the costs of these upgrades is different. The CAISO has observed, however, that this is not always the case, and many interconnection customers linger in the queue hoping that such costs will decrease or go away.

This can be especially true where an interconnection customer in an earlier interconnection queue has been assigned an interconnection reliability network upgrade before a later-queued customer.[44] The later-queued interconnection customer is also

41 Sections 6.3 and 8.3 of Appendix DD.

42 *Id*.

43 Sections 6.3.2 and 8.4 of Appendix DD.

44 The CAISO uses the term "earlier" throughout this filing. "Earlier" should not be confused with simply having a lower number in the CAISO's generator interconnection queue, because all interconnection requests in the same annual group cluster study are considered submitted at the same

assigned the cost of the upgrade,[45] but might remain in queue because it hopes the earlier queued customer will execute a GIA, making it and the transmission owner responsible for the costs (and removing cost responsibility from the later customer).[46] Because these upgrades are typically very expensive, they are the most likely to cause interconnection customers to withdraw before executing a GIA, causing the later queued customer to inherit the costs of the upgrade. Although the CAISO's interconnection studies identify these upgrades and their potential costs, clearly distinguishing these types of upgrades would help interconnection customers better understand their risks.

Participating transmission owners also have expressed that developers may attempt to game the CAISO tariff to escape cost responsibility for such upgrades. For example, a developer could submit an interconnection request in 2018, which is assigned an expensive substation upgrade. The same developer could then submit an identical interconnection request in 2019, which also would be assigned the same upgrade. If the developer executes a GIA for the 2018 request, the 2019 request would no longer be financially responsible for the upgrade. The developer could then withdraw the 2018 request, which would result in the loss of a significant portion of its interconnection financial security; however, this figure may be less than the financing obligation of the 2019 interconnection customer, saving the developer money and making the 2019 project more marketable for power purchase agreements. It is very difficult to determine such motives, however, because developers frequently submit similar or identical interconnection requests in different years simply to align with load serving entities' capacity procurement cycles. This is a reasonable practice because a project almost selected for a power purchase agreement in one year may be the winner in later years. As explained below, the CAISO's proposal to identify "Interconnection Reliability Network Upgrades" will help address this process by making it easier for all parties to identify and track the upgrades that would be most advantageous to game, and then address these situations in GIAs if needed.

time. As such, "earlier" generally refers to interconnection customers in previous years' group cluster studies, or interconnection customers studied separately in the independent study or fast track process who submitted interconnection requests before the relevant interconnection customer. Independent study and fast track interconnection requests rarely result in network upgrades later queued customers rely on, however, so "earlier interconnection customer" generally refers to interconnection customers in previous cluster studies.

[45] So long as no earlier customer has executed a GIA. Section 14.2.2 of Appendix DD to the CAISO tariff.

[46] *Id*.

2. Proposed Revisions

(a) New Terms

The CAISO proposes to introduce eight new defined terms to its generator interconnection processes. The CAISO believes these terms will help interconnection customers better understand their financing obligations and the risk profiles for each network upgrade type. The CAISO's interconnection study reports will continue to identify all network upgrades that may affect an interconnection customer's costs, timing, or deliverability status. In addition, the CAISO will use its new proposed terms in its interconnection study reports so that interconnection customers' network upgrades are labeled with clear, easily understandable terms for cost allocation purposes.

The first set of proposed terms describes whether an interconnection customer has, may have, or will not have cost responsibility for network upgrades:[47]

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 GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

The first proposed 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 proposed terms: Conditionally Assigned Network Upgrade and Precursor Network Upgrade. Conditionally Assigned Network Upgrades are those network upgrades assigned to an

[47] The CAISO proposes to include all new terms in Appendix A to the CAISO tariff.

earlier interconnection customer (giving them cost responsibility), but which may fall to the interconnection customer and become Assigned Network Upgrades. This generally would occur if the earlier interconnection customers assigned the network upgrade withdraw their interconnection requests without having executed a GIA. Precursor Network Upgrades, on the other hand, are those 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. Although the interconnection customer will not assume their cost responsibility, it is important for the interconnection customer to understand that these network upgrades may affect the timing of its interconnection or deliverability status.[48]

The second set of proposed new terms describes the interconnection customer's aggregate cost responsibilities.

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. It consists of the interconnection customer's allocated shares of

[48] An interconnection customer may not be able to interconnect its full capacity until some or all of its necessary reliability network upgrades are complete. Likewise, an interconnection customer may be able to come online, but may not receive its requested deliverability status until the completion of its delivery network upgrades.

Assigned Network Upgrade costs. Interconnection customers will post interconnection financial security based on this figure.[49]

Maximum Cost Responsibility and Maximum Cost Exposure both describe the interconnection customer's *potential* total costs. 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. Compared to the Current Cost Responsibility, the Maximum Cost Responsibility allows interconnection customers to understand how their own interconnection cluster may affect their costs.[50] For example, if the other interconnection customers in their interconnection cluster that share an Interconnection Reliability Network Upgrade withdraws, 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.[51] 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 terms above describe substantial changes to CAISO policy. These terms simply introduce labels designed to help interconnection customers, financiers, and load serving entities understand a project's costs, potential costs, and the likelihood of costs going up or down. The Maximum Cost Responsibility will be 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. 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 (without the conversion of Conditionally Assigned Network Upgrades), the interconnection customer would not inherit those costs. The CAISO has included detailed examples and figures demonstrating how these caps work in practice in

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

[50] Proposed Sections 6.3 and 8.3 of Appendix DD to the CAISO tariff (in addition to the proposed Appendix A definitions).

[51] *Id*.

Attachment C to this filing.[52]

The third set of new defined terms describes the different categories of Reliability Network Upgrades for cost allocation purposes. This is consistent with the CAISO's existing practice for Delivery Network Upgrades, which include both Area Delivery Network Upgrades and Local Delivery Network Upgrades.[53] Although the CAISO tariff describes different cost allocation rules for different types of Reliability Network Upgrades,[54] there are no defined terms to clearly distinguish among Reliability Network Upgrades. The CAISO thus proposes to create two new defined terms to describe subsets of Reliability Network Upgrades.[55]

Term	Definition
Interconnection Reliability Network Upgrade	Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.
General Reliability Network Upgrade	Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

For most purposes it is not necessary to distinguish among Reliability Network Upgrades. All types of Reliability Network Upgrades still address reliability issues for interconnection consistent with Order No. 2003. But for cost responsibility purposes, the CAISO believes that distinguishing between Interconnection Reliability Network Upgrades and all other Reliability Network Upgrades provides greater clarity to interconnection customers. The term "Interconnection Reliability Network Upgrade" refers to the network upgrades described above that generally will be obviously needed for an interconnection even without a study. Such upgrades can include substation

[52] Attachment C refers to Interconnection Service Reliability Network Upgrades ("ISRNUs"), but the CAISO shortened this term to Interconnection Reliability Network Upgrades ("IRNUs"), as proposed here.

[53] Area Delivery Network Upgrades generally result from the CAISO's transmission planning process, and are financed by their project sponsors. Generally interconnection customers do not bear their costs unless they agree to finance them on a merchant basis to guarantee deliverability (an option interconnection customers have never exercised). Local Delivery Network Upgrades result from the generator interconnection process, and interconnection customers triggering those upgrades finance them.

[54] Sections 6.3 and 8.3 of Appendix DD.

[55] The CAISO also proposes to revise the definition of Reliability Network Upgrades to note "Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades." The CAISO also proposes to remove some unnecessary verbiage—the repetition of "system operating limits"—in the definition.

expansions, new substations and associated "loop-in" transmission lines, and other facilities essential to accomplish the physical interconnection of a new resource. For the reasons discussed in detail above, the CAISO proposes to clarify that the total costs of these Interconnection Reliability Network Upgrades are within an interconnection customer's Maximum Cost Responsibility (and thus Maximum Cost Exposure) even if their Current Cost Responsibility initially includes only a portion of the upgrades.[56] As such, an interconnection customer's Current Cost Responsibility can rise up the full cost of an Interconnection Reliability Network Upgrade it needs if other interconnection customers assigned the upgrade withdraw their interconnection requests. The Interconnection Reliability Network Upgrade label also allows transmission owners to track these upgrades more easily. This will allow transmission owners and interconnection customers to negotiate any GIA terms that may be necessary to ensure developers are not gaming the cost allocation process with requests across multiple clusters.[57]

(a) Incorporating New Terms

The CAISO proposes to incorporate these eight new defined terms throughout Appendix DD to the CAISO tariff and the *pro forma* GIAs. This results in myriad changes throughout Appendix DD, most of which do not warrant substantive description here because they merely consist of capitalizing existing terms or revising references to include specific terms instead of the current generic references. For example, the CAISO proposes to revise numerous existing references to "cost responsibility," "maximum cost responsibility," or "total cost responsibility," to the correct new defined term or terms.[58] Likewise, the CAISO proposes to revise existing references to Network Upgrades where it is more clear to specify certain subsets.[59] Although these revisions are spread throughout Appendix DD, they center around three types of provisions: (1) interconnection studies, (2) cost allocation, and (3) interconnection financial security.

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[56] Proposed Sections 6.3 and 8.3 of Appendix DD to the CAISO tariff. (This treatment also is express in the proposed definition of Maximum Cost Responsibility.)

[57] The Commission has approved such GIAs in the past. *See Southern California Edison Co.*, Docket No. ER19-515-000. To be sure, the CAISO is not alleging that developers here or elsewhere intended to game the CAISO's interconnection processes. To the contrary, here the developer agreed to non-conforming GIA terms to assure all parties that it would finance its required facilities. But the *opportunity* for gaming exists, and the revisions proposed herein provide transparency that will mitigate risk.

[58] This is not to say that the CAISO has replaced *every* reference to cost responsibility. Some references should remain generic because they refer to all of the new cost responsibility terms *generally*, and a generic reference is more readable than listing "Current Cost Responsibility, Maximum Cost Responsibility, and/or Maximum Cost Exposure, as applicable," in every instance.

[59] Again, this is not to say that the CAISO has replaced every reference to Network Upgrades because many generic references to supersets are more accurate and more readable than listing all of the subsets.

The CAISO discusses each type below.

First, the CAISO proposes to revise the provisions discussing its interconnection studies: the phase I interconnection study;[60] phase II interconnection study;[61] and the annual reassessment.[62] The revisions to all three provisions incorporate the new defined terms by specifying that interconnection studies will now:

- Categorize network upgrades as Precursor Network Upgrades, Conditionally Assigned Network Upgrades, or Assigned Network Upgrades;
- Provide the Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure; and
- Categorize Reliability Network Upgrades as Interconnection Reliability Network Upgrades or General Reliability Network Upgrades.[63]

The CAISO proposes to effect these tasks in addition to all of its existing interconnection study requirements. The CAISO's reassessment and phase II interconnection study will update the phase I interconnection study's initial results.[64] For example, if the CAISO determines that Conditionally Assigned Network Upgrades become Precursor Network Upgrades because an interconnection customer in a previously cluster has executed a GIA, the CAISO will adjust the later-queued interconnection customer's maximum cost exposure.[65] Likewise, if the CAISO determines that a Conditionally Assigned Network Upgrade becomes an Assigned Network Upgrade, the CAISO will adjust the interconnection customer's Current Cost

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60 Proposed Section 6.2 of Appendix DD to the CAISO tariff.

61 Proposed Section 8.1 of Appendix DD to the CAISO tariff.

62 Proposed Section 7.4 of Appendix DD to the CAISO tariff.

63 Proposed Sections 6.2, 7.4, and 8.1 of Appendix DD to the CAISO tariff.

64 Proposed Sections 7.4, 8.1, and 10.1 of Appendix DD to the CAISO tariff. Because Section 10.1 currently includes language that will be redundant with the new defined terms and Sections 8.1.1, the CAISO proposes to remove the detailed discussion in Section 10.1. The CAISO will update the examples in its Business Practice Manual for the GIDAP so interconnection customers can see how cost caps work in practice.

65 Proposed Sections 7.4.3(iii) and 8.1.1 of Appendix DD to the CAISO tariff. Importantly, only one earlier-queued interconnection customer sharing an upgrade with later-queued customers needs to execute its GIA for the upgrade to convert from a Conditionally Assigned Network Upgrade to a Precursor Network Upgrade. For example, assume the CAISO assigns a network upgrade to three interconnection customers in the 2018 cluster, then identifies the same network upgrade as a Conditionally Assigned Network Upgrade for two 2019 cluster interconnection customers. Once any of the three interconnection customers in 2018 cluster executes a GIA, the network upgrade will become a Precursor Network Upgrade for the two 2019 cluster interconnection customers. The CAISO notes that this is *not* a change to existing practice; only the defined terms are new.

Responsibility and Maximum Cost Responsibility accordingly.[66]

Second, the CAISO proposes to revise the provisions discussing cost allocation to include the new defined terms.[67] These revisions generally consist of clarifying the cost allocation distinctions between Interconnection Reliability Network Upgrades and General Reliability Network Upgrades, and how those allocations operate within an interconnection customer's Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure.

Third, the CAISO proposes to revise the provisions discussing interconnection financial security requirements to include the new defined terms.[68] Generally all of these revisions clarify that the Current Cost Responsibility establishes the interconnection financial security posting requirement (consistent with current practice). The CAISO also proposes to reiterate that the conversion of Conditionally Assigned Network Upgrades to Assigned Network Upgrades may result in revisions to the interconnection customer's Current Cost Responsibility, Maximum Cost Responsibility, Generator Interconnection Agreement, and Interconnection Financial Security, as applicable.[69]

The Commission should accept all of these revisions as just and reasonable. Stakeholders supported these revisions, which enhance the CAISO's existing, well-functioning processes to provide additional clarity and transparency to interconnection customers. The CAISO's proposed clarifications will help developers, load serving entities, and regulators better understand each potential new generator's costs and risks.

E. Removing the Requirement to Execute a GIA within One Year to Retain Deliverability

1. Current Process

In 2016, the Commission approved the CAISO's revisions to align the tender, negotiation, and execution of GIAs with each interconnection customer's actual construction schedule.[70] Importantly, however, the CAISO maintained the ability for

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66 Proposed Sections 7.4.3(iv) and 8.1.1 of Appendix DD to the CAISO tariff.

67 Proposed Sections 6.3, 7.5.11, 8.3, and 8.4 of Appendix DD to the CAISO tariff.

68 Proposed Sections 7.3, 7.6 (discussing the disbursement of the non-refundable portion of interconnection financial security for withdrawn interconnection customers), 10.2, 11, and 14.3 of Appendix DD to the CAISO tariff.

69 Proposed Section 11.3.2.5 of Appendix DD to the CAISO tariff.

70 *California Independent System Operator Corp.*, 154 FERC ¶ 61,169 at PP 15 *et seq.* (2016); Section 13 of Appendix DD to the CAISO tariff.

interconnection customers to request their GIAs earlier if desired.

Since then, a large number of interconnection customers have requested to negotiate and execute their GIAs long before their construction schedule commences. These interconnection customers do *not* make these requests for any particular commercial reason, but rather to comply with a separate tariff requirement to execute a GIA within one year of receiving a deliverability allocation in order to retain it.[71] The CAISO originally established this requirement to incentivize interconnection customers that have received deliverability to progress toward commercial operation. However, now this requirement is at odds with the CAISO, transmission owners, and interconnection customers' desire to align the execution of GIAs with construction and procurement commencement. As the CAISO explained in 2016, doing so aligns the transmission owner's backstop financing obligation—triggered by the GIA[72]—with its receipt of the interconnection customer's final interconnection financial security posting—triggered by the commencement of construction facilities.[73] This alignment closes any potential gap between when the transmission owner may be responsible to finance upgrades for a withdrawn interconnection customers and when the interconnection customer must provide the necessary funds to finance those upgrades.

2. Proposed Revisions

The CAISO proposes to remove the requirement that interconnection customers execute a GIA within one year of having received a deliverability allocation.[74] Instead, the CAISO and transmission owners will tender and negotiate GIAs with interconnection customers pursuant to the process approved in 2016.[75] Interconnection customers still may request to execute their GIAs early, but the CAISO and stakeholders believe that these requests will become far more rare with this revision. Instead of requiring interconnection customers to execute a GIA within one year to retain deliverability, the tariff will simply require an interconnection customer to remain in good standing with its GIA *if* it has executed one.[76] The CAISO and stakeholders believe these revisions will allow interconnection customers to negotiate and execute their GIAs based on their actual construction schedules rather than any arbitrary timeline. This also prevents transmission owners from being required to financially backstop network upgrades well before the projects are close to construction and their final interconnection financial security posting. Stakeholders supported this revision.

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71 Section 8.9.3(4) of Appendix DD to the CAISO tariff.

72 Section 14.2.2 of Appendix DD to the CAISO tariff.

73 Section 11.3.2 of Appendix DD to the CAISO tariff.

74 Proposed Section 8.9.3(4) of Appendix DD to the CAISO tariff.

75 Section 13 of Appendix DD to the CAISO tariff.

76 Proposed Section 8.9.3(4) of Appendix DD to the CAISO tariff.

II. Stakeholder Process

The CAISO continuously reviews and enhances its generator interconnection procedures.[77] After implementing significant generator interconnection reforms in 2008,[78] 2010,[79] and 2012,[80] the CAISO launched its first IPE initiative in 2013.[81] The 2013 IPE initiative resulted in interconnection enhancements to the CAISO tariff, business practice manuals, and procedures in 2013 and 2014.[82] The CAISO conducted another IPE initiative in 2015 that resulted in two more sets of enhancements.[83] In 2017 the CAISO conducted an expedited IPE initiative to implement two minor but critical sets of enhancements.[84]

After the success of the previous IPE initiatives, in 2018 the CAISO re-launched the IPE initiative. In doing so, the CAISO and stakeholders identified many enhancements that will improve the interconnection process for interconnection customers, ratepayers, transmission owners, and the CAISO. The vast majority of these enhancements resulted in the CAISO's September 27, 2018 filing in Docket No. ER18-2498, which was approved by the Commission on February 19, 2019.[85]

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[77] The generator interconnection process and related provisions are set forth primarily in section 25 of the CAISO tariff. The interconnection procedures and *pro forma* GIAs are generally contained in appendices S through FF to the CAISO tariff.

[78] *California Independent System Operator Corp.*, 124 FERC ¶ 61,292 (2008) (approving revisions to move from a serial to a cluster process, and to establish project viability and developer commitment as soon as interconnection customers have an estimate of the costs of their projects).

[79] *California Independent System Operator Corp.*, 133 FERC ¶ 61,223 (2010) (approving revisions to harmonize the CAISO's Large Generator Interconnection Procedures ("LGIP") with its Small Generator Interconnection Procedures ("SGIP") by establishing integrated cluster study processes for small and large generators, and to expedite study processes for independent or otherwise adroit generators by implementing new independent study and fast track processes).

[80] *California Independent System Operator Corp.*, 140 FERC ¶ 61,070 (2012) (approving revisions to integrate the transmission planning and generator interconnection processes).

[81] Further background information on the IPE initiative is provided in the CAISO's September 30, 2013 tariff amendment filing in Docket No. ER13-2484 to implement the first set of tariff revisions to enhance the generation interconnection process for interconnection customers.

[82] *See, e.g., California Independent System Operator Corp.*, 149 FERC ¶ 61,231 (2014); *California Independent System Operator Corp.,* 148 FERC ¶ 61,077 (2014); *California Independent System Operator Corp.,* 145 FERC ¶ 61,172 (2013).

[83] *California Independent System Operator Corp*., 153 FERC ¶ 61,242 (2015); 154 FERC ¶ 61,169 (2016).

[84] *California Independent System Operator Corp.*, 162 FERC ¶ 61,207 (2018) (extending the deliverability parking period and reconfiguring the interconnection request window to allow more time for corrections).

[85] *California Independent System Operator Corp.*, 166 FERC ¶ 61,113 (2019).

Additional enhancements were submitted in two subsequent filings on February 7, 2019 and February 28, 2019. The Commission approved the CAISO's February 7, 2019 filing. CAISO's February 28, 2019 filing is still pending approval. The instant filing represents the fourth and final filing of enhancements developed in the 2018 IPE initiative.

The stakeholder process that resulted in this filing included:

- The CAISO's soliciting stakeholder suggestions on items to be included in this iteration of the IPE initiative;
- Seven policy papers issued by the CAISO;[86]
- Developing draft tariff provisions;
- Eight stakeholder meetings and conference calls to discuss the CAISO papers and draft tariff revisions; and
- Seven opportunities to submit written comments on the CAISO papers and the draft tariff provisions.[87]

All stakeholders that commented on this issue in the IPE initiative supported or did not oppose the CAISO's proposal. The CAISO Governing Board voted to authorize the revisions in this filing during its public meetings on September 5, 2018, November 7, 2018, and January 30, 2019.[88]

III. Effective Date

The CAISO requests an effective date of October 23, 2019, 61 days from this filing.

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[86] Not all of the papers addressed every issue in the instant filing. Issues were spread among different tracks and therefore papers and Board meetings.

[87] Materials regarding the IPE stakeholder process are available on the CAISO website at http://www.caiso.com/informed/Pages/StakeholderProcesses/InterconnectionProcessEnhancements.aspx.

[88] Materials related to the Board's authorization to prepare and submit this filing are available on the CAISO website at http://www.caiso.com/informed/Pages/BoardCommittees/BoardGovernorsMeetings.aspx. The Memoranda provided to the Board is provided in attachment D to this filing.

IV. Communications

In accordance with Rule 203(b)(3) in the Commission's Rules of Practice and Procedure,[89] the CAISO respectfully requests that correspondence and other communications regarding this filing be directed to:

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

V. Service

The CAISO has served copies of this filing on the California Public Utilities Commission, the California Energy Commission, and all parties with scheduling coordinator agreements under the CAISO tariff. In addition, the CAISO has posted a copy of this filing on the CAISO website.

VI. Contents of Filing

Besides this transmittal letter, this filing includes these attachments:

Attachment A	Clean CAISO tariff sheets incorporating this tariff amendment;
Attachment B	Red-lined document showing the revisions in this tariff amendment;
Attachment C	Draft final proposal on the cost allocation terms; and
Attachment D	Board memoranda.

[89] 18 C.F.R. § 385.203(b)(3).

VII. Conclusion

For the reasons set forth in this filing, the CAISO respectfully requests that the Commission accept the tariff revisions proposed in the filing effective October 23, 2019.

Respectfully submitted,

/s/ William H. Weaver
Roger E. Collanton
General Counsel
Sidney L. Mannheim
Assistant General Counsel
William H. Weaver
Senior Counsel

Counsel for the California Independent System Operator Corporation

Attachment A – Clean Tariff

2018 Interconnection Process Enhancements Tariff Amendment

California Independent System Operator Corporation

Appendix A

Master Definitions Supplement

*** * * * ***

- Assigned Network Upgrade (ANU)

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 (CANU)

Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

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- Current Cost Responsibility (CCR)

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.

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- General Reliability Network Upgrade (GRNU)

Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

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- Interconnection Financial Security (IFS)

Any of the financial instruments listed in Section 9.1 of Appendix Y and Section 11.1 of Appendix DD that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

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- Interconnection Reliability Network Upgrade (IRNU)

Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

* * * * *

- Maximum Cost Exposure (MCE)

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.

* * * * *

- Maximum Cost Responsibility (MCR)

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.

* * * * *

- Precursor Network Upgrades (PNU)

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 GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

* * * * *

- Reliability Network Upgrade (RNU)

The transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or thermal overloads. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which cannot be adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to

mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating.

Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

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Appendix U

Standard Large Generator Interconnection Procedures

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3.3 Interconnection Service

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3.3.3.3 Deliverability Transfers. Interconnection Customers may transfer Deliverability pursuant to Section 8.9.9 of Appendix DD to the CAISO Tariff.

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Appendix Y

Generator Interconnection Procedures

For Interconnection Requests

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4.6 Deliverability Assessment

Interconnection Customers under the Independent Study Process that requests Partial or Full Capacity Deliverability Status will have a Deliverability Assessment performed as part of the next scheduled Phase I and Phase II Interconnection Studies for Queue Clusters. If the Deliverability Assessment identifies any Delivery Network Upgrades that are triggered by the Interconnection Request, the Interconnection Customer will be responsible to pay its proportionate share of the costs of those Upgrades, pursuant to Sections 6 and 7 of this GIP. If the Generating Facility (or increase in capacity of an existing Generating Facility) achieves its Commercial Operation Date before the Deliverability Assessment is completed and any necessary Delivery Network Upgrades are in service, the proposed Generating Facility (or increase in capacity) will be treated as an Energy-Only Deliverability Status Generating Facility until such Delivery Network Upgrades are in service.

4.6.1 Deliverability Transfers

Interconnection Customers may transfer Deliverability pursuant to Section 8.9.9 of Appendix DD to the CAISO Tariff.

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Appendix DD

Generator Interconnection and Deliverability Allocation Procedures (GIDAP)

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8.4 Cost Responsibility for Local Delivery Network Upgrades

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8.9 Allocation Process for TP Deliverability
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*** * * * ***

11.3.2 Third Posting for Queue Cluster Customers and Second Posting for Independent Study Process Customers
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14.4 Special Provisions for Affected Systems, Other Affected PTOs
14.4.1 Cost Allocation, Interconnection Financial Security, and Reimbursement for Multiple Participating TOs

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Section 4 Independent Study Process

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4.2.1.2 Requirement Set Number Two: for Requests for Independent Study of Behind-the-Meter Capacity Expansion of Generating Facilities

This Section 4.2.1.2 applies to an Interconnection Request relating to a behind-the-meter capacity expansion of a Generating Facility. Such an Interconnection Request submitted under the Independent Study Process will satisfy the requirements of Section 4.2.1 if it satisfies all of the following technical and business criteria:

(i) Technical criteria.

1) The total nameplate capacity of the existing Generating Facility plus the incremental increase in capacity does not exceed in the aggregate one hundred twenty-five (125) percent of its previously studied capacity and the incremental increase in capacity does not exceed, in the aggregate, including any prior behind-the-meter capacity expansions implemented pursuant to this Section 4.2.1.2, one hundred (100) MW.

2) The behind-the-meter capacity expansion shall not take place until after the original Generating Facility has achieved Commercial Operation and all Reliability Network Upgrades for the original Generating Facility have been placed in service. An Interconnection Request for behind-the-meter capacity expansion may be submitted prior to the Commercial Operation Date of the original Generating Facility.

3) The Interconnection Customer must install an automatic generator tripping scheme sufficient to ensure that the total output of the Generating Facility, including the behind-the-meter capacity expansion, does not at any time exceed the capacity studied in the Generating Facility's original Interconnection Request. The CAISO will have the authority to trip the generating equipment subject to the automatic generator tripping scheme or take any other actions necessary to limit the output of the Generating Facility so that the total output of the Generating Facility does not exceed the originally studied capacity.

(ii) Business criteria.

1) The Deliverability Status (Full Capacity, Partial Capacity or Energy-Only) of the original Generating Facility will remain the same after the behind-the-meter capacity expansion. The capacity expansion will have Energy-Only Deliverability Status unless otherwise specified in this GIDAP, and the original Generating Facility and the behind-the-meter capacity expansion will be metered separately from one another and be assigned separate Resource IDs, except as set forth in (2) below.

2) If the original Generating Facility has Full Capacity Deliverability Status and the behind-the-meter capacity expansion will use the same technology as the original Generating Facility, the Interconnection Customer may elect to have the original Generating Facility and the behind-the-meter capacity expansion metered together, in which case both the original Generating Facility and the behind-the-meter capacity expansion may have

Partial Capacity Deliverability Status and a separate Resource ID will not be established for the behind-the-meter capacity expansion.

3) A request for behind-the-meter expansion shall not operate as a basis under the CAISO Tariff to increase the Deliverability of the Generating Facility beyond what was or would have been allocated to the original Generating Facility before the Interconnection Request for behind-the-meter capacity expansion, unless the expansion has received a separate TP Deliverability allocation pursuant to Section 8.9.2.

4) The GIA will be amended to reflect the revised operational features of the Generating Facility's behind-the-meter capacity expansion.

5) An active Interconnection Customer may at any time request that the CAISO convert the Interconnection Request for behind-the-meter capacity expansion to an Independent Study Process Interconnection Request to evaluate an incremental increase in electrical output (MW generating capacity) for the existing Generating Facility. The Interconnection Customer must accompany such a conversion request with an appropriate Interconnection Study Deposit and agree to comply with other sections of Section 4 applicable to an Independent Study Process Interconnection Request.

*** * * * ***

Section 6 Initial Activities and Phase I of the Interconnection Study Process for Queue Clusters

*** * * * ***

6.2. Scope and Purpose of Phase I Interconnection Study

The Phase I Interconnection Study shall:

(i) evaluate the impact of all Interconnection Requests received during the Cluster Application Window for a particular year on the CAISO Controlled Grid;

(ii) preliminarily identify all LDNUs and RNUs needed to address the impacts on the CAISO Controlled Grid of the Interconnection Requests, as Assigned Network Upgrades or Conditionally Assigned Network Upgrades;

(iii) preliminarily identify for each Interconnection Request required Interconnection Facilities;

(iv) assess the Point of Interconnection selected by each Interconnection Customer and potential alternatives to evaluate potential efficiencies in overall transmission upgrades costs;

(v) establish the Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure for each Interconnection Request, until the issuance of the Phase II Interconnection Study report;

(vi) provide a good faith estimate of the cost of Interconnection Facilities for each Interconnection Request;

(vii) provide a cost estimate of ADNUs for each Generating Facility in a Queue Cluster Group Study;

(viii) identify any Precursor Network Upgrades; and

(ix) identify RNUs as GRNUs or IRNUs.

The Phase I Interconnection Study will consist of a short circuit analysis, a stability analysis to the extent the CAISO and applicable Participating TO(s) reasonably expect transient or voltage stability concerns, a power flow analysis, including off-peak analysis, and an On-Peak Deliverability Assessment (and Off-Peak Deliverability Assessment which will be for informational purposes only) for the purpose of identifying LDNUs and estimating the cost of ADNUs, as applicable.

The Phase I Interconnection Study will state for each Group Study or Interconnection Request studied individually (i) the assumptions upon which it is based, (ii) the results of the analyses, and (iii) the requirements or potential impediments to providing the requested Interconnection Service to all Interconnection Requests in a Group Study or to the Interconnection Request studied individually.

The Phase I Interconnection Study will provide, without regard to the requested Commercial Operation Dates of the Interconnection Requests, a list of RNUs and LDNUs to the CAISO Controlled Grid that are preliminarily identified as Assigned Network Upgrades or Conditionally Assigned Network Upgrades required as a result of the Interconnection Requests in a Group Study or as a result of any Interconnection Request studied individually and Participating TO's Interconnection Facilities associated with each Interconnection Request, the estimated costs of ADNUs, if applicable and an estimate of any other financial impacts (i.e., on Local Furnishing Bonds).

6.3 Identification of and Cost Allocation for Network Upgrades

6.3.1 Reliability Network Upgrades (RNUs).

The CAISO, in coordination with the applicable Participating TO(s), will perform short circuit and stability analyses for each Interconnection Request either individually or as part of a Group Study to preliminarily identify the RNUs needed to interconnect the Generating Facilities to the CAISO Controlled Grid. The CAISO, in coordination with the applicable Participating TO(s), shall also perform power flow analyses, under a variety of system conditions, for each Interconnection Request either individually or as part of a Group Study to identify Reliability Criteria violations, including applicable thermal overloads, that must be mitigated by RNUs.

The cost of all RNUs identified in the Phase I Interconnection Study shall be estimated in accordance with Section 6.4. The estimated costs of short circuit related GRNUs identified through a Group Study shall be assigned to all Interconnection Requests in that Group Study pro rata on the basis of the short circuit duty contribution of each Generating Facility. The estimated costs of all other GRNUs identified through a Group Study shall be assigned to all Interconnection Requests in that Group Study pro rata on the basis of the maximum megawatt electrical output of each proposed new Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request. The estimated costs of RNUs identified as a result of an Interconnection Request studied separately shall be assigned solely to that Interconnection Request.

Pursuant to Section 8.3, Interconnection Customers assigned IRNUs in their Phase I Interconnection Study will be allocated the full cost of the IRNUs in their Maximum Cost Responsibility. The Maximum Cost Exposure will include the full costs of conditionally assigned IRNUs. The Current Cost Responsibility will include their allocated share of IRNU costs as determined for RNUs in Section 8.3.

6.3.2 Delivery Network Upgrades.

6.3.2.1 The On-Peak Deliverability Assessment.

The CAISO, in coordination with the applicable Participating TO(s), shall perform On-Peak Deliverability Assessments for Interconnection Customers selecting Full Capacity or Partial Capacity Deliverability Status in their Interconnection Requests. The On-Peak Deliverability Assessment shall determine the Interconnection Customer's Generating Facility's ability to deliver its Energy to the CAISO Controlled Grid under peak load conditions, and identify preliminary Delivery Network Upgrades required to provide the Generating Facility with Full Capacity or Partial Capacity Deliverability Status. The Deliverability Assessment will consist of two rounds, the first of which will identify any transmission constraints that limit the Deliverability of the Generating Facilities in the Group Study and will identify LDNUs to relieve the local constraints, and second of which will determine ADNUs to relieve the area constraints.

6.3.2.1.1 Local Delivery Network Upgrades

The On-Peak Deliverability Assessment will be used to establish the Maximum Cost Responsibility and Maximum Cost Exposure for LDNUs for each Interconnection Customer selecting Full Capacity or Partial Capacity Deliverability Status. Deliverability of a new Generating Facility will be assessed on the same basis as all existing resources interconnected to the CAISO Controlled Grid.

The methodology for the On-Peak Deliverability Assessment will be published on the CAISO Website or, when effective, included in a CAISO Business Practice Manual. The On-Peak Deliverability Assessment does not convey any right to deliver electricity to any specific customer or Delivery Point.

The cost of LDNUs identified in the On-Peak Deliverability Assessment as part of a Phase I Interconnection Study shall be estimated in accordance with Section 6.4. The estimated costs of Delivery Network Upgrades identified in the On-Peak Deliverability Assessment shall be assigned to all Interconnection Requests selecting Full Capacity or Partial Capacity Deliverability Status based on the flow impact of each such Generating Facility on the Delivery Network Upgrades as determined by the Generation distribution factor methodology set forth in the On-Peak Deliverability Assessment methodology.

6.3.2.1.2 Area Delivery Network Upgrades

The On-Peak Deliverability Assessment will be used in the Phase I Interconnection Studies to identify those facilities necessary to provide the incremental Deliverability between the level of TP Deliverability and such additional amount of Deliverability as is necessary for the MW capacity amount of generation targeted in the Phase I Interconnection

Studies. Based on such facility cost estimates, the CAISO will calculate a rate for ADNU costs equal to the facility cost estimate divided by the additional amount of Deliverability targeted in the study. The Phase I Interconnection Studies shall provide a cost estimate for each Interconnection Customer which equals the rate multiplied by the requested deliverable MW capacity of the Generating Facility in the Interconnection Request.

6.3.2.1.3 [Intentionally Omitted]

6.3.2.2 Off-Peak Deliverability Assessment.

The CAISO, in coordination with the applicable Participating TO(s), shall perform an Off-Peak Deliverability Assessment to identify transmission upgrades in addition to those Delivery Network Upgrades identified in the On-Peak Deliverability Assessment, if any, for a Group Study or individual Phase I Interconnection Study that includes one or more Location Constrained Resource Interconnection Generators (LCRIG), where the fuel source or source of energy for the LCRIG substantially occurs during off-peak conditions.

The transmission upgrades identified under this Section shall comprise those needed for the full maximum megawatt electrical output of each proposed new LCRIG or the amount of megawatt increase in the generating capacity of each existing LCRIG as listed by the Interconnection Customer in its Interconnection Request, whether studied individually or as a Group Study, to be deliverable to the aggregate of Load on the CAISO Controlled Grid under the Generation dispatch conditions studied. The methodology for the Off-Peak Deliverability Assessment will be published on the CAISO Website or, if applicable, included in a CAISO Business Practice Manual.

The CAISO will perform the Off-Peak Deliverability Assessment for Interconnection Customer informational purposes only, and any such upgrades identified in the Off-Peak Deliverability Assessment as part of the Phase I Interconnection Study shall be estimated in accordance with Section 6.4. The estimated costs of such upgrades identified in the assessment will be referred to as “off peak Deliverability transmission upgrades,' the description of such upgrades in any report will be conceptual in nature, and such transmission upgrades will not be included as an Assigned Network Upgrade or Conditionally Assigned Network Upgrade within the applicable Interconnection Study report.

The cost of all transmission upgrades identified in the Off-Peak Deliverability Assessment performed during the course of the Phase I Interconnection Study shall be estimated in accordance with Section 6.4. However, because these transmission upgrades shall be conceptual in nature only these upgrades shall be treated as follows:

(i) these transmission upgrades will not be required for the proposed Generating Facility (or proposed increase in capacity) that is the subject to the Interconnection Request to achieve Full Capacity Deliverability Status;

(ii) the estimated costs for these transmission upgrades shall not be assigned to any Interconnection Customer in an Interconnection Study report, such costs shall not be considered in determining the Current Cost Responsibility or Maximum Cost Responsibility of the Interconnection Customer for Network Upgrades under this or in

determining the Interconnection Financial Security than an Interconnection Customer must post under Section 11;

(iii) and the applicable Participating TO(s) shall not be responsible under this for financing or constructing such transmission upgrades.

6.4 Use of Per Unit Costs to Estimate Network Upgrade and PTO Interconnection Facilities Costs

Each Participating TO, under the direction of the CAISO, shall publish per unit costs for facilities generally required to interconnect Generation to their respective systems.

These per unit costs shall reflect the anticipated cost of procuring and installing such facilities during the current Interconnection Study Cycle, and may vary among Participating TOs and within a Participating TO Service Territory based on geographic and other cost input differences, and should include an annual adjustment for the following ten (10) years to account for the anticipated timing of procurement to accommodate a potential range of Commercial Operation Dates of Interconnection Requests in the Interconnection Study Cycle. The per unit costs will be used to develop the cost of Network Upgrades and Participating TO's Interconnection Facilities. Deviations from a Participating TO's benchmark per unit costs will be permitted if a reasonable explanation for the deviation is provided and there is no undue discrimination.

Prior to adoption and publication of final per unit costs for use in the Interconnection Study Cycle, the CAISO shall publish to the CAISO Website draft per unit costs, including non-confidential information regarding the bases therefore, hold a stakeholder meeting to address the draft per unit costs, and permit stakeholders to provide comments on the draft per unit costs. A schedule for the release and review of per unit costs is set forth in Appendix 5.

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6.7 Phase I Interconnection Study Results Meeting

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6.7.2 Modifications.

6.7.2.1 At any time during the course of the Interconnection Studies, the Interconnection Customer, the applicable Participating TO(s), or the CAISO may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to the applicable Participating TO(s), the CAISO, and Interconnection Customer, such acceptance not to be unreasonably withheld, the CAISO shall modify the Point of Interconnection and/or configuration in accordance with such changes without altering the Interconnection Request's eligibility for participating in Interconnection Studies.

6.7.2.2 At the Phase I Interconnection Study Results Meeting, the Interconnection Customer should be prepared to discuss any desired modifications to the Interconnection Request. After the issuance of the final Phase I Interconnection Study, but no later than ten (10) Business Days following the Phase I Interconnection Study Results Meeting, the Interconnection Customer shall submit to the CAISO, in writing, modifications to any information provided in the Interconnection Request. The CAISO will forward the Interconnection Customer's modification to the applicable Participating TO(s) within one (1) Business Day of receipt.

Modifications permitted under this Section shall include specifically: (a) a decrease in the electrical output (MW) of the proposed project; (b) modifying the technical parameters associated with the Generating Facility technology or the Generating Facility step-up transformer impedance characteristics; (c) modifying the interconnection configuration; (d) modifying the In-Service Date, Initial Synchronization Date, Trial Operation Date, and/or Commercial Operation Date that meets the criteria set forth in Section 3.5.1.4 and is acceptable to the applicable Participating TO(s) and the CAISO, such acceptance not to be unreasonably withheld; (e) change in Point of Interconnection as set forth in Section 6.7.2.1; and (f) change in Deliverability Status to Energy Only Deliverability Status, Partial Capacity Deliverability Status, or a lower fraction of Partial Capacity Deliverability Status.

For any modification other than these, the Interconnection Customer must first request that the CAISO evaluate whether such modification is a Material Modification. In response to the Interconnection Customer's request, the CAISO, in coordination with the affected Participating TO(s) and, if applicable, any Affected System Operator, shall evaluate the proposed modifications prior to making them and the CAISO shall inform the Interconnection Customer in writing of whether the modifications would constitute a Material Modification. The CAISO may engage the services of the applicable Participating TO to assess the modification. Costs incurred by the Participating TO and CAISO (if any) shall be borne by the party making the request under Section 6.7.2, and such costs shall be included in any CAISO invoice for modification assessment activities. Any change to the Point of Interconnection, except for that specified by the CAISO in an Interconnection Study or otherwise allowed under this Section, shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

The Interconnection Customer shall remain eligible for the Phase II Interconnection Study if the modifications are in accordance with this Section.

If any Interconnection Customer requested modification after the Phase II Interconnection Study report would change the scope, schedule, or cost of the Interconnection Facilities or Network Upgrades, the CAISO will issue a report to the Interconnection Customer. Potential adjustments to the Maximum Cost Responsibility or Maximum Cost Exposure for Network Upgrades for the Interconnection Customer will be determined in accordance with Section 7.4.3.

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Section 7 Activities in Preparation for Phase II

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7.3 Postings and Cost Estimates for Network Upgrades

Notwithstanding the Interconnection Customer’s Maximum Cost Responsibility and Maximum Cost Exposure, until such time as the Phase II Interconnection Study report is issued to the Interconnection Customer, the allocated costs for Assigned Network Upgrades for each Interconnection Customer for RNUs and LDNUs in the Phase I Interconnection Study report shall establish the value for

(i) each Interconnection Customer's Current Cost Responsibility; and

(ii) the initial posting of Interconnection Financial Security required from each Interconnection Customer under Section 11.2 for such Network Upgrades.

7.4 Reassessment Process

7.4.1 The CAISO will perform a reassessment of the Phase I Interconnection Study base case prior to the beginning of the GIDAP Phase II Interconnection Studies. The reassessment will evaluate the impacts on those Network Upgrades identified in previous interconnection studies and assumed in the Phase I Interconnection Study of:

(a) Interconnection Request withdrawals occurring after the completion of the Phase II Interconnection Studies for the immediately preceding Queue Cluster;

(b) Generator Downsizing Requests submitted in the most recent Generator Downsizing Request Window that meet the requirements set forth in Section 7.5, and Generating Facilities that are to have their generating capacities reduced pursuant to Sections 8.9.4, 8.9.5, and 8.9.6;

(c) the performance of earlier queued Interconnection Customers with executed GIAs with respect to required milestones and other obligations;

(d) changes in TP Deliverability allocations or Deliverability Status;

(e) the results of the TP Deliverability allocation from the prior Interconnection Study cycle; and,

(f) transmission additions and upgrades approved or removed in the most recent TPP cycle.

The reassessment will be used to develop the base case for the Phase II Interconnection Study

7.4.2 Where, as a consequence of the reassessment, the CAISO determines that changes to the previously identified Network Upgrades in Queue Clusters earlier than the current Interconnection Study Cycle will cause changes to plans of service set out in executed GIAs, such changes will serve as a basis for amendments to GIAs.

7.4.3 Such changes to plans of service in Queue Clusters earlier than the current Interconnection Study Cycle will also serve as the basis for potential adjustments to the Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure, as applicable, for Network Upgrades for Interconnection Customers in such earlier Queue Clusters, as follows:

(i) An Interconnection Customer shall be eligible for an adjustment to its Maximum Cost Responsibility for Network Upgrades if a reassessment undertaken pursuant to this Section 7.4 reduces its estimated cost responsibility for Network Upgrades by at least twenty (20) percent and $1 million, as compared to its current Maximum Cost Responsibility for Network Upgrades based on its Interconnection Studies or a previous reassessment.

The Maximum Cost Responsibility for an Interconnection Customer who meets this eligibility criterion will be the lesser of (a) its current Maximum Cost Responsibility and (b) 100 percent of the costs of all remaining Assigned Network Upgrades included in the Interconnection Customer's plan of service.

(ii) If an Interconnection Customer's Maximum Cost Responsibility for Network Upgrades is adjusted downward pursuant to (i) above, and a subsequent reassessment identifies a change on the CAISO's system that occurs after the completion of the Interconnection Customer's Interconnection Studies and requires additional or expanded Network Upgrades, resulting in an increase in the Interconnection Customer's estimated cost responsibility for Network Upgrades above the Maximum Cost Responsibility as adjusted based on the results of a prior reassessment, then the Interconnection Customer's Maximum Cost Responsibility for Network Upgrades will be the estimated cost responsibility determined in the subsequent reassessment, so long as this amount does not exceed the Maximum Cost Exposure established by the Interconnection Customer's Phase II Interconnection Study. In such cases, where the Current Cost Responsibility determined in the subsequent reassessment exceeds the Maximum Cost Responsibility as adjusted based on the results of a prior reassessment, the Interconnection Customer's Maximum Cost Responsibility for Network Upgrades shall not exceed the Maximum Cost Exposure established by its Interconnection Studies.

(iii) To the extent the CAISO determines that previously identified Conditionally Assigned Network Upgrades become Precursor Network Upgrades pursuant to Section 14.2.2, or are otherwise removed, the CAISO will adjust the Interconnection Customer's Maximum Cost Exposure, as applicable.

(iv) To the extent the CAISO determines that a Conditionally Assigned Network Upgrade becomes an Assigned Network Upgrade, the CAISO will adjust the Interconnection Customer's Current Cost Responsibility and Maximum Cost Responsibility, as applicable.

(v) The posted Interconnection Financial Security required of the Interconnection Customer for Network Upgrades shall be adjusted to correspond to any increase in the Interconnection Customer's Current Cost Responsibility any time after but no later than sixty (60) calendar days after issuance of a reassessment report. The CAISO will notify an Interconnection Customer that receives a downward adjustment to its Current Cost Responsibility pursuant to this Section, and the Interconnection Customer may choose to adjust its posted Interconnection Financial Security within sixty (60) calendar days of the issuance of the reassessment report.

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7.5.11 Cost Allocation for Network Upgrades

A Downsizing Generator will continue to be obligated to finance the costs of (1) Network Upgrades that its Generating Facility previously triggered, and (2) Network Upgrades that are alternatives to the previously triggered Network Upgrades, if such previously triggered Network Upgrades or alternative Network Upgrades are needed by Interconnection Customers in the same Queue Cluster or later-queued Interconnection Customers, up to the Maximum Cost Exposure of the Downsizing Generator as determined by the CAISO Tariff interconnection study procedures applicable to the Downsizing Generator. For determining any changes to a Downsizing Generator's Network Upgrade cost responsibilities as a result of a reassessment process conducted pursuant to Section 7.4, the CAISO will reallocate the costs of Network Upgrades that are still needed based on the Downsizing Generator's pre-downsizing share of the original cost allocation.

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7.6 Application of Non-Refundable Amounts

In conjunction with each reassessment, the CAISO will calculate and disburse non-refundable interconnection study deposit and interconnection financial security amounts in accordance with the provisions of Appendix Y to the CAISO Tariff and this GIDAP as follows:

(a) Withdrawal Period

The CAISO shall calculate non-refundable interconnection study deposit and interconnection financial security amounts based on the period during which the interconnection customer withdrew its interconnection request or terminated its generator interconnection agreement. The first such withdrawal period shall be from January 1, 2013 through the last day that the CAISO is able to incorporate withdrawals into the 2015 annual reassessment. Subsequently, each withdrawal period shall be the approximate twelve-month period between the last day that the CAISO is able to incorporate withdrawals into an annual reassessment and the last day that the CAISO is able to incorporate withdrawals into the subsequent year's reassessment.

For each withdrawal period, the CAISO shall calculate and disburse available non-refundable interconnection study deposits and interconnection financial security in conjunction with the annual reassessment performed during the year that the withdrawal period ends.

(b) Calculation and Disbursement of Non-Refundable Interconnection Financial Security for Still-Needed Network Upgrades At or Above $100,000 Threshold

For each interconnection customer that withdrew its interconnection request or terminated its generator interconnection agreement, the CAISO shall calculate the proportion of the non-refundable Interconnection Financial Security that is attributable to Network Upgrades that the CAISO determines will still be needed by remaining Interconnection Customers. For each such still-needed Network Upgrade, the CAISO will divide the Interconnection Customer's Current Cost Responsibility for the Network Upgrade by the Interconnection Customer's total Current Cost Responsibility for all Network Upgrades and multiply this result by the Interconnection Customer's total amount of non-refundable Interconnection Financial Security.

If the amount of non-refundable security attributable to a still-needed Network Upgrade, for all Interconnection Customers that withdrew during the same withdrawal period, is equal to or greater than $100,000, then the portion of such amount held or received by the CAISO prior to the stage of the applicable annual reassessment in which the CAISO reallocates cost responsibility for remaining Network Upgrades shall: (a) be disbursed to the applicable Participating TO(s) as a contribution in aid of construction of the still-needed Network Upgrade, and (b) be reflected as a reduction in the cost of this Network Upgrade for purposes of reallocating the cost responsibility for this Network Upgrade. Any portions of such amounts that the CAISO receives after reallocating cost responsibility for remaining Network Upgrades during the applicable annual reassessment shall be disbursed by the CAISO in the same manner in a subsequent reassessment, based on the date of collection, unless the applicable Network Upgrade is no longer needed, in which case such amounts will be disbursed pursuant to Section 7.6(c).

If a Network Upgrade for which the CAISO disburses funds as a contribution in aid of construction under this Section 7.6(b) is determined, in a subsequent reassessment, to

be no longer needed, such funds will be promptly returned to the CAISO by the applicable Participating TO and re-disbursed by the CAISO pursuant to Section 7.6(c).

(c) Calculation and Disbursement of All Other Non-Refundable Security and Study Deposits

For each Interconnection Customer that withdrew its Interconnection Request or terminated its Generator Interconnection Agreement during a withdrawal period, any non-refundable Interconnection Study Deposits, as well as any non-refundable Interconnection Financial Security not disbursed pursuant to subsection (b) above, shall be applied to offset Regional Transmission Revenue Requirements, as recovered through the CAISO's Transmission Access Charge, and to offset Local Transmission Revenue Requirements. Any non-refundable Interconnection Financial Security and Interconnection Study Deposits relating to withdrawals or terminations that occurred prior to January 1, 2013 that are collected by the CAISO during a withdrawal period, as defined in Section 7.6(a), will also be disbursed in accordance with this provision.

This offset shall be performed by first allocating these non-refundable Interconnection Study Deposit and Interconnection Financial Security amounts to the following three categories in proportion to the Interconnection Customer's most recent Current Cost Responsibility, prior to withdrawal or termination, for Network Upgrades whose costs would be recovered through each of the following categories: (1) a Regional Transmission Revenue Requirement, (2) the Local Transmission Revenue Requirement of the Participating TO to which the interconnection customer had proposed to interconnect, and (3) the Local Transmission Revenue Requirement of any other Participating TO on whose system the interconnection customer was responsible for funding Network Upgrades recovered through a Local Transmission Revenue Requirement.

Each year, prior to the cutoff date for including annual regional TRBA adjustments in Regional Transmission Revenue Requirements, the CAISO will disburse to each Participating TO's Transmission Revenue Balancing Account: (a) a share of the total funds held or received by the CAISO from category (1) above in proportion to the ratio of each Participating TO's most recent Regional Transmission Revenue Requirement to the total of all Participating TOs' most recent Regional Transmission Revenue Requirements, and (b) all funds held or received by the CAISO in categories (2) and (3) applicable to that Participating TO.

(d) Disbursement of Funds by CAISO; Participating TO Responsibility for Collection

The CAISO shall disburse, in accordance with the rules set forth in this Section 7.6, only those non-refundable Interconnection Financial Security and Study Deposit amounts that it holds or has received. The applicable Participating TO shall have the exclusive obligation to administer the collection of any non-refundable financial security where the applicable Participating TO is a beneficiary. The applicable Participating TO has the responsibility to manage the financial security and to transmit to the CAISO the non-refundable amounts in cash or equivalent within 75 days of the CAISO's submission to the Participating TO of the financial security liquidation form. This deadline can be modified by mutual agreement of the CAISO and applicable Participating TO.

(e) The CAISO shall, upon receipt, deposit all non-refundable Interconnection Financial Security and Interconnection Study Deposit amounts in an interest-bearing account at a bank or financial institution designated by the CAISO. Any interest earned on such amounts, based on the actual rate of the account, shall be allocated and disbursed in the same manner as the principal, in accordance with the methodology set forth in this Section 7.6.

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Section 8 Phase II Interconnection Study and TP Deliverability Allocation Processes

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8.1 Scope of Phase II Interconnection Study

8.1.1 Purpose of the Phase II Interconnection Study

The CAISO, in coordination with the applicable Participating TO(s), will conduct a Phase II Interconnection Study that will incorporate eligible Interconnection Requests from the previous Phase I Interconnection Study. The Phase II Interconnection Study shall:

(i) update, as necessary, analyses performed in the Phase I Interconnection Studies to account for the withdrawal of Interconnection Requests from the current Queue Cluster;

(ii) identify final GRNUs and IRNUs needed in order to achieve Commercial Operation status for the Generating Facilities and provide final cost estimates;

(iii) identify final LDNUs needed to interconnect those Generating Facilities selecting Full Capacity or Partial Capacity Deliverability Status and provide final cost estimates;

(iv) identify final ADNUs for Interconnection Customers selecting Option (B), as provided below and provide revised cost estimates;

(v) identify, for each Interconnection Request, the Participating TO's Interconnection Facilities for the final Point of Interconnection and provide a +/-20% cost estimate;

(vi) coordinate in-service timing requirements based on operational studies in order to facilitate achievement of the Commercial Operation Dates of the Generating Facilities;

(vii) update the Interconnection Customer's Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure, as applicable; and

(viii) provide updated Precursor Network Upgrades needed to achieve the Commercial Operation status and Deliverability Status for the Generating Facilities.

The Phase II Interconnection Study report shall set forth the applicable cost estimates for Network Upgrades and Participating TOs Interconnection Facilities that shall be the basis for Interconnection Financial Security Postings under Section 11.3. Where the Maximum Cost Responsibility is based upon the Phase I Interconnection Study (because it is lower under Section 10.1), the Phase II Interconnection Study report shall recite this fact.

To the extent the CAISO determines that previously identified Conditionally Assigned Network Upgrades become Precursor Network Upgrades pursuant to Section 14.2.2, or are otherwise removed, the CAISO will reduce the Interconnection Customer's Maximum Cost Exposure, as applicable. To the extent the CAISO determines that a Conditionally Assigned Network Upgrade becomes an Assigned Network Upgrade, the CAISO will adjust the Interconnection Customer's Current Cost Responsibility and Maximum Cost Responsibility.

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8.3 Cost Responsibility for Reliability Network Upgrades

Cost responsibility for final Reliability Network Upgrades identified in the Phase II Interconnection Study of an Interconnection Request shall be assigned to Interconnection Customers regardless of whether the Interconnection Customer has selected Option (A) or (B) or Energy Only Deliverability Status, as follows:

(i) The cost responsibility for final short circuit related General Reliability Network Upgrades shall be assigned to all Interconnection Requests in the Group Study proportional to the short circuit duty contribution of each Generating Facility.

(ii) The cost responsibility for all other final General Reliability Network Upgrades shall be assigned to all Interconnection Requests in that Group Study proportional to the basis of the maximum megawatt electrical output of each proposed new Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request.

(iii) The Interconnection Customer's Current Cost Responsibility will include its allocated cost share for Interconnection Reliability Network Upgrades that are Assigned Network Upgrades. The CAISO will allocate assigned Interconnection Reliability Network Upgrade costs proportional to the number of Interconnection Requests that have been assigned the Interconnection Reliability Network Upgrade in the current Queue Cluster.

(iv) The Interconnection Customer's Maximum Cost Responsibility will include the full cost of Assigned Network Upgrades that are Interconnection Reliability Network Upgrades unless another Interconnection Customer in the same Queue makes its third Interconnection Financial Security posting for the same assigned Interconnection Reliability Network Upgrade, in which case the CAISO will reduce the Interconnection Customer's Maximum Cost Responsibility to its allocated share pursuant to subsection (iii).

(v) The Maximum Cost Exposure will include the full cost of Interconnection Reliability Network Upgrades that are Assigned Network Upgrades and Conditionally Assigned Network Upgrades. The CAISO may reduce the Maximum Cost Exposure consistent with subsection (iv).

8.4 Cost Responsibility for Delivery Network Upgrades

The cost responsibility for Local Delivery Network Upgrades identified in the On-Peak Deliverability Assessment as part of the Phase II Interconnection Study shall be assigned to all Interconnection Requests selecting Full Capacity or Partial Capacity Deliverability Status, regardless of whether the Interconnection Customer has selected Option (A) or (B), based on the flow impact of each such Generating Facility on each Local Delivery Network Upgrade as determined by the Generation distribution factor methodology set forth in the On-Peak Deliverability Assessment methodology.

The cost responsibility for Area Delivery Network Upgrades identified in the On-Peak Deliverability Assessment as part of Phase II Interconnection Study shall be assigned to Interconnection Customers who have selected Option (B) Full Capacity or Partial Capacity Deliverability Status based on the flow impact of each such Generating Facility on each Area Delivery Network Upgrade as determined by the Generation distribution factor methodology set forth in the On-Peak Deliverability Assessment methodology.

The Current Cost Responsibility provided in the Phase II Interconnection Study shall establish the basis for the second Interconnection Financial Security Posting for Interconnection Customers selecting Option (B).

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8.9.2.2 Proceeding without a Power Purchase Agreement

Interconnection Customers only may attest that they are proceeding without a power purchase agreement in the allocation cycle immediately following receipt of their Phase II Interconnection Study (without having parked). Interconnection Customers that receive TP Deliverability in this group may park only that portion of their Interconnection Request that does not receive TP Deliverability. Parked portions may receive TP Deliverability in subsequent allocation cycles from any group for which they qualify. Interconnection Customers that receive TP Deliverability allocations for less than requested may elect to reduce their capacity to the amount of TP Deliverability received following the allocation.

If an Interconnection Customer receives TP Deliverability on the basis that it is proceeding without a power purchase agreement, it must accept the TP Deliverability allocation and forego parking that capacity, or withdraw. If an Interconnection Customer receives TP Deliverability on the basis that it is proceeding without a power purchase agreement, it may not request suspension under its GIA, delay providing its notice to proceed as specified in its GIA, or modify its Commercial Operation Date beyond the earlier of (a) the date established in its Interconnection Request when it requests TP Deliverability or (b) seven (7) years from the date the CAISO received its Interconnection Request. Extensions due to Participating TO construction delays will extend these deadlines equally. Interconnection Customers that fail to proceed toward their Commercial Operation Date under these requirements and as specified in their GIA will be converted to Energy Only. Interconnection Customers that become Energy Only for this or any reason may not reduce their Maximum Cost Responsibility, Current Cost Responsibility, or Interconnection Financial Security for any assigned Delivery Network Upgrades unless the CAISO and Participating TO(s) determine that the Interconnection Customer's assigned Delivery Network Upgrade(s) is no longer needed for current Interconnection Customers.

This Section 8.9.2.2 does not apply to Interconnection Customers that attested to balance-sheet financing or otherwise receiving a commitment of project financing before November 27, 2018, or that do so pursuant to Section 8.9.3.1.

8.9.3 Retaining TP Deliverability Allocation

For Interconnection Customers in Queue Cluster 10 or later, once a Generating Facility is allocated TP Deliverability under Section 8.9.1, the Interconnection Customer annually, on the date set forth and according to the process described in the Business Practice Manual, must demonstrate that the Generating Facility meets the following criteria to retain its TP Deliverability:

(1) The Generating Facility is in good standing with respect to the criteria on which the allocation of TP Deliverability was based;

(2) If the Generating Facility received TP Deliverability on the basis of having executed a power purchase agreement, it must have received regulatory approval of that agreement;

(3) If the Generating Facility received TP Deliverability on the basis of negotiating or being shortlisted for a power purchase agreement, it must have executed the agreement by November 30 of the year it received TP Deliverability. It must then comply with criterion 8.9.3(2) the following year;

(4) If the Interconnection Customer has executed a GIA, it must remain in good standing with regard to its GIA, such that neither the Participating TO nor CAISO has provided the Interconnection Customer with a Notice of Breach of the GIA that has not been cured and the Interconnection Customer has not commenced curative actions;

(5) The Interconnection Customer must maintain its Commercial Operation Date set forth in the GIA unless an extension is required for reasons beyond the control of the Interconnection Customer or such extension results in no Material Modification or delay in the construction schedule for Network Upgrades common to multiple Generating Facilities; or unless the extension is occasioned by a material delay in the Participating TO's construction of any Network Upgrades or Participating TO's Interconnection Facilities

The Interconnection Customer will provide the required information in the form of an affidavit as described in the Business Practice Manual. Interconnection Customers that fail to meet these criteria will become Energy Only for that portion of the Generating Facility that has not retained TP Deliverability. An Interconnection Customer's failure to retain its TP Deliverability will not be considered a Breach of its GIA. Except as provided in Section 8.9.3.2, Interconnection Customers that become Energy Only for failure to retain their TP Deliverability Allocation may not reduce their Maximum Cost Responsibility, Current Cost Responsibility, or Interconnection Financial Security for any assigned Delivery Network Upgrades unless the CAISO and Participating TO(s) determine that the Interconnection Customer's assigned Delivery Network Upgrade(s) is no longer needed for current Interconnection Customers. To the extent TP Deliverability has been allocated, lost, or relinquished only for a portion of the Interconnection Customer's project, this section 8.9.3 will apply to that portion of the project only.

8.9.3.1 Retaining TP Deliverability Allocation for Pre-Cluster 10 Interconnection Customers

Interconnection Customers in Queue Cluster 9 or earlier subject to this Appendix DD that have been allocated TP Deliverability or that parked pursuant to Section 8.9.4 or 8.9.4.1, annually, on the date set forth and according to the process described in the Business Practice Manual, must demonstrate that the Generating Facility meets the following criteria to retain its TP Deliverability:

(1) The Generating Facility is in good standing with respect to the criteria on which the allocation of TP Deliverability was based;

(2) If the Generating Facility received TP Deliverability on the basis of negotiating or being shortlisted for a power purchase agreement, it must have executed the agreement by the start of the next allocation cycle, or attest to balance-sheet financing or receipt of a commitment of project financing;

(3) If the Interconnection Customer has executed a GIA, it must remain in good standing with regard to its GIA, such that neither the Participating TO nor CAISO has provided the Interconnection Customer with a Notice

of Breach of the GIA that has not been cured and the Interconnection Customer has not commenced curative actions;

(4) The Interconnection Customer must maintain its Commercial Operation Date set forth in the GIA unless an extension is required for reasons beyond the control of the Interconnection Customer or such extension results in no Material Modification or delay in the construction schedule for Network Upgrades common to multiple Generating Facilities; or unless the extension is occasioned by a material delay in the Participating TO's construction of any Network Upgrades or Participating TO's Interconnection Facilities.

Interconnection Customers that have attested to balance-sheet financing or receipt of a commitment of project financing or do so pursuant to this Section are not subject to Section 8.9.2.2. Interconnection Customers that attest to balance-sheet financing pursuant to this Section 8.9.3.1 will be placed in TP Deliverability allocation group 8.9.2(3).

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8.9.5 Partial Allocations of Transmission Based Deliverability to Option (A) and Option (B) Generating Facilities

If a Generating Facility is allocated TP Deliverability in the current Interconnection Study Cycle in an amount less than the amount of Deliverability requested, then the Interconnection Customer must choose one of the following options:

(i) Accept the allocated amount of TP Deliverability and reduce the MW generating capacity of the proposed Generating Facility such that the allocated amount of TP Deliverability will provide Full Capacity Deliverability Status to the reduced generating capacity;

(ii) Accept the allocated amount of TP Deliverability and adjust the Deliverability status of the proposed Generating Facility to achieve Partial Capacity Deliverability corresponding to the allocated TP Deliverability;

(iii) For Option (A) Generating Facilities, accept the allocated amount of TP Deliverability and seek additional TP Deliverability for the remainder of the requested Deliverability of the Interconnection Request in the next allocation cycle. In such instance, the Interconnection Customer shall execute a GIA for the entire Generating Facility having Partial Capacity Deliverability corresponding to the allocated amount of TP Deliverability. Following the next cycle of TP Deliverability allocation, the GIA shall be amended as needed to adjust its Deliverability status to reflect any additional allocation of TP Deliverability. At this time the Interconnection Customer may also adopt options (i) or (ii) above based on the final amount of TP Deliverability allocated to the Generating Facility. There will be no further opportunity for this Generating Facility to participate in any subsequent cycle of TP Deliverability allocation; or

(iv) Decline the allocated amount of TP Deliverability and either withdraw the Interconnection Request or convert to Energy Only Deliverability Status. An Interconnection Customer having an Option (A) Generating Facility that has not previously parked may decline the allocation of TP Deliverability and park until the next cycle of TP Deliverability allocation in the next Interconnection Study Cycle.

An Interconnection Customer that selects option (iii) or (iv) above may, at the time it selects the option, elect to reduce the generating capacity of its Generating Facility.

Interconnection Customers accepting a partial allocation of TP Deliverability may pursue additional deliverability as described in Section 8.9.2.

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8.9.9 Deliverability Transfers

Deliverability 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 among its own Generating Units or Resource IDs at the Generating Facility. The Generating Units must be located at the same Point of Interconnection and operate under the same GIA. 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 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.

An Interconnection Customer may request to reallocate its Deliverability among its Generating Units pursuant to Section 6.7.2.2 of this GIDAP, Article 5.19 of the LGIA, and Article 3.4.5 of the SGIA, as applicable. A repowering Interconnection Customer may transfer Deliverability as part of the repowering process pursuant to Section 25.1.2 of the CAISO Tariff. An Interconnection Customer expanding its capacity behind-the-meter pursuant to Section 4.2.1.2 also may transfer Deliverability as part of that process, or subsequently under the other processes in this Section.

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10 Cost Responsibility for Interconnection Customers

10.1 Interconnection Customers in a Queue Cluster.

(a) RNUs and LDNUs. The Interconnection Studies will establish Interconnection Customers' Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure consistent with the cost allocations described in Section 8. The CAISO will adjust Interconnection Customers' cost responsibilities as described in this GIDAP. Interconnection Customers will post Interconnection Financial Security based on their Current Cost Responsibility.

(b) ADNUs. Interconnection Customers selecting Option (A) do not post Interconnection Financial Security for ADNUs. The Current Cost Responsibility provided in the Phase I Interconnection Studies establishes the basis for the initial Interconnection Financial Security Posting under Section 11.2. For Interconnection Customers selecting Option (B), the Phase II Interconnection Studies shall refresh the Current Cost Responsibility for ADNUs and shall provide the basis for second and third Interconnection Financial Postings as specified in Section 11.

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. However, subsequent to the Interconnection Customer's receipt of its Phase II Interconnection Study report, an Interconnection Customer having selected Option (B) may have its ADNUs adjusted in the reassessment process undertaken under Section 7.4. Accordingly, for such Interconnection Customers, the most recent annual reassessment undertaken under Section 7.4 shall provide the most recent cost estimates for the Interconnection Customer's ADNUs.

10.2 Interconnection Customers in the Independent Study Process.

(a) Assigned Network Upgrades. The Current Cost Responsibility for the Interconnection Customer's Financial Security for RNUs shall be established by the costs for such Network Upgrades assigned to the Interconnection Customer in the final system impact and facilities study report.

For such Interconnection Customers choosing Full Capacity or Partial Capacity Deliverability status, the maximum value of LDNUs shall be established by the lesser of the costs for such Network Upgrades assigned to the Interconnection Customer in the final Phase I Interconnection Study or the final Phase II Interconnection Study.

The Interconnection Customer's Maximum Cost Responsibility shall be subject to further adjustment based on the results of the annual reassessment process, as set forth in Section 7.4.

(b) ADNUs. Interconnection Customers selecting Option (A) do not post Interconnection Financial Security for ADNUs. The Current Cost Responsibility provided in the Phase I Interconnection Studies establishes the basis for the initial Interconnection Financial Security posting under Section 11.2. For Interconnection Customers selecting Option (B), the Phase II Interconnection Studies shall refresh the Current Cost Responsibility for ADNUs and shall provide the basis for second and third Interconnection Financial Postings as specified in Section 11.

The ADNU cost estimates provided in any study report are estimates only and do not provide a maximum value for cost responsibility to an Interconnection Customer for ADNUs However, subsequent to the Interconnection Customer's receipt of its Phase II Interconnection Study report, an Interconnection Customer having selected Option (B) may have its ADNU adjusted in the reassessment process undertaken under Section 7.4.

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Section 11 Interconnection Financial Security

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11.2.3 Posting Amount for Network Upgrades.

11.2.3.1 Small Generator Interconnection Customers

Each Interconnection Customer for a Small Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument as follows:

1) Interconnection Customers selecting Energy Only Deliverability Status must post for assigned RNUs.

The posting amount for such RNUs shall equal the lesser of fifteen percent (15%) of the Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

2) Interconnection Customers selecting Option (A) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs and LDNUs.

The posting amount for such RNUs and LDNUs shall equal the lesser of fifteen percent (15%) of the Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

3) Interconnection Customers selecting Option (B) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs, LDNUs and ADNUs.

The posting amount for such RNUs, LDNUs and ADNUs shall equal the lesser of fifteen percent (15%) of the ADNU costs and total Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

11.2.3.2 Large Generator Interconnection Customers

Each Interconnection Customer for a Large Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument as follows:

1) Interconnection Customers selecting Energy Only Deliverability Status must post for assigned RNUs.

The posting amount for such RNUs shall equal the lesser of (i) fifteen percent (15%) of the total RNU Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

In addition, if an Interconnection Customer switches its status from Full Capacity Deliverability Status or Partial Capacity Deliverability Status to Energy-Only Deliverability Status within ten (10) Business Days following the Phase I Interconnection Study Results Meeting, the required Interconnection Financial Security for Network Upgrades shall, for purposes of this section, be additionally capped at an amount no greater than the Current Cost Responsibility assigned to the Interconnection Customer in the Phase I Interconnection Study for Reliability Network Upgrades.

2) Interconnection Customers selecting Option (A) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs and LDNUs.

The posting amount for such RNUs and LDNUs shall equal the lesser of (i) fifteen percent (15%) of the Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

3) Interconnection Customers selecting Option (B) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs, LDNUs and ADNUs.

The posting amount for such RNUs, LDNUs and ADNUs shall equal the lesser of (i) fifteen percent (15%) of the ADNU costs and the total Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

11.2.4 Posting Amount for Participating TO Interconnection Facilities.

11.2.4.1 Small Generator Interconnection Customers

Each Interconnection Customer for a Small Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument in an amount equal to the lesser of (i) fifteen (15) percent of the Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Participating TO's Interconnection Facilities or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

11.2.4.2 Large Generator Interconnection Customers

Each Interconnection Customer for a Large Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument in an amount equal to the lesser of (i) fifteen (15) percent of the Current Cost Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Participating TO's Interconnection Facilities, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

11.2.5 Cost Estimates Less than Minimum Posting Amounts.

If (1) the Current Cost Responsibility of the Assigned Network Upgrades, (2) the allocated costs of the Participating TO Interconnection Facilities, or (3) both are less than the respective minimum posting amounts that would apply under Sections 11.2.4.1 or 11.2.4.2, then the posting amount required will equal the Current Cost Responsibility of the Assigned Network Upgrades or the allocated costs for Participating TO Interconnection Facilities, as applicable.

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11.3 Interconnection Financial Security-Second and Third Postings for Queue Cluster Customers and Initial and Second Postings for Independent Study Process Customers

11.3.1 Second Posting for Queue Cluster Customers; Initial Posting for Independent Study Process Customers

11.3.1.1 Each Interconnection Customer in a Queue Cluster shall make second postings, with notice to the CAISO, of two separate Interconnection Financial Security instruments: (i) a second posting relating to the Network Upgrades; and (ii) a second posting relating to the Participating TO's Interconnection Facilities. The Current Cost Responsibility for calculating the second and third Interconnection Financial Security postings for Interconnection Customers in Queue Clusters shall be set forth in the Phase II Interconnection Study report.

Each Interconnection Customer in the Independent Study Process shall make initial postings, with notice to the CAISO, of two separate Interconnection Financial Security instruments: (i) a posting relating to the applicable Network Upgrades; and (ii) a posting relating to the Participating TO's Interconnection Facilities. The Current Cost Responsibility for calculating the initial Interconnection Financial Security Posting shall be set forth in the System Impact and Facilities Study report.

11.3.1.2 Timing of Posting

The postings set forth in this Section for Interconnection Customers in a Queue Cluster shall be made any time after issuance of the final Phase II Interconnection Study report but no later than one hundred eighty (180) calendar days after issuance of the final Phase II Interconnection Study report.

The initial postings for Interconnection Customers in the Independent Study Process shall be made any time after the issuance of the final System Impact and Facilities Study report under the Independent Study Process but no later than one hundred twenty (120) calendar days after the CAISO provides the results of the System Impact and Facilities Study.

Revised Cluster Study Reports. If the CAISO revises a final Phase II Interconnection Study report pursuant to Section 6.8, the second postings will be due by the later of one hundred-eighty (180) calendar days after issuance of the original final Phase II Interconnection Study report or sixty (60) calendar days after issuance of the revised final Phase II Interconnection Study report.

Revised Independent Study Track Reports. If the CAISO revises the final System Impact and Facilities Study report pursuant to Section 6.8, the initial postings will be due by the later of one hundred-twenty (120) calendar days after the issuance of the original final System Impact and Facilities Study report or thirty (30)

calendar days from the issuance of the revised System Impact and Facilities Study report.

11.3.1.3 Posting Requirements and Timing for Parked Option (A) Generating Facilities

For an Interconnection Customer choosing Option (A) whose Generating Facility was not allocated TP Deliverability in either the first TP Deliverability allocation following its receipt of the final Phase II Interconnection Study or the TP Deliverability allocation after parking, and who chooses to park the Interconnection Request, the posting due date will be extended by 12 months consistent with each parking election after the initial allocation process.

For an Interconnection Customer choosing Option (A) whose Generating Facility was allocated TP Deliverability for less than the full amount of its Interconnection Request, and who chooses to seek additional TP Deliverability for the remainder of the requested Deliverability of the Interconnection Request in the next allocation cycle, the postings for RNU, Participating TO Interconnection Facilities and for LDNUs corresponding to the initial allocation of TP Deliverability will be due in accordance with the dates specified in this Section 11. The posting due date for the LDNUs corresponding to the remainder of the requested Deliverability will be extended by 12 months consistent with each parking election after the initial allocation process.

11.3.1.4 Network Upgrade Posting Amounts

11.3.1.4.1 Small Generator Interconnection Customers

Each Interconnection Customer for a Small Generating Facility assigned to a Queue Cluster or an Interconnection Customer for a Small Generating Facility in the Independent Study Process shall post an Interconnection Financial Security instrument that brings the security amount up to the following:

1) For Interconnection Customers selecting Energy Only Deliverability Status: the lesser of (i) $1 million or (ii) thirty (30) percent of the Current Cost Responsibility assigned to the Interconnection Customer for RNUs in either the final Phase II Interconnection Study report, or for Independent Study Process Interconnection Customers, the system impact and facilities study. In no event shall the total amount posted be less than $100,000.

2) For Interconnection Customers who have Option (A) Generating Facilities, the lesser of (i) $1 million or (ii) thirty (30) percent of the Current Cost Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study.

However, in no event shall the total amount posted be less than $100,000.

3) For Interconnection Customers who have Option (B) Generating Facilities: the lesser of (i) $1 million or (ii) the sum of:

(a) thirty (30) percent of the Current Cost Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study; plus

(b) thirty (30) percent of the cost responsibility assigned to the Interconnection Customer for ADNUs in the final Phase II Interconnection Study. However, to the extent that the Option (B) Interconnection Customer's Generating Facility is allocated TP Deliverability, the cost responsibility assigned to the Interconnection Customer for ADNUs will be adjusted to reflect the allocation of TP Deliverability. If the allocation of TP Deliverability is for the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will equal zero (0). If the allocation of TP Deliverability is less than the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will be reduced pro rata.

However, in no event shall the total amount posted be less than $100,000.

11.3.1.4.2 Large Generator Interconnection Customers

Each Interconnection Customer for a Large Generating Facility assigned to a Queue Cluster and each Interconnection Customer for a Large Generating Facility in the Independent Study Process shall post an Interconnection Financial Security instrument that brings the security amount up to the following:

1) For Interconnection Customers selecting Energy Only Deliverability Status: the lesser of (i) $15 million or (ii) thirty (30) percent of the Current Cost Responsibility assigned to the Interconnection Customer for RNUs in the, final Phase II Interconnection Study, system impact and facilities study. In no event shall the total amount posted be less than $500,000.

2) For Interconnection Customers, who have Option (A) Generating Facilities the lesser of (i) $15 million or (ii) thirty (30) percent of the Current Cost Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study.

However, in no event shall the total amount posted be less than $500,000.

3) For Interconnection Customers who have Option (B) Generating Facilities: the lesser of (i) $15 million or (ii) the sum of:

(a) thirty (30) percent of the Current Cost Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for

Independent Study Process Interconnection Customers, in the system impact and facilities study; plus

(b) thirty (30) percent of the cost responsibility assigned to the Interconnection Customer for ADNUs in the final Phase II Interconnection Study. However, to the extent that the Option (B) Interconnection Customer's Generating Facility is allocated TP Deliverability, the cost responsibility assigned to the Interconnection Customer for ADNUs will be adjusted to reflect the allocation of TP Deliverability. If the allocation of TP Deliverability is for the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will equal zero (0). If the allocation of TP Deliverability is less than the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will be reduced pro rata.

However, in no event shall the total amount posted be less than $500,000.

11.3.1.4.3 Cost Estimates Less than Minimum Posting Amounts.

If the Current Cost Responsibility of the Assigned Network Upgrades are less than the posting amounts set forth in Section 11.3.1.4 above, then posting amount required will be equal to the Current Cost Responsibility of the Assigned Network Upgrades.

11.3.1.4.4 Posting Related to Interconnection Customer's Stand Alone Network Upgrades

If the Interconnection Customer desires to self-build Stand Alone Network Upgrades consistent with its interconnection study reports, the Interconnection Customer must post the Interconnection Financial Security for the Stand Alone Network Upgrades in its Interconnection Financial Security posting. The Interconnection Customer may request to build the Stand Alone Network Upgrades in the Generator Interconnection Agreement negotiation process, and if the Participating TO and the CAISO agree, the interconnection study reports and the second posting will be revised accordingly once the Generator Interconnection Agreement has been fully executed and documents the Stand Alone Network Upgrades. If the Participating TO and the CAISO agree to allow the Interconnection Customer to build a Stand Alone Network Upgrade in an executed Generator Interconnection Agreement, the Interconnection Customer's Maximum Cost Responsibility and Maximum Cost Exposure will be reduced by the cost of the Stand Alone Network Upgrade, and both the original and revised Maximum Cost Responsibility and Maximum Cost Exposure will be documented in the Generation Interconnection Agreement.

If at any time the responsibility for constructing the Stand Alone Network Upgrade, or a portion thereof, reverts to the Participating TO, the Interconnection Customer will be required to revise its Interconnection Financial Security posting within thirty (30) calendar days to reflect that the Participating TO will build the Stand Alone Network Upgrade. The Interconnection Customer's Maximum Cost Responsibility and Maximum Cost Exposure also will be revised to reflect that the Participating TO will

build the Stand Alone Network Upgrade. Failure to make a timely posting adjustment will result in the withdrawal of the Interconnection Request in accordance with Section 3.8. If an Interconnection Customer has been allowed to reduce its Interconnection Financial Security posting following the execution of its Generator Interconnection Agreement and subsequently withdraws, the amount of the Interconnection Financial Security that is determined to be refundable under Section 11.4.2 will be reduced by the amount of the Interconnection Financial Security posting the Interconnection Customer avoided through the self-build option.

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11.3.2 Third Posting for Queue Cluster Customers and Second Posting for Independent Study Process Customers

After the second posting for a Queue Cluster has been made but no later than the start of Construction Activities for Network Upgrades or Participating TO's Interconnection Facilities on behalf of the Interconnection Customer, whichever is earlier, the Interconnection Customer shall modify the two separate Interconnection Financial Security instruments posted pursuant to Section 11.3.1.

After the first posting for Independent Study Process Customers has been made but no later than the start of Construction Activities for Network Upgrades or Participating TO's Interconnection Facilities on behalf of the Interconnection Customer, whichever is earlier, the Interconnection Customer shall modify the two separate Interconnection Financial Security instruments posted pursuant to Section 11.3.1.

11.3.2.1 Network Upgrades

With respect to the Interconnection Financial Security Instrument for Network Upgrades, the Interconnection Customer shall modify this Instrument so that it equals one hundred (100) percent of the assigned ADNU costs and the Current Cost Responsibility assigned to the Interconnection Customer as determined in Section 11.3.1.4.1 for Small Generator Interconnection Customers or in Section 11.3.1.4.2 for Large Generator Interconnection Customers.

An Interconnection Customer whose Option (B) Generating Facility was not allocated TP Deliverability and elects to have a party other than the applicable Participating TO(s) construct an LDNU or ADNU is not required to make this posting for its cost responsibilities for such LDNU or ADNU. However, such Interconnection Customer will be required to demonstrate its financial capability to pay for the full cost of construction of its share, as applicable, of the LDNU or ADNU pursuant to Section 24.4.6.1 of the CAISO Tariff. An Interconnection Customer's election to have a party other than an applicable Participating TO construct an LDNU or ADNU does not relieve the Interconnection Customer of the responsibility to fund or construct such LDNU or ADNU. Upon the Interconnection Customer's demonstration to the CAISO that the Interconnection Customer has expended the amount of the avoided posting requirement on construction of the LDNU or ADNU described here, the Interconnection Customer's prior posting for these facilities will be returned to the Interconnection Customer, unless the Participating TO and Interconnection Customer agree to an alternative arrangement.

11.3.2.2 Participating TO Interconnection Facilities

With respect to the Interconnection Financial Security Instrument for Participating TO Interconnection Facilities, the Interconnection Customer shall modify this instrument so that it equals one hundred (100) percent of the total cost responsibility assigned to the Interconnection Customer for Participating TO Interconnection Facilities in the final Phase II Interconnection Study for Interconnection Customers in a Queue Cluster, or the final system impact and facilities study for Interconnection Customers in the Independent Study Process.

11.3.2.3 Separation of Posting

If an Interconnection Customer's Network Upgrades and/or Interconnection Facilities are separated into two or more specific components and/or can be separated into two or more separate and discrete phases of construction and the Participating TO is able to identify and separate the costs of the identified discrete components and/or phases of construction, then the Participating TO, the CAISO, and the Interconnection Customer may negotiate, as part of the Generator Interconnection Agreement, a division of the Interconnection Financial Security posting required by this Section 11.3.2 into discrete Interconnection Financial Security amounts and may establish discrete milestone dates (however, outside dates must be included) for posting the amounts corresponding to each component and/or phase of construction related to the Network Upgrades and/or Interconnection Facilities described in the Generator Interconnection Agreement.

11.3.2.4 Failure to Post

The failure by an Interconnection Customer to timely post the Interconnection Financial Security required by this Section shall constitute grounds for termination of the GIA pursuant to LGIA Article 2.3 or SGIA Article 3.3, whichever is applicable.

11.3.2.5 Conversion of Conditionally Assigned Network Upgrades

If at any time an Interconnection Customer's Interconnection Studies are revised to reflect that Conditionally Assigned Network Upgrades have become Assigned Network Upgrades, the Interconnection Customer's Maximum Cost Responsibility, Current Cost Responsibility, Generator Interconnection Agreement, and Interconnection Financial Security will be revised to reflect the conversion, as applicable.

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Section 14 PTOs Interconnection Facilities and Network Upgrades

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14.3 Network Upgrades

With the exception of LDNUs and ADNUs for Option (B) Generating Facilities that were not allocated TP Deliverability, Network Upgrades will be constructed by the applicable Participating TO(s). Interconnection Customers may, at their discretion, select parties other than the applicable PTOs to construct certain LDNUs and ADNUs required by their Option (B) Generating Facilities that are not allocated TP Deliverability, if such LDNUs and ADNUs are eligible for construction by parties other than the applicable PTO pursuant to Section 24.5.2 of the CAISO Tariff. Such ADNUs and LDNUs will be incorporated into the CAISO Controlled Grid pursuant to the

provisions for Merchant Transmission Facilities in CAISO Tariff Sections 24.4.6.1, and 36.11. Unless the Interconnection Customer elects construction by a party other than the applicable Participating TO, the applicable Participating TO(s) will be obligated to construct the LDNUs and ADNUs This Section shall not apply to an Interconnection Customer's right to build Stand Alone Network Upgrade(s) in accordance with the LGIA.

14.3.1 Initial Funding

Assigned Network Upgrades shall be funded by the Interconnection Customer(s) either by means of drawing down the Interconnection Financial Security or by the provision of additional capital, at each Interconnection Customer's election, up to a maximum amount no greater than that established by the Current Cost Responsibility assigned to each Interconnection Customer(s). Current Cost Responsibility may be adjusted consistent with this GIDAP and up to the Interconnection Customer's Maximum Cost Responsibility, but the applicable Participating TO(s) shall be responsible for funding any capital costs for the Assigned Network Upgrades that exceed the Current Cost Responsibility assigned to the Interconnection Customer(s).

(a) Where the funding responsibility for any RNUs and LDNUs has been assigned to a single Interconnection Customer, the applicable Participating TO(s) shall invoice the Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, up to a maximum amount no greater than that established by the Current Cost Responsibility assigned to each Interconnection Customer(s) for the RNUs or LDNUs, respectively.

(b) Where the funding responsibility for an RNU has been assigned to more than one Interconnection Customer in accordance with this GIDAP, the applicable Participating TO(s) shall invoice each Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, for such RNU in accordance with their respective Current Cost Responsibilities. Each Interconnection Customer may be invoiced up to a maximum amount no greater than that established by the Current Cost Responsibility assigned to that Interconnection Customer.

(c) Where the funding responsibility for an LDNU has been assigned to more than one Interconnection Customer, the applicable Participating TO(s) shall invoice each Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, for such LDNUs based on their respective Current Cost Responsibilities. Each Interconnection Customer may be invoiced up to a maximum amount no greater than that established by the Current Cost Responsibility assigned to that Interconnection Customer.

(d) Where the funding responsibility for an ADNU being constructed by one or more Participating TO has been assigned to more than one Option (B) Interconnection Customer, the applicable Participating TO(s) shall invoice each Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, for such ADNUs based on their respective Current Cost Responsibilities.

Any permissible extension of the Commercial Operation Date of a Generating Facility will not alter the Interconnection Customer's obligation to finance its Assigned Network Upgrades where the Network Upgrades are required to meet the earlier Commercial Operation Date(s) of other Generating Facilities that have also been assigned cost responsibility for the Network Upgrades.

14.3.2 Repayment of Amounts Advanced for Network Upgrades and Refund of Interconnection Financial Security

14.3.2.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Generating Facility, commencing upon the Commercial Operation Date of the Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Generating Facility shall, for each of these Network Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Section 14.3.2.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

(1) For RNUs, in accordance with the Interconnection Customer's cost responsibility assigned up to a maximum of $60,000 per MW of generating capacity as specified in the GIA. The CAISO will publish an annual inflation factor and adjusted amount for this figure with the per unit cost publication on the CAISO Website pursuant to Section 6.4 of this GIDAP. Interconnection Customers will be entitled to repayment subject to the figure corresponding to their Commercial Operation Date.

(2) For LDNUs, except for LDNUs for Option (B) Generating Facilities that were not allocated TP Deliverability, in accordance with the Interconnection Customer's Current Cost Responsibility.

(3) Option (B) Generating Facilities that were not allocated TP Deliverability will not receive repayment for LDNUs or ADNUs.

Unless an Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, such amounts shall include any tax gross-up or other tax-related payments associated with the Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the applicable Participating TO(s) on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the applicable date as provided for in this Section 14.3.2.1; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years of the applicable commencement date.

For Network Upgrades the Interconnection Customer funded but did not receive repayment, the Interconnection Customer will be eligible to receive Merchant Transmission Congestion Revenue Rights (CRRs) in accordance with CAISO Tariff Section 36.11 associated with those Network Upgrades, or portions thereof that were funded by the Interconnection Customer. Such CRRs would take effect upon the Commercial Operation Date of the Generating Facility in accordance with the GIA.

14.3.2.2 Repayment of Amounts Advanced Regarding Phased Generating Facilities

Upon the Commercial Operation Date of each phase of a Phased Generating Facility, unless the Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, the Interconnection Customer shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades for that completed phase in accordance with the Interconnection Customer's Current Cost Responsibility assigned for the phase and subject to the limitations specified in Section 14.3.2.1, if the following conditions are satisfied as described below:

(a) The Generating Facility is capable of being constructed in phases;

(b) The Generating Facility is specified in the GIA as being constructed in phases;

(c) The completed phase corresponds to one of the phases specified in the GIA;

(d) The phase has achieved Commercial Operation and the Interconnection Customer has tendered notice of the same pursuant to the GIA;

(e) All parties to the GIA have confirmed that the completed phase meets the requirements set forth in the GIA and any other operating, metering, and interconnection requirements to permit generation output of the entire capacity of the completed phase as specified in the GIA;

(f) The Network Upgrades necessary for the completed phase to meet the desired level of Deliverability are in service; and

(g) The Interconnection Customer has posted one hundred (100) percent of the Interconnection Financial Security required for the Network Upgrades for all the phases of the Generating Facility (or if less than one hundred (100) percent has been posted, then all required Interconnection Financial Security instruments to the date of commencement of repayment).

* * * * *

14.4 Special Provisions for Affected Systems, Other Affected PTOs

The Interconnection Customer shall enter into an agreement with the owner of the Affected System and/or other affected Participating TO(s), as applicable. The agreement shall specify the terms governing payments to be made by the Interconnection Customer to the owner of the Affected System and/or other affected Participating TO(s) as well as the repayment by the owner

of the Affected System and/or other affected Participating TO(s). If the affected entity is another Participating TO, the initial form of agreement will be the GIA, as appropriately modified.

Any repayment by the owner of the Affected System shall be in accordance with FERC Order No. 2003-B (109 FERC ¶ 61,287).

14.4.1 Cost Allocation, Interconnection Financial Security, and Reimbursement for Multiple Participating TOs

Interconnection Studies will list separate cost estimates for facilities and Network Upgrades required on the interconnecting Participating TO and affected Participating TO's systems. These separate sums will produce a single, combined Maximum Cost Responsibility and a single, combined Maximum Cost Exposure for the Interconnection Customer. Current Cost Responsibilities for each Participating TO's facilities and Network Upgrades may be adjusted up to the Interconnection Customer's Maximum Cost Responsibility and Maximum Cost Exposure, as applicable.

The Interconnection Customer will post its initial and second Interconnection Financial Security to the interconnecting Participating TO only, for the facilities and Network Upgrades on both the interconnecting and affected Participating TOs' systems. The Interconnection Customer will post its third Interconnection Financial Security to each Participating TO based on the separate Current Cost Responsibilities for facilities and Network Upgrades on their respective systems.

Each Participating TO will repay amounts received for Network Upgrades pursuant to this GIDAP. Reimbursement for Reliability Network Upgrades will be paid by each Participating TO but subject to a single, combined maximum based upon the Interconnection Customer's generating capacity, as described in Section 14.3.2. If the amount funded for the Reliability Network Upgrades exceeds this maximum, each Participating TO will repay the Interconnection Customer proportional to its share of the Interconnection Customer's Current Cost Responsibility for the Reliability Network Upgrades.

* * * * *

Appendix EE
Large Generator Interconnection Agreement for Interconnection Requests Processed under the Generator Interconnection and Deliverability Allocation Procedures (Appendix DD of the CAISO Tariff)

* * * * *

Article 1. Definitions

* * * * *

Assigned Network Upgrade (ANU) shall mean Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to the Interconnection Customer. Assigned Network Upgrades exclude Conditionally Assigned Network Upgrades unless they become Assigned Network Upgrades.

* * * * *

Conditionally Assigned Network Upgrade (CANU) shall mean Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

* * * * *

Current Cost Responsibility (CCR) shall mean 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.

* * * * *

General Reliability Network Upgrade (GRNU) shall mean Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

* * * * *

Interconnection Financial Security (IFS) shall mean any of the financial instruments listed in Section 11.1 of the GIDAP that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

* * * * *

Interconnection Reliability Network Upgrades (IRNU) shall mean Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

* * * * *

Maximum Cost Exposure (MCE) shall mean, 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.

* * * * *

Maximum Cost Responsibility (MCR) shall mean, 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.

* * * * *

Precursor Network Upgrades (PNU) shall mean Network Upgrades required for the Interconnection Customer consisting of (1) Network Upgrades assigned to an earlier Interconnection Customer in an earlier Queue Cluster, Independent Study Process, or Fast Track Process, that has executed its GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

* * * * *

Reliability Network Upgrades (RNU) shall mean the transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or thermal overloads. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which cannot be adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities

included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating. Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

* * * * *

Article 11. Performance Obligation

* * * * *

11.3 Network Upgrades and Distribution Upgrades. The Participating TO shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, except for Stand Alone Network Upgrades, which will be constructed, and if agreed to by the Parties owned by the Interconnection Customer, and Merchant Network Upgrades. The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Network Upgrades shall be funded by the Interconnection Customer, which for Interconnection Customers processed under Section 6 of the GIDAP (in Queue Clusters) shall be in an amount determined pursuant to the methodology set forth in Section 6.3 of the GIDAP. This specific amount is set forth in Appendix G to this LGIA. For costs associated with Area Delivery Network Upgrades, any amounts set forth in Appendix G will be advisory estimates only, and will not operate to establishing any cap or Maximum Cost Exposure on the cost responsibility of the Interconnection Customer for Area Delivery Network Upgrades.

11.4 Transmission Credits. No later than thirty (30) Calendar Days prior to the Commercial Operation Date, the Interconnection Customer may make a one-time election by written notice to the CAISO and the Participating TO to (a) receive Congestion Revenue Rights as defined in and as available under the CAISO Tariff at the time of the election in accordance with the CAISO Tariff, in lieu of a repayment of the cost of Network Upgrades in accordance with Article 11.4.1, and/or (b) decline all or part of a refund of the cost of Network Upgrades entitled to the Interconnection Customer in accordance with Article 11.4.1.

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

11.4.1.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Generating Facility, commencing upon the Commercial Operation Date of the Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Generating Facility shall, for each of these Network

Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Article 11.4.1.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

(a) For Reliability Network Upgrades, the Interconnection Customer shall be entitled to a repayment of the amount paid by the Interconnection Customer for Reliability Network Upgrades as set forth in Appendix G, up to a maximum amount established in Section 14.3.2.1 of the GIDAP. For purposes of this determination, generating capacity will be based on the capacity of the Interconnection Customer's Generating Facility at the time it achieves Commercial Operation. To the extent that such repayment does not cover all of the costs of Interconnection Customer's Reliability Network Upgrades, the Interconnection Customer shall receive Merchant Transmission CRRs for that portion of its Reliability Network Upgrades that are not covered by cash repayment.

* * * * *

(e) Where the Interconnection Customer finances the construction of Network Upgrades for more than one Participating TO, the cost allocation, Interconnection Financial Security, and repayment will be conducted pursuant to Section 14.4.1 of the GIDAP, and set forth in Appendix G.

* * * * *

Appendix FF

Small Generator Interconnection Agreement for Interconnection Requests Processed Under the Generator Interconnection and Deliverability Allocation Procedures

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Article 5. Cost Responsibility For Network Upgrades

5.1 Applicability

No portion of this Article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

5.2 Network Upgrades

The Participating TO shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement, except for Merchant Network Upgrades. If the Participating TO and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Network Upgrades, including overheads, shall be borne initially by the Interconnection Customer. For costs associated with Area Delivery Network Upgrades, any cost estimates will be advisory in nature and will not be considered as definitive or as establishing a cap on the Maximum Cost Exposure of the Interconnection Customer for Area Delivery Network Upgrades.

* * * * *

5.3.1 Repayment of Amounts Advanced for Network Upgrades

5.3.1.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Small Generating Facility, commencing upon the Commercial Operation Date of the Small Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Small Generating Facility shall, for each of these Network Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Article 5.3.1.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

(a) For Reliability Network Upgrades, the Interconnection Customer shall be entitled to a repayment of the amount paid by the Interconnection Customer for Reliability Network Upgrades up to a maximum amount established in Section 14.3.2.1 of the GIDAP. For purposes of this determination, generating capacity will be based on the capacity of the Interconnection Customer's Generating Facility at the time it achieves Commercial Operation. To the extent that such repayment does not cover all of the costs of the Interconnection Customer's Reliability Network Upgrades, the Interconnection Customer shall receive Merchant Transmission CRRs for that portion of its Reliability Network Upgrades that are not covered by cash repayment.

(b) For Local Delivery Network Upgrades:

i. If the Interconnection Customer is an Option (B) Interconnection Customer and has been allocated and continues to be eligible to receive TP Deliverability pursuant to the GIDAP, the Interconnection Customer shall be entitled to repayment of a portion of the total amount paid to the Participating TO for the cost of Local Delivery Network Upgrades for which it is responsible. The repayment amount shall be determined by dividing the amount of TP Deliverability received by the amount of deliverability requested by the Interconnection Customer, and multiplying that percentage by the total amount paid to the

Participating TO by the Interconnection Customer for Local Delivery Network Upgrades.

ii. If the Interconnection Customer is an Option (B) Interconnection Customer and has not been allocated any TP Deliverability, the Interconnection Customer shall not be entitled to repayment for the cost of Local Delivery Network Upgrades.

iii. If the Interconnection Customer is an Option (A) Interconnection Customer, the Interconnection Customer shall be entitled to a repayment equal to the total amount paid to the Participating TO for the costs of Local Delivery Network Upgrades for which it is responsible.

(c) For Area Delivery Network Upgrades, the Interconnection Customer shall not be entitled to repayment for the costs of Area Delivery Network Upgrades.

(d) If an Option (B) Interconnection Customer elects and is eligible to construct and own Merchant Network Upgrades as set forth in Article 5.2.1 of this SGIA, then the Interconnection Customer shall not be entitled to any repayment pursuant to this SGIA.

Unless an Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, such amounts shall include any tax gross-up or other tax-related payments associated with Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the Participating TO on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the applicable date as provided for in this Article 5.3.1.1; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years of the applicable commencement date. Notwithstanding the foregoing, if this Agreement terminates within five (5) years of the applicable commencement date, the Participating TO's obligation to pay refunds to the Interconnection Customer shall cease as of the date of termination.

(e) Where the Interconnection Customer finances the construction of Network Upgrades for more than one Participating TO, the cost allocation, Interconnection Financial Security, and repayment will be conducted pursuant to Section 14.4.1 of the GIDAP, and set forth in this SGIA,

* * * * *

Attachment 1

Glossary of Terms

* * * * *

Assigned Network Upgrade (ANU) - Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to the Interconnection Customer. Assigned Network Upgrades exclude Conditionally Assigned Network Upgrades unless they become Assigned Network Upgrades.

* * * * *

Conditionally Assigned Network Upgrade (CANU) - Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

* * * * *

Current Cost Responsibility (CCR) - 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.

* * * * *

General Reliability Network Upgrade (GRNU) - Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

* * * * *

Interconnection Financial Security (IFS) - Any of the financial instruments listed in Section 11.1 of the GIDAP that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

* * * * *

Interconnection Reliability Network Upgrade (IRNU) - Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

* * * * *

Maximum Cost Exposure (MCE) - 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.

* * * * *

Maximum Cost Responsibility (MCR) - 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.

* * * * *

Precursor Network Upgrades (PNU) - Network Upgrades required for the Interconnection Customer consisting of (1) Network Upgrades assigned to an earlier Interconnection Customer in an earlier Queue Cluster, Independent Study Process, or Fast Track Process, that has executed its GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

* * * * *

Reliability Network Upgrades (RNU) - The transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network

Upgrades necessary to remedy short circuit or stability problems, or system operating limits. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which cannot be adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating. Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

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Attachment B – Marked Tariff

2018 Interconnection Process Enhancements Tariff Amendment

California Independent System Operator Corporation

Appendix A

Master Definitions Supplement

* * * * *

- Assigned Network Upgrade (ANU)

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 (CANU)

Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

* * * * *

- Current Cost Responsibility (CCR)

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.

* * * * *

- General Reliability Network Upgrade (GRNU)

Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

* * * * *

- Interconnection Financial Security (IFS)

Any of the financial instruments listed in ~~GIP~~ Section 9.1 ~~set forth in~~ of Appendix Y and Section 11.1 of Appendix DD that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

* * * * *

- Interconnection Reliability Network Upgrade (IRNU)

Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

* * * * *

- Maximum Cost Exposure (MCE)

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.

* * * * *

- Maximum Cost Responsibility (MCR)

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.

* * * * *

- Precursor Network Upgrades (PNU)

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 GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

* * * * *

- Reliability Network Upgrade (RNU)

The transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or thermal overloads. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which ~~system operating limits~~ cannot be

adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating. Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

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Appendix U

Standard Large Generator Interconnection Procedures

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3.3 Interconnection Service

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3.3.3.3 Deliverability Transfers. Interconnection Customers may transfer Deliverability pursuant to Section 8.9.9 of Appendix DD to the CAISO Tariff.

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Appendix Y

Generator Interconnection Procedures

For Interconnection Requests

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4.6 Deliverability Assessment

Interconnection Customers under the Independent Study Process that requests Partial or Full Capacity Deliverability Status will have a Deliverability Assessment performed as part of the next scheduled Phase I and Phase II Interconnection Studies for Queue Clusters. If the Deliverability Assessment identifies any Delivery Network Upgrades that are triggered by the Interconnection Request, the Interconnection Customer will be responsible to pay its proportionate share of the costs of those Upgrades, pursuant to Sections 6 and 7 of this GIP. If the Generating Facility (or increase in capacity of an existing Generating Facility) achieves its Commercial Operation Date before the Deliverability Assessment is completed and any necessary Delivery Network Upgrades are in service, the proposed Generating Facility (or increase in capacity) will be treated as an Energy-Only Deliverability Status Generating Facility until such Delivery Network Upgrades are in service.

4.6.1 Deliverability Transfers

Interconnection Customers may transfer Deliverability pursuant to Section 8.9.9 of Appendix DD to the CAISO Tariff.

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Appendix DD

Generator Interconnection and Deliverability Allocation Procedures (GIDAP)

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Section 4 Independent Study Process

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4.2.1.2 Requirement Set Number Two: for Requests for Independent Study of Behind-the-Meter Capacity Expansion of Generating Facilities

This Section 4.2.1.2 applies to an Interconnection Request relating to a behind-the-meter capacity expansion of a Generating Facility. Such an Interconnection Request submitted under the Independent Study Process will satisfy the requirements of Section 4.2.1 if it satisfies all of the following technical and business criteria:

(i) Technical criteria.

1) The total nameplate capacity of the existing Generating Facility plus the incremental increase in capacity does not exceed in the aggregate one hundred twenty-five (125) percent of its previously studied capacity and the incremental increase in capacity does not exceed, in the aggregate, including any prior behind-the-meter capacity expansions implemented pursuant to this Section 4.2.1.2, one hundred (100) MW.

2) The behind-the-meter capacity expansion shall not take place until after the original Generating Facility has achieved Commercial Operation and all Reliability Network Upgrades for the original Generating Facility have been placed in service. An Interconnection Request for behind-the-meter capacity expansion may be submitted prior to the Commercial Operation Date of the original Generating Facility.

3) The Interconnection Customer must install an automatic generator tripping scheme sufficient to ensure that the total output of the Generating Facility, including the behind-the-meter capacity expansion, does not at any time exceed the capacity studied in the Generating Facility's original Interconnection Request. The CAISO will have the authority to trip the generating equipment subject to the automatic generator tripping scheme or take any other actions necessary to limit the output of the Generating Facility so that the total output of the Generating Facility does not exceed the originally studied capacity.

(ii) Business criteria.

1) The Deliverability Status (Full Capacity, Partial Capacity or Energy-Only) of the original Generating Facility will remain the same after the behind-the-meter capacity expansion. The capacity expansion will have Energy-Only Deliverability Status unless otherwise specified in this GIDAP, and the original Generating Facility and the behind-the-meter capacity expansion will be metered separately from one another and be assigned separate Resource IDs, except as set forth in (2) below.

2) If the original Generating Facility has Full Capacity Deliverability Status and the behind-the-meter capacity expansion will use the same technology as the original Generating Facility, the

Interconnection Customer may elect to have the original Generating Facility and the behind-the-meter capacity expansion metered together, in which case both the original Generating Facility and the behind-the-meter capacity expansion ~~will~~ may have Partial Capacity Deliverability Status and a separate Resource ID will not be established for the behind-the-meter capacity expansion.

3) A request for behind-the-meter expansion shall not operate as a basis under the CAISO Tariff to increase the ~~Net Qualifying Capacity~~ Deliverability of the Generating Facility beyond ~~the rating which pre-existed~~ what was or would have been allocated to the original Generating Facility before the Interconnection Request for behind-the-meter capacity expansion, unless the expansion has received a separate TP Deliverability allocation pursuant to Section 8.9.2.

4) The GIA will be amended to reflect the revised operational features of the Generating Facility's behind-the-meter capacity expansion.

5) An active Interconnection Customer may at any time request that the CAISO convert the Interconnection Request for behind-the-meter capacity expansion to an Independent Study Process Interconnection Request to evaluate an incremental increase in electrical output (MW generating capacity) for the existing Generating Facility. The Interconnection Customer must accompany such a conversion request with an appropriate Interconnection Study Deposit and agree to comply with other sections of Section 4 applicable to an Independent Study Process Interconnection Request.

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Section 6 Initial Activities and Phase I of the Interconnection Study Process for Queue Clusters

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6.2. Scope and Purpose of Phase I Interconnection Study

The Phase I Interconnection Study shall:

(i) evaluate the impact of all Interconnection Requests received during the Cluster Application Window for a particular year on the CAISO Controlled Grid;~~,~~

(ii) preliminarily identify all LDNUs and RNUs needed to address the impacts on the CAISO Controlled Grid of the Interconnection Requests, as Assigned Network Upgrades or Conditionally Assigned Network Upgrades;

(iii) preliminarily identify for each Interconnection Request required Interconnection Facilities;~~,~~

(iv) assess the Point of Interconnection selected by each Interconnection Customer and potential alternatives to evaluate potential efficiencies in overall transmission upgrades costs;~~,~~

(v) establish the Current Cost Responsibility, ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility, and Maximum Cost Exposure for ~~LDNUs and RNUs assigned to~~ each Interconnection Request, until the issuance of the Phase II Interconnection Study report;~~,~~

(vi) provide a good faith estimate of the cost of Interconnection Facilities for each Interconnection Request;~~, and~~

(vii) provide a cost estimate of ADNUs for each Generating Facility in a Queue Cluster Group Study;

(viii) identify any Precursor Network Upgrades; and

(ix) identify RNUs as GRNUs or IRNUs.

The Phase I Interconnection Study will consist of a short circuit analysis, a stability analysis to the extent the CAISO and applicable Participating TO(s) reasonably expect transient or voltage stability concerns, a power flow analysis, including off-peak analysis, and an On-Peak Deliverability Assessment (and Off-Peak Deliverability Assessment which will be for informational purposes only) for the purpose of identifying LDNUs and estimating the cost of ADNUs, as applicable.

The Phase I Interconnection Study will state for each Group Study or Interconnection Request studied individually (i) the assumptions upon which it is based, (ii) the results of the analyses, and (iii) the requirements or potential impediments to providing the requested Interconnection Service to all Interconnection Requests in a Group Study or to the Interconnection Request studied individually.

The Phase I Interconnection Study will provide, without regard to the requested Commercial Operation Dates of the Interconnection Requests, a list of RNUs and LDNUs to the CAISO Controlled Grid that are preliminarily identified as Assigned Network Upgrades or Conditionally Assigned Network Upgrades required as a result of the Interconnection Requests in a Group Study or as a result of any Interconnection Request studied individually and Participating TO's Interconnection Facilities associated with each Interconnection Request, the estimated costs of ADNUs, if applicable and an estimate of any other financial impacts (i.e., on Local Furnishing Bonds).

6.3 Identification of and Cost Allocation for Network Upgrades

6.3.1 Reliability Network Upgrades (RNUs).

The CAISO, in coordination with the applicable Participating TO(s), will perform short circuit and stability analyses for each Interconnection Request either individually or as part of a Group Study to preliminarily identify the RNUs needed to interconnect the Generating Facilities to the CAISO Controlled Grid. The CAISO, in coordination with the applicable Participating TO(s), shall also perform power flow analyses, under a variety of system conditions, for each Interconnection Request either individually or as part of a Group Study to identify Reliability Criteria violations, including applicable thermal overloads, that must be mitigated by RNUs.

The cost of all RNUs identified in the Phase I Interconnection Study shall be estimated in accordance with Section 6.4. The estimated costs of short circuit related GRNUs identified through a Group Study shall be assigned to all Interconnection Requests in that Group Study pro rata on the basis of the short circuit duty contribution of each Generating Facility. The estimated costs of all other GRNUs identified through a Group Study shall be assigned to all Interconnection Requests in that Group Study pro rata on the basis of

the maximum megawatt electrical output of each proposed new Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request. The estimated costs of RNUs identified as a result of an Interconnection Request studied separately shall be assigned solely to that Interconnection Request.

Pursuant to Section 8.3, Interconnection Customers assigned IRNUs in their Phase I Interconnection Study will be allocated the full cost of the IRNUs in their Maximum Cost Responsibility. The Maximum Cost Exposure will include the full costs of conditionally assigned IRNUs. The Current Cost Responsibility will include their allocated share of IRNU costs as determined for RNUs in Section 8.3.

6.3.2 Delivery Network Upgrades.

6.3.2.1 The On-Peak Deliverability Assessment.

The CAISO, in coordination with the applicable Participating TO(s), shall perform On-Peak Deliverability Assessments for Interconnection Customers selecting Full Capacity or Partial Capacity Deliverability Status in their Interconnection Requests. The On-Peak Deliverability Assessment shall determine the Interconnection Customer's Generating Facility's ability to deliver its Energy to the CAISO Controlled Grid under peak load conditions, and identify preliminary Delivery Network Upgrades required to provide the Generating Facility with Full Capacity or Partial Capacity Deliverability Status. The Deliverability Assessment will consist of two rounds, the first of which will identify any transmission constraints that limit the Deliverability of the Generating Facilities in the Group Study and will identify LDNUs to relieve the local constraints, and second of which will determine ADNUs to relieve the area constraints.

6.3.2.1.1 Local Delivery Network Upgrades

The On-Peak Deliverability Assessment will be used to establish the ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility and Maximum Cost Exposure for LDNUs for each Interconnection Customer selecting Full Capacity or Partial Capacity Deliverability Status. Deliverability of a new Generating Facility will be assessed on the same basis as all existing resources interconnected to the CAISO Controlled Grid.

The methodology for the On-Peak Deliverability Assessment will be published on the CAISO Website or, when effective, included in a CAISO Business Practice Manual. The On-Peak Deliverability Assessment does not convey any right to deliver electricity to any specific customer or Delivery Point.

The cost of LDNUs identified in the On-Peak Deliverability Assessment as part of a Phase I Interconnection Study shall be estimated in accordance with Section 6.4. The estimated costs of Delivery Network Upgrades identified in the On-Peak Deliverability Assessment shall be assigned to all Interconnection Requests selecting Full Capacity or Partial Capacity Deliverability Status based on the flow impact of each such Generating Facility on the Delivery Network Upgrades as determined by the Generation distribution factor methodology set forth in the On-Peak Deliverability Assessment methodology.

6.3.2.1.2 Area Delivery Network Upgrades

The On-Peak Deliverability Assessment will be used in the Phase I Interconnection Studies to identify those facilities necessary to provide the incremental Deliverability between the level of TP Deliverability and such additional amount of Deliverability as is necessary for the MW capacity amount of generation targeted in the Phase I Interconnection Studies. Based on such facility cost estimates, the CAISO will calculate a rate for ADNU costs equal to the facility cost estimate divided by the additional amount of Deliverability targeted in the study. The Phase I Interconnection Studies shall provide a cost estimate for each Interconnection Customer which equals the rate multiplied by the requested deliverable MW capacity of the Generating Facility in the Interconnection Request.

6.3.2.1.3 [Intentionally Omitted]

6.3.2.2 Off-Peak Deliverability Assessment.

The CAISO, in coordination with the applicable Participating TO(s), shall perform an Off-Peak Deliverability Assessment to identify transmission upgrades in addition to those Delivery Network Upgrades identified in the On-Peak Deliverability Assessment, if any, for a Group Study or individual Phase I Interconnection Study that includes one or more Location Constrained Resource Interconnection Generators (LCRIG), where the fuel source or source of energy for the LCRIG substantially occurs during off-peak conditions.

The transmission upgrades identified under this Section shall comprise those needed for the full maximum megawatt electrical output of each proposed new LCRIG or the amount of megawatt increase in the generating capacity of each existing LCRIG as listed by the Interconnection Customer in its Interconnection Request, whether studied individually or as a Group Study, to be deliverable to the aggregate of Load on the CAISO Controlled Grid under the Generation dispatch conditions studied. The methodology for the Off-Peak Deliverability Assessment will be published on the CAISO Website or, if applicable, included in a CAISO Business Practice Manual.

The CAISO will perform the Off-Peak Deliverability Assessment for Interconnection Customer informational purposes only, and any such upgrades identified in the Off-Peak Deliverability Assessment as part of the Phase I Interconnection Study shall be estimated in accordance with Section 6.4. The estimated costs of such upgrades identified in the assessment will be referred to as “off peak Deliverability transmission upgrades,' the description of such upgrades in any report will be conceptual in nature, and such transmission upgrades will not be included ~~in~~ as an Assigned Network Upgrade or Conditionally Assigned Network Upgrade ~~plan of service~~ within the applicable Interconnection Study report.

The cost of all transmission upgrades identified in the Off-Peak Deliverability Assessment performed during the course of the Phase I Interconnection Study shall be estimated in accordance with Section 6.4. However, because these transmission upgrades shall be conceptual in nature only these upgrades shall be treated as follows:

(i) these transmission upgrades will not be required for the proposed Generating Facility (or proposed increase in capacity) that is the subject

to the Interconnection Request to achieve Full Capacity Deliverability Status;

(ii) the estimated costs for these transmission upgrades shall not be assigned to any Interconnection Customer in an Interconnection Study report, such costs shall not be considered in determining the Current ~~c~~Cost ~~r~~Responsibility or ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility of the Interconnection Customer for Network Upgrades under this or in determining the Interconnection Financial Security than an Interconnection Customer must post under Section 11;

(iii) and the applicable Participating TO(s) shall not be responsible under this for financing or constructing such transmission upgrades.

6.4 Use of Per Unit Costs to Estimate Network Upgrade and PTO Interconnection Facilities Costs

Each Participating TO, under the direction of the CAISO, shall publish per unit costs for facilities generally required to interconnect Generation to their respective systems.

These per unit costs shall reflect the anticipated cost of procuring and installing such facilities during the current Interconnection Study Cycle, and may vary among Participating TOs and within a Participating TO Service Territory based on geographic and other cost input differences, and should include an annual adjustment for the following ten (10) years to account for the anticipated timing of procurement to accommodate a potential range of Commercial Operation Dates of Interconnection Requests in the Interconnection Study Cycle. The per unit costs will be used to develop the cost of ~~RNUs, LDNUs, ADNUs~~ Network Upgrades and Participating TO's Interconnection Facilities. Deviations from a Participating TO's benchmark per unit costs will be permitted if a reasonable explanation for the deviation is provided and there is no undue discrimination.

Prior to adoption and publication of final per unit costs for use in the Interconnection Study Cycle, the CAISO shall publish to the CAISO Website draft per unit costs, including non-confidential information regarding the bases therefore, hold a stakeholder meeting to address the draft per unit costs, and permit stakeholders to provide comments on the draft per unit costs. A schedule for the release and review of per unit costs is set forth in Appendix 5.

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6.7 Phase I Interconnection Study Results Meeting

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6.7.2 Modifications.

6.7.2.1 At any time during the course of the Interconnection Studies, the Interconnection Customer, the applicable Participating TO(s), or the CAISO may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to the applicable Participating TO(s), the CAISO, and Interconnection Customer, such acceptance not to be unreasonably withheld, the CAISO shall modify the Point of Interconnection and/or configuration in accordance with such changes without altering the Interconnection Request's eligibility for participating in Interconnection Studies.

6.7.2.2 At the Phase I Interconnection Study Results Meeting, the Interconnection Customer should be prepared to discuss any desired modifications to the Interconnection Request. After the issuance of the final Phase I Interconnection Study, but no later than ten (10) Business Days following the Phase I Interconnection Study Results Meeting, the Interconnection Customer shall submit to the CAISO, in writing, modifications to any information provided in the Interconnection Request. The CAISO will forward the Interconnection Customer's modification to the applicable Participating TO(s) within one (1) Business Day of receipt.

Modifications permitted under this Section shall include specifically: (a) a decrease in the electrical output (MW) of the proposed project; (b) modifying the technical parameters associated with the Generating Facility technology or the Generating Facility step-up transformer impedance characteristics; (c) modifying the interconnection configuration; (d) modifying the In-Service Date, Initial Synchronization Date, Trial Operation Date, and/or Commercial Operation Date that meets the criteria set forth in Section 3.5.1.4 and is acceptable to the applicable Participating TO(s) and the CAISO, such acceptance not to be unreasonably withheld; (e) change in Point of Interconnection as set forth in Section 6.7.2.1; and (f) change in Deliverability Status to Energy Only Deliverability Status, Partial Capacity Deliverability Status, or a lower fraction of Partial Capacity Deliverability Status.

For any modification other than these, the Interconnection Customer must first request that the CAISO evaluate whether such modification is a Material Modification. In response to the Interconnection Customer's request, the CAISO, in coordination with the affected Participating TO(s) and, if applicable, any Affected System Operator, shall evaluate the proposed modifications prior to making them and the CAISO shall inform the Interconnection Customer in writing of whether the modifications would constitute a Material Modification. The CAISO may engage the services of the applicable Participating TO to assess the modification. Costs incurred by the Participating TO and CAISO (if any) shall be borne by the party making the request under Section 6.7.2, and such costs shall be included in any CAISO invoice for modification assessment activities. Any change to the Point of Interconnection, except for that specified by the CAISO in an Interconnection Study or otherwise allowed under this Section, shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

The Interconnection Customer shall remain eligible for the Phase II Interconnection Study if the modifications are in accordance with this Section.

If any Interconnection Customer requested modification after the Phase II Interconnection Study report would change the scope, schedule, or cost of the Interconnection Facilities or Network Upgrades, the CAISO will issue a report to the Interconnection Customer. Potential adjustments to the ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility or Maximum Cost Exposure for Network Upgrades for the Interconnection Customer will be determined in accordance with Section 7.4.3.

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Section 7 Activities in Preparation for Phase II

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7.3 Postings and Cost Estimates for Network Upgrades

Notwithstanding the Interconnection Customer's Maximum Cost Responsibility and Maximum Cost Exposure, ~~U~~until such time as the Phase II Interconnection Study report is issued to the Interconnection Customer, the allocated costs for ~~a~~Assigned Network Upgrades ~~to~~ for each Interconnection Customer~~s~~ for RNUs and LDNUs in the Phase I Interconnection Study report shall establish the ~~maximum~~ value for

(i) each Interconnection Customer's Current ~~c~~Cost ~~r~~Responsibility; and

(ii) the initial posting of Interconnection Financial Security required from each Interconnection Customer under Section 11.2 for such Network Upgrades.

~~The Phase I Interconnection Study report shall set forth the applicable cost estimates for RNUs, LDNUs, ADNUs and Participating TOs Interconnection Facilities that shall be the basis for the initial Interconnection Financial Security Posting under Section 11.2.~~

7.4 Reassessment Process

7.4.1 The CAISO will perform a reassessment of the Phase I Interconnection Study base case prior to the beginning of the GIDAP Phase II Interconnection Studies. The reassessment will evaluate the impacts on those Network Upgrades identified in previous interconnection studies and assumed in the Phase I Interconnection Study of:

(a) Interconnection Request withdrawals occurring after the completion of the Phase II Interconnection Studies for the immediately preceding Queue Cluster;

(b) Generator Downsizing Requests submitted in the most recent Generator Downsizing Request Window that meet the requirements set forth in Section 7.5, and Generating Facilities that are to have their generating capacities reduced pursuant to Sections 8.9.4, 8.9.5, and 8.9.6;

(c) the performance of earlier queued Interconnection Customers with executed GIAs with respect to required milestones and other obligations;

(d) changes in TP Deliverability allocations or Deliverability Status;

(e) the results of the TP Deliverability allocation from the prior Interconnection Study cycle; and,

(f) transmission additions and upgrades approved or removed in the most recent TPP cycle.

The reassessment will be used to develop the base case for the Phase II Interconnection Study

7.4.2 Where, as a consequence of the reassessment, the CAISO determines that changes to the previously identified Network Upgrades in Queue Clusters earlier than the current Interconnection Study Cycle will cause changes to plans of service set out in executed GIAs, such changes will serve as a basis for amendments to GIAs.

7.4.3 Such changes to plans of service in Queue Clusters earlier than the current Interconnection Study Cycle will also serve as the basis for potential adjustments to the Current Cost Responsibility, ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility, and Maximum Cost Exposure, as applicable, for Network Upgrades for Interconnection Customers in such earlier Queue Clusters, as follows:

(i) An Interconnection Customer shall be eligible for an adjustment to its ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility for Network Upgrades if a reassessment undertaken pursuant to this Section 7.4 reduces its estimated cost responsibility for Network Upgrades by at least twenty (20) percent and $1 million, as compared to its current ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility for Network Upgrades based on its Interconnection Studies or a previous reassessment.

The ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility for an Interconnection Customer who meets this eligibility criterion will be the lesser of (a) its current ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility and (b) 100 percent of the costs of all remaining Assigned Network Upgrades included in the Interconnection Customer's plan of service.

(ii) If an Interconnection Customer's ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility for Network Upgrades is adjusted downward pursuant to (i) above, and a subsequent reassessment identifies a change on the CAISO's system that occurs after the completion of the Interconnection Customer's Interconnection Studies and requires additional or expanded Network Upgrades, resulting in an increase in the Interconnection Customer's estimated cost responsibility for Network Upgrades above the ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility as adjusted based on the results of a prior reassessment, then the Interconnection Customer's ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility for Network Upgrades will be the estimated cost responsibility determined in the subsequent reassessment, so long as this amount does not exceed the ~~m~~Maximum ~~c~~Cost ~~responsibility~~ Exposure ~~originally~~ established by the Interconnection Customer's Phase II Interconnection Study~~ies~~. In such cases, where the ~~estimated~~ Current ~~c~~Cost ~~r~~Responsibility determined in the subsequent reassessment exceeds the ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility as adjusted based on the results of a prior reassessment, the Interconnection Customer's ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility for Network Upgrades shall ~~be~~ not exceed the ~~m~~Maximum ~~c~~Cost ~~responsibility~~ Exposure established by its Interconnection Studies.

(iii) To the extent the CAISO determines that previously identified Conditionally Assigned Network Upgrades become Precursor Network Upgrades pursuant to Section 14.2.2, or are otherwise removed, the CAISO will adjust the Interconnection Customer's Maximum Cost Exposure, as applicable.

(iv) To the extent the CAISO determines that a Conditionally Assigned Network Upgrade becomes an Assigned Network Upgrade, the CAISO will adjust the Interconnection Customer's Current Cost Responsibility and Maximum Cost Responsibility, as applicable.

(v) The posted Interconnection Financial Security required of the Interconnection Customer for Network Upgrades shall be adjusted to correspond to any increase in the Interconnection Customer's ~~estimated~~ Current ~~c~~Cost ~~r~~Responsibility any time after but no later than sixty (60) calendar days after issuance of a reassessment report. The CAISO will notify an Interconnection Customer that receives a downward adjustment to its ~~c~~Current ~~maximum~~ ~~c~~Cost ~~r~~Responsibility pursuant to this Section, and the Interconnection Customer may choose to adjust its posted Interconnection Financial Security within sixty (60) calendar days of the issuance of the reassessment report.

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7.5.11 Cost Allocation for Network Upgrades

A Downsizing Generator will continue to be obligated to finance the costs of (1) Network Upgrades that its Generating Facility previously triggered, and (2) Network Upgrades that are alternatives to the previously triggered Network Upgrades, if such previously triggered Network Upgrades or alternative Network Upgrades are needed by Interconnection Customers in the same Queue Cluster or later-queued Interconnection Customers, up to the ~~total~~ Maximum ~~c~~Cost ~~responsibility~~ Exposure of the Downsizing Generator as determined by the CAISO Tariff interconnection study procedures applicable to the Downsizing Generator. For determining any changes to a Downsizing Generator's Network Upgrade cost responsibilities as a result of a reassessment process conducted pursuant to Section 7.4, the CAISO will reallocate the costs of Network Upgrades that are still needed based on the Downsizing Generator's pre-downsizing share of the original cost allocation.

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7.6 Application of Non-Refundable Amounts

In conjunction with each reassessment, the CAISO will calculate and disburse non-refundable interconnection study deposit and interconnection financial security amounts in accordance with the provisions of Appendix Y to the CAISO Tariff and this GIDAP as follows:

(a) Withdrawal Period

The CAISO shall calculate non-refundable interconnection study deposit and interconnection financial security amounts based on the period during which the interconnection customer withdrew its interconnection request or terminated its generator interconnection agreement. The first such withdrawal period shall be from January 1, 2013 through the last day that the CAISO is able to incorporate withdrawals into the 2015 annual reassessment. Subsequently, each withdrawal period shall be the approximate twelve-month period between the last day that the CAISO is able to incorporate withdrawals into an annual reassessment and the last day that the CAISO is able to incorporate withdrawals into the subsequent year's reassessment.

For each withdrawal period, the CAISO shall calculate and disburse available non-refundable interconnection study deposits and interconnection financial security in conjunction with the annual reassessment performed during the year that the withdrawal period ends.

(b) Calculation and Disbursement of Non-Refundable Interconnection Financial Security for Still-Needed Network Upgrades At or Above $100,000 Threshold

For each interconnection customer that withdrew its interconnection request or terminated its generator interconnection agreement, the CAISO shall calculate the proportion of the non-refundable Ii~~i~~nterconnection ~~f~~Financial ~~s~~Security that is attributable to Network Upgrades that the CAISO determines will still be needed by remaining ~~i~~Interconnection ~~c~~Customers. For each such still-needed Network Upgrade~~s~~, the CAISO will divide the Ii~~i~~nterconnection C~~c~~ustomer's ~~estimated~~ Current C~~c~~ost R~~r~~esponsibility for the Network Upgrade by the Ii~~i~~nterconnection C~~c~~ustomer's ~~estimated~~ total Current ~~c~~Cost R~~r~~esponsibility for all Network Upgrades and multiply this result by the Ii~~i~~nterconnection C~~c~~ustomer's total amount of non-refundable Ii~~i~~nterconnection F~~f~~inancial S~~s~~ecurity.

If the amount of non-refundable security attributable to a still-needed Network Upgrade, for all Iinterconnection Ccustomers that withdrew during the same withdrawal period, is equal to or greater than $100,000, then the portion of such amount held or received by the CAISO prior to the stage of the applicable annual reassessment in which the CAISO reallocates cost responsibility for remaining Network Upgrades shall: (a) be disbursed to the applicable Participating TO(s) as a contribution in aid of construction of the still-needed Network Upgrade, and (b) be reflected as a reduction in the cost of this Network Upgrade for purposes of reallocating the cost responsibility for this Network Upgrade. Any portions of such amounts that the CAISO receives after reallocating cost responsibility for remaining Network Upgrades during the applicable annual reassessment shall be disbursed by the CAISO in the same manner in a subsequent reassessment, based on the date of collection, unless the applicable Network Upgrade is no longer needed, in which case such amounts will be disbursed pursuant to Section 7.6(c).

If a Network Upgrade for which the CAISO disburses funds as a contribution in aid of construction under this Section 7.6(b) is determined, in a subsequent reassessment, to be no longer needed, such funds will be promptly returned to the CAISO by the applicable Participating TO and re-disbursed by the CAISO pursuant to Section 7.6(c).

(c) Calculation and Disbursement of All Other Non-Refundable Security and Study Deposits

For each Iinterconnection Ccustomer that withdrew its iInterconnection Rrequest or terminated its Ggenerator Iinterconnection Aagreement during a withdrawal period, any non-refundable iInterconnection Sstudy Ddeposits, as well as any non-refundable iInterconnection Ffinancial Ssecurity not disbursed pursuant to subsection (b) above, shall be applied to offset Regional Transmission Revenue Requirements, as recovered through the CAISO's Transmission Access Charge, and to offset Local Transmission Revenue Requirements. Any non-refundable iInterconnection Ffinancial Ssecurity and Iinterconnection Sstudy Ddeposits relating to withdrawals or terminations that occurred prior to January 1, 2013 that are collected by the CAISO during a withdrawal period, as defined in Section 7.6(a), will also be disbursed in accordance with this provision.

This offset shall be performed by first allocating these non-refundable Iinterconnection Sstudy Ddeposit and Iinterconnection Ffinancial Ssecurity amounts to the following three categories in proportion to the iInterconnection Ccustomer's most recent ~~estimated~~ Current Ccost Rresponsibility, prior to withdrawal or termination, for Network Upgrades whose costs would be recovered through each of the following categories: (1) a Regional Transmission Revenue Requirement, (2) the Local Transmission Revenue Requirement of the Participating TO to which the interconnection customer had proposed to interconnect, and (3) the Local Transmission Revenue Requirement of any other Participating TO on whose system the interconnection customer was responsible for funding Network Upgrades recovered through a Local Transmission Revenue Requirement.

Each year, prior to the cutoff date for including annual regional TRBA adjustments in Regional Transmission Revenue Requirements, the CAISO will disburse to each Participating TO's Transmission Revenue Balancing Account: (a) a share of the total funds held or received by the CAISO from category (1) above in proportion to the ratio of each Participating TO's most recent Regional Transmission Revenue Requirement to the total of all Participating TOs' most recent Regional Transmission Revenue Requirements, and (b) all funds held or received by the CAISO in categories (2) and (3) applicable to that Participating TO.

(d) Disbursement of Funds by CAISO; Participating TO Responsibility for Collection

The CAISO shall disburse, in accordance with the rules set forth in this Section 7.6, only those non-refundable Ii~~i~~nterconnection Ff~~f~~inancial Ss~~s~~ecurity and Ss~~s~~tudy Dd~~d~~eposit amounts that it holds or has received. The applicable Participating TO shall have the exclusive obligation to administer the collection of any non-refundable financial security where the applicable Participating TO is a beneficiary. The applicable Participating TO has the responsibility to manage the financial security and to transmit to the CAISO the non-refundable amounts in cash or equivalent within 75 days of the CAISO's submission to the Participating TO of the financial security liquidation form. This deadline can be modified by mutual agreement of the CAISO and applicable Participating TO.

(e) The CAISO shall, upon receipt, deposit all non-refundable ~~i~~Interconnection Ff~~f~~inancial Ss~~s~~ecurity and Interconnection Ss~~s~~tudy Dd~~d~~eposit amounts in an interest-bearing account at a bank or financial institution designated by the CAISO. Any interest earned on such amounts, based on the actual rate of the account, shall be allocated and disbursed in the same manner as the principal, in accordance with the methodology set forth in this Section 7.6.

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Section 8 Phase II Interconnection Study and TP Deliverability Allocation Processes

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8.1 Scope of Phase II Interconnection Study

8.1.1 Purpose of the Phase II Interconnection Study

The CAISO, in coordination with the applicable Participating TO(s), will conduct a Phase II Interconnection Study that will incorporate eligible Interconnection Requests from the previous Phase I Interconnection Study. The Phase II Interconnection Study shall:

(i) update, as necessary, analyses performed in the Phase I Interconnection Studies to account for the withdrawal of Interconnection Requests from the current Queue Cluster;

(ii) identify final GRNUs and IRNUs needed in order to achieve Commercial Operation status for the Generating Facilities and provide final cost estimates;

(iii) identify final LDNUs needed to interconnect those Generating Facilities selecting Full Capacity or Partial Capacity Deliverability Status and provide final cost estimates;

(iv) identify final ADNUs for Interconnection Customers selecting Option (B), as provided below and provide revised cost estimates;

(v) identify, for each Interconnection Request, the Participating TO's Interconnection Facilities for the final Point of Interconnection and provide a +/-20% cost estimate; ~~and~~

(vi) coordinate in-service timing requirements based on operational studies in order to facilitate achievement of the Commercial Operation Dates of the Generating Facilities;~~.~~

(vii) update the Interconnection Customer's Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure, as applicable; and

(viii) provide updated Precursor Network Upgrades needed to achieve the Commercial Operation status and Deliverability Status for the Generating Facilities.

The Phase II Interconnection Study report shall set forth the applicable cost estimates for ~~RNUs, LDNUs, ADNUs~~ Network Upgrades and Participating TOs Interconnection Facilities that shall be the basis for Interconnection Financial Security Postings under Section 11.3. Where the ~~cost estimations applicable to the total of RNUs and LDNUs~~ Maximum Cost Responsibility ~~are~~ is based upon the Phase I Interconnection Study (because ~~the cost estimation for the subtotal of RNUs and LDNUs were lower and so establish maximum cost responsibility~~ it is lower under Section 10.1), the Phase II Interconnection Study report shall recite this fact.

To the extent the CAISO determines that previously identified Conditionally Assigned Network Upgrades become Precursor Network Upgrades pursuant to Section 14.2.2, or are otherwise removed, the CAISO will reduce the Interconnection Customer's Maximum Cost Exposure, as applicable. To the extent the CAISO determines that a Conditionally Assigned Network Upgrade becomes an Assigned Network Upgrade, the CAISO will adjust the Interconnection Customer's Current Cost Responsibility and Maximum Cost Responsibility.

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8.3 Cost Responsibility for Reliability Network Upgrades

Cost responsibility for final Reliability Network Upgrades identified in the Phase II Interconnection Study of an Interconnection Request shall be assigned to Interconnection Customers regardless of whether the Interconnection Customer has selected Option (A) or (B) or Energy Only Deliverability Status, as follows:

(i) The cost responsibility for final short circuit related General Reliability Network Upgrades shall be assigned to all Interconnection Requests in the Group Study ~~pro rata on the basis of~~ proportional to the short circuit duty contribution of each Generating Facility.

(ii) The cost responsibility for all other final General Reliability Network Upgrades shall be assigned to all Interconnection Requests in that Group Study ~~pro rata on~~ proportional to the basis of the maximum megawatt electrical output of each proposed new Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request.

(iii) The Interconnection Customer's Current Cost Responsibility will include its allocated cost share for Interconnection Reliability Network Upgrades that are Assigned Network Upgrades. The CAISO will allocate assigned Interconnection Reliability Network Upgrade costs proportional to the number of Interconnection Requests that have been assigned the Interconnection Reliability Network Upgrade in the current Queue Cluster.

(iv) The Interconnection Customer's Maximum Cost Responsibility will include the full cost of Assigned Network Upgrades that are Interconnection Reliability Network Upgrades unless another Interconnection Customer in the same Queue makes its third Interconnection Financial Security posting for the same assigned Interconnection Reliability Network Upgrade, in which case the CAISO will reduce the Interconnection

Customer's Maximum Cost Responsibility to its allocated share pursuant to subsection (iii).

(v) The Maximum Cost Exposure will include the full cost of Interconnection Reliability Network Upgrades that are Assigned Network Upgrades and Conditionally Assigned Network Upgrades. The CAISO may reduce the Maximum Cost Exposure consistent with subsection (iv).

8.4 Cost Responsibility for ~~Local~~ Delivery Network Upgrades

The cost responsibility for Local Delivery Network Upgrades identified in the On-Peak Deliverability Assessment as part of the Phase II Interconnection Study shall be assigned to all Interconnection Requests selecting Full Capacity or Partial Capacity Deliverability Status, regardless of whether the Interconnection Customer has selected Option (A) or (B), based on the flow impact of each such Generating Facility on each Local Delivery Network Upgrade as determined by the Generation distribution factor methodology set forth in the On-Peak Deliverability Assessment methodology.

~~8.4.1 Cost Responsibility for Area Delivery Network Upgrades~~

The cost responsibility for Area Delivery Network Upgrades identified in the On-Peak Deliverability Assessment as part of Phase II Interconnection Study shall be assigned to Interconnection Customers who have selected Option (B) Full Capacity or Partial Capacity Deliverability Status based on the flow impact of each such Generating Facility on each Area Delivery Network Upgrade as determined by the Generation distribution factor methodology set forth in the On-Peak Deliverability Assessment methodology.

The ~~cost estimate~~ Current Cost Responsibility provided in the Phase II Interconnection Study shall establish the basis for the second Interconnection Financial Security Posting for Interconnection Customers selecting Option (B).

* * * * *

8.9.2.2 Proceeding without a Power Purchase Agreement

Interconnection Customers only may attest that they are proceeding without a power purchase agreement in the allocation cycle immediately following receipt of their Phase II Interconnection Study (without having parked). Interconnection Customers that receive TP Deliverability in this group may park only that portion of their Interconnection Request that does not receive TP Deliverability. Parked portions may receive TP Deliverability in subsequent allocation cycles from any group for which they qualify. Interconnection Customers that receive TP Deliverability allocations for less than requested may elect to reduce their capacity to the amount of TP Deliverability received following the allocation.

If an Interconnection Customer receives TP Deliverability on the basis that it is proceeding without a power purchase agreement, it must accept the TP Deliverability allocation and forego parking that capacity, or withdraw. If an Interconnection Customer receives TP Deliverability on the basis that it is proceeding without a power purchase agreement, it may not request suspension under its GIA, delay providing its notice to proceed as specified in its GIA, or modify its Commercial Operation Date beyond the earlier of (a) the date established in its Interconnection Request when it requests TP Deliverability or (b) seven (7) years from the date the CAISO received its Interconnection Request. Extensions due to Participating TO construction delays will extend these deadlines equally. Interconnection Customers that fail to proceed toward

their Commercial Operation Date under these requirements and as specified in their GIA will be converted to Energy Only. Interconnection Customers that become Energy Only for this or any reason may not reduce their Maximum Cost Responsibility, Current ~~c~~Cost R~~r~~esponsibility, or Interconnection Financial Security for any assigned Delivery Network Upgrades unless the CAISO and Participating TO(s) determine that the Interconnection Customer's assigned Delivery Network Upgrade(s) is no longer needed for current Interconnection Customers.

This Section 8.9.2.2 does not apply to Interconnection Customers that attested to balance-sheet financing or otherwise receiving a commitment of project financing before November 27, 2018, or that do so pursuant to Section 8.9.3.1.

8.9.3 Retaining TP Deliverability Allocation

For Interconnection Customers in Queue Cluster 10 or later, once a Generating Facility is allocated TP Deliverability under Section 8.9.1, the Interconnection Customer annually, on the date set forth and according to the process described in the Business Practice Manual, must demonstrate that the Generating Facility meets the following criteria to retain its TP Deliverability:

(1) The Generating Facility is in good standing with respect to the criteria on which the allocation of TP Deliverability was based;

(2) If the Generating Facility received TP Deliverability on the basis of having executed a power purchase agreement, it must have received regulatory approval of that agreement;

(3) If the Generating Facility received TP Deliverability on the basis of negotiating or being shortlisted for a power purchase agreement, it must have executed the agreement by November 30 of the year it received TP Deliverability. It must then comply with criterion 8.9.3(2) the following year;

(4) If ~~T~~the Interconnection Customer ~~must have~~ has executed a GIA, ~~and~~ it must remain in good standing with regard to its GIA, such that neither the Participating TO nor CAISO has provided the Interconnection Customer with a Notice of Breach of the GIA that has not been cured and the Interconnection Customer has not commenced curative actions;

(5) The Interconnection Customer must maintain its Commercial Operation Date set forth in the GIA unless an extension is required for reasons beyond the control of the Interconnection Customer or such extension results in no Material Modification or delay in the construction schedule for Network Upgrades common to multiple Generating Facilities; or unless the extension is occasioned by a material delay in the Participating TO's construction of any Network Upgrades or Participating TO's Interconnection Facilities

The Interconnection Customer will provide the required information in the form of an affidavit as described in the Business Practice Manual. Interconnection Customers that fail to meet these criteria will become Energy Only for that portion of the Generating Facility that has not retained TP Deliverability. An Interconnection Customer's failure to retain its TP Deliverability will not be considered a Breach of its GIA. Except as provided in Section 8.9.3.2, Interconnection Customers that become Energy Only for failure to retain their TP Deliverability Allocation may not reduce their Maximum Cost Responsibility, Current ~~c~~Cost ~~r~~Responsibility, or Interconnection Financial Security for

any assigned Delivery Network Upgrades unless the CAISO and Participating TO(s) determine that the Interconnection Customer's assigned Delivery Network Upgrade(s) is no longer needed for current Interconnection Customers. To the extent TP Deliverability has been allocated, lost, or relinquished only for a portion of the Interconnection Customer's project, this section 8.9.3 will apply to that portion of the project only.

8.9.3.1 Retaining TP Deliverability Allocation for Pre-Cluster 10 Interconnection Customers

Interconnection Customers in Queue Cluster 9 or earlier subject to this Appendix DD that have been allocated TP Deliverability or that parked pursuant to Section 8.9.4 or 8.9.4.1, annually, on the date set forth and according to the process described in the Business Practice Manual, must demonstrate that the Generating Facility meets the following criteria to retain its TP Deliverability:

(1) The Generating Facility is in good standing with respect to the criteria on which the allocation of TP Deliverability was based;

(2) If the Generating Facility received TP Deliverability on the basis of negotiating or being shortlisted for a power purchase agreement, it must have executed the agreement by the start of the next allocation cycle, or attest to balance-sheet financing or receipt of a commitment of project financing;

(3) If ~~T~~the Interconnection Customer ~~must have~~ has executed a GIA, ~~and~~ it must remain in good standing with regard to its GIA, such that neither the Participating TO nor CAISO has provided the Interconnection Customer with a Notice of Breach of the GIA that has not been cured and the Interconnection Customer has not commenced curative actions;

(4) The Interconnection Customer must maintain its Commercial Operation Date set forth in the GIA unless an extension is required for reasons beyond the control of the Interconnection Customer or such extension results in no Material Modification or delay in the construction schedule for Network Upgrades common to multiple Generating Facilities; or unless the extension is occasioned by a material delay in the Participating TO's construction of any Network Upgrades or Participating TO's Interconnection Facilities.

Interconnection Customers that have attested to balance-sheet financing or receipt of a commitment of project financing or do so pursuant to this Section are not subject to Section 8.9.2.2. Interconnection Customers that attest to balance-sheet financing pursuant to this Section 8.9.3.1 will be placed in TP Deliverability allocation group 8.9.2(3).

* * * * *

8.9.5 Partial Allocations of Transmission Based Deliverability to Option (A) and Option (B) Generating Facilities

If a Generating Facility is allocated TP Deliverability in the current Interconnection Study Cycle in an amount less than the amount of Deliverability requested, then the Interconnection Customer must choose one of the following options:

(i) Accept the allocated amount of TP Deliverability and reduce the MW generating capacity of the proposed Generating Facility such that the allocated amount of

TP Deliverability will provide Full Capacity Deliverability Status to the reduced generating capacity;

(ii) Accept the allocated amount of TP Deliverability and adjust the Deliverability status of the proposed Generating Facility to achieve Partial Capacity Deliverability corresponding to the allocated TP Deliverability;

(iii) For Option (A) Generating Facilities, accept the allocated amount of TP Deliverability and seek additional TP Deliverability for the remainder of the requested Deliverability of the Interconnection Request in the next allocation cycle. In such instance, the Interconnection Customer shall execute a GIA for the entire Generating Facility having Partial Capacity Deliverability corresponding to the allocated amount of TP Deliverability. Following the next cycle of TP Deliverability allocation, the GIA shall be amended as needed to adjust its Deliverability status to reflect any additional allocation of TP Deliverability. At this time the Interconnection Customer may also adopt options (i) or (ii) above based on the final amount of TP Deliverability allocated to the Generating Facility. There will be no further opportunity for this Generating Facility to participate in any subsequent cycle of TP Deliverability allocation; or

(iv) Decline the allocated amount of TP Deliverability and either withdraw the Interconnection Request or convert to Energy Only Deliverability Status. An Interconnection Customer having an Option (A) Generating Facility that has not previously parked may decline the allocation of TP Deliverability and park until the next cycle of TP Deliverability allocation in the next Interconnection Study Cycle.

An Interconnection Customer that selects option (iii) or (iv) above may, at the time it selects the option, elect to reduce the generating capacity of its Generating Facility.

Interconnection Customers accepting a partial allocation of TP Deliverability may pursue additional deliverability ~~through the Annual Full Capacity Deliverability Option under~~ as described in Section 8.9.2.

* * * * *

8.9.9 Deliverability Transfers

Deliverability 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 among its own Generating Units or Resource IDs at the Generating Facility. The Generating Units must be located at the same Point of Interconnection and operate under the same GIA. 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 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.

An Interconnection Customer may request to reallocate its Deliverability among its Generating Units pursuant to Section 6.7.2.2 of this GIDAP, Article 5.19 of the LGIA, and Article 3.4.5 of the SGIA, as applicable. A repowering Interconnection Customer may transfer Deliverability as part of the repowering process pursuant to Section 25.1.2 of the CAISO Tariff. An Interconnection Customer expanding its capacity behind-the-meter pursuant to Section 4.2.1.2 also may transfer Deliverability as part of that process, or subsequently under the other processes in this Section.

* * * * *

10 Cost Responsibility for Interconnection Customers

10.1 Interconnection Customers in a Queue Cluster.

(a) RNUs and LDNUs. The Interconnection Studies will establish Interconnection Customers' Current Cost Responsibility, Maximum Cost Responsibility, and Maximum Cost Exposure consistent with the cost allocations described in Section 8. The CAISO will adjust Interconnection Customers' cost responsibilities as described in this GIDAP. Interconnection Customers will post Interconnection Financial Security based on their Current Cost Responsibility.~~Until the Phase II Interconnection Study report is issued to the Interconnection Customer, the costs assigned to Interconnection Customers for RNUs and LDNUs in the Phase I Interconnection Study report shall establish the maximum cost responsibility for such Network Upgrades and the maximum initial Interconnection Financial Security required in Section 11.2.~~

~~After the CAISO issues the Phase II Interconnection Study report to the Interconnection Customer, the maximum value for Interconnection Financial Security required of each Interconnection Customer for RNUs and LDNUs shall be established comparing the subtotal cost for RNUs and LDNUs determined in the final Phase I Interconnection Study to the subtotal cost for RNUs and LDNUs determined in the final Phase II Interconnection Study, and utilizing the lower subtotal. The lower subtotal for RNUs and LDNUs shall also establish the Interconnection Customers' maximum cost responsibility for RNUs and LDNUs after issuance of the Phase II Interconnection Study report.~~

(b) ADNUs. Interconnection Customers selecting Option (A) do not post Interconnection Financial Security for ADNUs. The ~~cost estimate~~Current Cost Responsibility provided in the Phase I Interconnection Studies establishes the basis for the initial Interconnection Financial Security Posting under Section 11.2. ~~f~~For Interconnection Customers selecting Option (B), ~~T~~the Phase II Interconnection Studies shall refresh the ~~cost estimate~~ Current Cost Responsibility for ADNUs and shall provide the basis for second and third Interconnection Financial Postings as specified in Section 11.

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. However, subsequent to the Interconnection Customer's receipt of its Phase II Interconnection Study report, an Interconnection Customer having selected Option (B) may have its ADNUs adjusted in the reassessment process undertaken under Section 7.4. Accordingly, for such Interconnection Customers, the most recent annual reassessment undertaken under Section 7.4 shall provide the most recent cost estimates for the Interconnection Customer's ADNUs.

10.2 Interconnection Customers in the Independent Study Process.

(a) ~~RNUs and LNUs~~Assigned Network Upgrades. ~~t~~The ~~maximum value~~ Current Cost Responsibility for the Interconnection Customer's Financial Security for RNUs shall be established by the costs for such Network Upgrades assigned to the Interconnection Customer in the final system impact and facilities study report.

For such Interconnection Customers choosing Full Capacity or Partial Capacity Deliverability status, the maximum value of LDNUs shall be established by the lesser of the costs for such Network Upgrades assigned to the Interconnection Customer in the final Phase I Interconnection Study or the final Phase II Interconnection Study.

The Interconnection Customer's ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility ~~for RNUs and LDNUs~~ shall be subject to further adjustment based on the results of the annual reassessment process, as set forth in Section 7.4.

(b) ADNUs. Interconnection Customers selecting Option (A) do not post Interconnection Financial Security for ADNUs. The Current ~~c~~Cost ~~estimate~~ Responsibility provided in the Phase I Interconnection Studies establishes the basis for the initial Interconnection Financial Security posting under Section 11.2. ~~f~~For Interconnection Customers selecting Option (B), ~~T~~the Phase II Interconnection Studies shall refresh the Current ~~c~~Cost ~~estimate~~ Responsibility for ADNUs and shall provide the basis for second and third Interconnection Financial Postings as specified in Section 11.

The ADNU cost estimates provided in any study report are estimates only and do not provide a maximum value for cost responsibility to an Interconnection Customer for ADNUs However, subsequent to the Interconnection Customer's receipt of its Phase II Interconnection Study report, an Interconnection Customer having selected Option (B) may have its ADNU adjusted in the reassessment process undertaken under Section 7.4.

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Section 11 Interconnection Financial Security

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11.2.3 Posting Amount for Network Upgrades.

11.2.3.1 Small Generator Interconnection Customers

Each Interconnection Customer for a Small Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument as follows:

1) Interconnection Customers selecting Energy Only Deliverability Status must post for assigned RNUs.

The posting amount for such RNUs shall equal the lesser of fifteen percent (15%) of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

2) Interconnection Customers selecting Option (A) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs and LDNUs.

The posting amount for such RNUs and LDNUs shall equal the lesser of fifteen percent (15%) of the ~~total RNU and LDNU~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

3) Interconnection Customers selecting Option (B) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs, LDNUs and ADNUs.

The posting amount for such RNUs, LDNUs and ADNUs shall equal the lesser of fifteen percent (15%) of the ADNU costs and total Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

11.2.3.2 Large Generator Interconnection Customers

Each Interconnection Customer for a Large Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument as follows:

1) Interconnection Customers selecting Energy Only Deliverability Status must post for assigned RNUs.

The posting amount for such RNUs shall equal the lesser of (i) fifteen percent (15%) of the total RNU Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

In addition, if an Interconnection Customer switches its status from Full Capacity Deliverability Status or Partial Capacity Deliverability Status to Energy-Only Deliverability Status within ten (10) Business Days following the Phase I Interconnection Study Results Meeting, the required Interconnection Financial Security for Network Upgrades shall, for purposes of this section, be additionally capped at an amount no greater than the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the Phase I Interconnection Study for Reliability Network Upgrades.

2) Interconnection Customers selecting Option (A) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs and LDNUs.

The posting amount for such RNUs and LDNUs shall equal the lesser of (i) fifteen percent (15%) of the ~~total RNU and LDNU~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

3) Interconnection Customers selecting Option (B) Full Capacity or Partial Capacity Deliverability Status must post for assigned RNUs, LDNUs and ADNUs.

The posting amount for such RNUs, LDNUs and ADNUs shall ~~be~~ equal ~~to~~ the lesser of (i) fifteen percent (15%) of the ADNU costs and the total Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Network Upgrades, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

11.2.4 Posting Amount for Participating TO Interconnection Facilities.

11.2.4.1 Small Generator Interconnection Customers

Each Interconnection Customer for a Small Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument in an amount equal to the lesser of (i) fifteen (15) percent of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Participating TO's Interconnection Facilities or (ii) $20,000 per megawatt of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, but in no event less than $50,000.

11.2.4.2 Large Generator Interconnection Customers

Each Interconnection Customer for a Large Generating Facility assigned to a Queue Cluster shall post an Interconnection Financial Security instrument in an amount equal to the lesser of (i) fifteen (15) percent of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer in the final Phase I Interconnection Study for Participating TO's Interconnection Facilities, (ii) $20,000 per megawatt of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000, but in no event less than $500,000.

11.2.5 Cost Estimates Less than Minimum Posting Amounts.

If (1) the ~~costs~~ Current Cost Responsibility of ~~either~~ the ~~estimated~~ Assigned Network Upgrades, ~~or~~ (2) the allocated costs of the Participating TO Interconnection Facilities, or (3) both are less than the respective minimum posting amounts that would apply under Sections 11.2.4.1 or 11.2.4.2, then the posting amount required will ~~be~~ equal ~~to~~ the Current Cost Responsibility of the ~~estimated~~ Assigned Network Upgrades ~~amount~~ or the allocated costs for Participating TO Interconnection Facilities ~~amount~~, as applicable.

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11.3 Interconnection Financial Security-Second and Third Postings for Queue Cluster Customers and Initial and Second Postings for Independent Study Process Customers

11.3.1 Second Posting for Queue Cluster Customers; Initial Posting for Independent Study Process Customers

11.3.1.1 Each Interconnection Customer in a Queue Cluster shall make second postings, with notice to the CAISO, of two separate Interconnection Financial Security instruments: (i) a second posting relating to the Network Upgrades; and (ii) a second posting relating to the Participating TO's Interconnection Facilities. The Current ~~c~~Cost ~~r~~Responsibility ~~estimates~~ for calculating the second and third Interconnection Financial Security postings for Interconnection Customers in Queue Clusters shall be set forth in the Phase II Interconnection Study report.

Each Interconnection Customer in the Independent Study Process shall make initial postings, with notice to the CAISO, of two separate Interconnection Financial Security instruments: (i) a posting relating to the applicable Network Upgrades; and (ii) a posting relating to the Participating TO's Interconnection Facilities. The Current ~~c~~Cost ~~r~~Responsibility ~~estimates~~ for calculating the initial Interconnection Financial Security Posting shall be set forth in the System Impact and Facilities Study report.

11.3.1.2 Timing of Posting

The postings set forth in this Section for Interconnection Customers in a Queue Cluster shall be made any time after issuance of the final Phase II Interconnection Study report but no later than one hundred eighty (180) calendar days after issuance of the final Phase II Interconnection Study report.

The initial postings for Interconnection Customers in the Independent Study Process shall be made any time after the issuance of the final System Impact and Facilities Study report under the Independent Study Process but no later than one hundred twenty (120) calendar days after the CAISO provides the results of the System Impact and Facilities Study.

Revised Cluster Study Reports. If the CAISO revises a final Phase II Interconnection Study report pursuant to Section 6.8, the second postings will be due by the later of one hundred-eighty (180) calendar days after issuance of the original final Phase II Interconnection Study report or sixty (60) calendar days after issuance of the revised final Phase II Interconnection Study report.

Revised Independent Study Track Reports. If the CAISO revises the final System Impact and Facilities Study report pursuant to Section 6.8, the initial postings will be due by the later of one hundred-twenty (120) calendar days after the issuance of the original final System Impact and Facilities Study report or thirty (30) calendar days from the issuance of the revised System Impact and Facilities Study report.

11.3.1.3 Posting Requirements and Timing for Parked Option (A) Generating Facilities

For an Interconnection Customer choosing Option (A) whose Generating Facility was not allocated TP Deliverability in either the first TP Deliverability allocation following its receipt of the final Phase II Interconnection Study or the TP Deliverability allocation after parking, and who chooses to park the

Interconnection Request, the posting due date will be extended by 12 months consistent with each parking election after the initial allocation process.

For an Interconnection Customer choosing Option (A) whose Generating Facility was allocated TP Deliverability for less than the full amount of its Interconnection Request, and who chooses to seek additional TP Deliverability for the remainder of the requested Deliverability of the Interconnection Request in the next allocation cycle, the postings for RNU, Participating TO Interconnection Facilities and for LDNUs corresponding to the initial allocation of TP Deliverability will be due in accordance with the dates specified ~~above~~in this Section 11. The posting due date for the LDNUs corresponding to the remainder of the requested Deliverability will be extended by 12 months consistent with each parking election after the initial allocation process.

11.3.1.4 Network Upgrade Posting Amounts

11.3.1.4.1 Small Generator Interconnection Customers

Each Interconnection Customer for a Small Generating Facility assigned to a Queue Cluster or an Interconnection Customer for a Small Generating Facility in the Independent Study Process shall post an Interconnection Financial Security instrument that brings the security amount up to the following:

1) For Interconnection Customers selecting Energy Only Deliverability Status: the lesser of (i) $1 million or (ii) thirty (30) percent of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer for RNUs in either the final Phase II Interconnection Study report, or for Independent Study Process Interconnection Customers, the system impact and facilities study. In no event shall the total amount posted be less than $100,000.

2) For Interconnection Customers who have Option (A) Generating Facilities, the lesser of (i) $1 million or (ii) thirty (30) percent of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study.

However, in no event shall the total amount posted be less than $100,000.

3) For Interconnection Customers who have Option (B) Generating Facilities: the lesser of (i) $1 million or (ii) the sum of:

(a) thirty (30) percent of the Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study; plus

(b) thirty (30) percent of the cost responsibility assigned to the Interconnection Customer for ADNUs in the final Phase II Interconnection Study. However, to the extent

that the Option (B) Interconnection Customer's Generating Facility is allocated TP Deliverability, the cost responsibility assigned to the Interconnection Customer for ADNUs will be adjusted to reflect the allocation of TP Deliverability. If the allocation of TP Deliverability is for the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will equal zero (0). If the allocation of TP Deliverability is less than the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will be reduced pro rata.

However, in no event shall the total amount posted be less than $100,000.

11.3.1.4.2 Large Generator Interconnection Customers

Each Interconnection Customer for a Large Generating Facility assigned to a Queue Cluster and each Interconnection Customer for a Large Generating Facility in the Independent Study Process shall post an Interconnection Financial Security instrument that brings the security amount up to the following:

1) For Interconnection Customers selecting Energy Only Deliverability Status: the lesser of (i) $15 million or (ii) thirty (30) percent of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer for RNUs in the, final Phase II Interconnection Study, system impact and facilities study. In no event shall the total amount posted be less than $500,000.

2) For Interconnection Customers, who have Option (A) Generating Facilities the lesser of (i) $15 million or (ii) thirty (30) percent of the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study.

However, in no event shall the total amount posted be less than $500,000.

3) For Interconnection Customers who have Option (B) Generating Facilities: the lesser of (i) $15 million or (ii) the sum of:

   (a) thirty (30) percent of the Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer for RNUs and LDNUs in the final Phase II Interconnection Study or, for Independent Study Process Interconnection Customers, in the system impact and facilities study; plus

   (b) thirty (30) percent of the cost responsibility assigned to the Interconnection Customer for ADNUs in the final Phase II Interconnection Study. However, to the extent that the Option (B) Interconnection Customer's Generating Facility is allocated TP Deliverability, the cost responsibility assigned to the Interconnection Customer for ADNUs will be adjusted to reflect the allocation of TP

Deliverability. If the allocation of TP Deliverability is for the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will equal zero (0). If the allocation of TP Deliverability is less than the full Deliverability of the Interconnection Request, then the ADNU cost responsibility will be reduced pro rata.

However, in no event shall the total amount posted be less than $500,000.

11.3.1.4.3 Cost Estimates Less than Minimum Posting Amounts.

If the Current ~~c~~Cost Responsibility of the ~~estimated~~ Assigned Network Upgrades are less than the posting amounts set forth in Section 11.3.1.4 above, then posting amount required will be equal to the ~~estimated~~ Current Cost Responsibility of the Assigned Network Upgrade~~s amount~~.

11.3.1.4.4 Posting Related to Interconnection Customer's Stand Alone Network Upgrades

If the Interconnection Customer desires to self-build Stand Alone Network Upgrades consistent with its interconnection study reports, the Interconnection Customer must post the Interconnection Financial Security for the Stand Alone Network Upgrades in its Interconnection Financial Security posting. The Interconnection Customer may request to build the Stand Alone Network Upgrades in the Generator Interconnection Agreement negotiation process, and if the Participating TO and the CAISO agree, the interconnection study reports and the second posting will be revised accordingly once the Generator Interconnection Agreement has been fully executed and documents the Stand Alone Network Upgrades. If the Participating TO and the CAISO agree to allow the Interconnection Customer to build a Stand Alone Network Upgrade in an executed Generator Interconnection Agreement, the Interconnection Customer's ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility and Maximum Cost Exposure will be reduced by the cost of the Stand Alone Network Upgrade, and both the original and revised ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility and Maximum Cost Exposure will be documented in the Generation Interconnection Agreement.

If at any time the responsibility for constructing the Stand Alone Network Upgrade, or a portion thereof, reverts to the Participating TO, the Interconnection Customer will be required to revise its Interconnection Financial Security posting within thirty (30) calendar days to reflect that the Participating TO will build the Stand Alone Network Upgrade. The Interconnection Customer's ~~m~~Maximum ~~c~~Cost ~~r~~Responsibility and Maximum Cost Exposure also will be revised to reflect that the Participating TO will build the Stand Alone Network Upgrade. Failure to make a timely posting adjustment will result in the withdrawal of the Interconnection Request in accordance with Section 3.8. If an Interconnection Customer has been allowed to reduce its Interconnection Financial Security posting following the execution of its Generator Interconnection Agreement and subsequently withdraws, the amount of the Interconnection Financial Security that is determined to be refundable under Section 11.4.2 will be reduced by the amount of the Interconnection Financial Security posting the Interconnection Customer avoided through the self-build option.

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11.3.2 Third Posting for Queue Cluster Customers and Second Posting for Independent Study Process Customers

After the second posting for a Queue Cluster has been made but no later than the start of Construction Activities for Network Upgrades or Participating TO's Interconnection Facilities on behalf of the Interconnection Customer, whichever is earlier, the Interconnection Customer shall modify the two separate Interconnection Financial Security instruments posted pursuant to Section 11.3.1.

After the first posting for Independent Study Process Customers has been made but no later than the start of Construction Activities for Network Upgrades or Participating TO's Interconnection Facilities on behalf of the Interconnection Customer, whichever is earlier, the Interconnection Customer shall modify the two separate Interconnection Financial Security instruments posted pursuant to Section 11.3.1.

11.3.2.1 Network Upgrades

With respect to the Interconnection Financial Security Instrument for Network Upgrades, the Interconnection Customer shall modify this Instrument so that it equals one hundred (100) percent of the assigned ADNU costs and the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer ~~for RNUs, LDNUs and ADNUs~~ as determined in Section 11.3.1.4.1 for Small Generator Interconnection Customers or in Section 11.3.1.4.2 for Large Generator Interconnection Customers.

An Interconnection Customer whose Option (B) Generating Facility was not allocated TP Deliverability and elects to have a party other than the applicable Participating TO(s) construct an LDNU or ADNU is not required to make this posting for its cost responsibilities for such LDNU or ADNU. However, such Interconnection Customer will be required to demonstrate its financial capability to pay for the full cost of construction of its share, as applicable, of the LDNU or ADNU pursuant to Section 24.4.6.1 of the CAISO Tariff. An Interconnection Customer's election to have a party other than an applicable Participating TO construct an LDNU or ADNU does not relieve the Interconnection Customer of the responsibility to fund or construct such LDNU or ADNU. Upon the Interconnection Customer's demonstration to the CAISO that the Interconnection Customer has expended the amount of the avoided posting requirement on construction of the LDNU or ADNU described here, the Interconnection Customer's prior posting for these facilities will be returned to the Interconnection Customer, unless the Participating TO and Interconnection Customer agree to an alternative arrangement.

11.3.2.2 Participating TO Interconnection Facilities

With respect to the Interconnection Financial Security Instrument for Participating TO Interconnection Facilities, the Interconnection Customer shall modify this instrument so that it equals one hundred (100) percent of the total cost responsibility assigned to the Interconnection Customer for Participating TO Interconnection Facilities in the final Phase II Interconnection Study for Interconnection Customers in a Queue Cluster, or the final system impact and facilities study for Interconnection Customers in the Independent Study Process.

11.3.2.3 Separation of Posting

If an Interconnection Customer's Network Upgrades and/or Interconnection Facilities are separated into two or more specific components and/or can be separated into two or more separate and discrete phases of construction and the Participating TO is able to identify and separate the costs of the identified discrete components and/or phases of construction, then the Participating TO, the CAISO, and the Interconnection Customer may negotiate, as part of the Generator Interconnection Agreement, a division of the Interconnection Financial Security posting required by this Section 11.3.2 into discrete Interconnection Financial Security amounts and may establish discrete milestone dates (however, outside dates must be included) for posting the amounts corresponding to each component and/or phase of construction related to the Network Upgrades and/or Interconnection Facilities described in the Generator Interconnection Agreement.

11.3.2.4 Failure to Post

The failure by an Interconnection Customer to timely post the Interconnection Financial Security required by this Section shall constitute grounds for termination of the GIA pursuant to LGIA Article 2.3 or SGIA Article 3.3, whichever is applicable.

11.3.2.5 Conversion of Conditionally Assigned Network Upgrades

If at any time an Interconnection Customer's Interconnection Studies are revised to reflect that Conditionally Assigned Network Upgrades have become Assigned Network Upgrades, the Interconnection Customer's Maximum Cost Responsibility, Current Cost Responsibility, Generator Interconnection Agreement, and Interconnection Financial Security will be revised to reflect the conversion, as applicable.

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Section 14 PTOs Interconnection Facilities and Network Upgrades

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14.3 Network Upgrades

With the exception of LDNUs and ADNUs for Option (B) Generating Facilities that were not allocated TP Deliverability, Network Upgrades will be constructed by the applicable Participating TO(s). Interconnection Customers may, at their discretion, select parties other than the applicable PTOs to construct certain LDNUs and ADNUs required by their Option (B) Generating Facilities that are not allocated TP Deliverability, if such LDNUs and ADNUs are eligible for construction by parties other than the applicable PTO pursuant to Section 24.5.2 of the CAISO Tariff. Such ADNUs and LDNUs will be incorporated into the CAISO Controlled Grid pursuant to the provisions for Merchant Transmission Facilities in CAISO Tariff Sections 24.4.6.1, and 36.11. Unless the Interconnection Customer elects construction by a party other than the applicable Participating TO, the applicable Participating TO(s) will be obligated to construct the LDNUs and ADNUs This Section shall not apply to an Interconnection Customer's right to build Stand Alone Network Upgrade(s) in accordance with the LGIA.

14.3.1 Initial Funding

Assigned Network Upgrades ~~RNUs and LDNUs~~ shall be funded by the Interconnection Customer(s) either by means of drawing down the Interconnection Financial Security or

by the provision of additional capital, at each Interconnection Customer's election, up to a maximum amount no greater than that established by the Current ~~c~~Cost ~~r~~Responsibility assigned to each Interconnection Customer(s). Current Cost Responsibility may be adjusted consistent with this GIDAP and up to the Interconnection Customer's Maximum Cost Responsibility, but ~~T~~the applicable Participating TO(s) shall be responsible for funding any capital costs for the ~~RNUs and LDNUs~~ Assigned Network Upgrades that exceed the ~~total~~ Current ~~c~~Cost ~~r~~Responsibility assigned to the Interconnection Customer(s).

(a) Where the funding responsibility for any RNUs and LDNUs has been assigned to a single Interconnection Customer, the applicable Participating TO(s) shall invoice the Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, up to a maximum amount no greater than that established by the Current ~~c~~Cost ~~r~~Responsibility assigned to each Interconnection Customer(s) for the RNUs or LDNUs, respectively.

(b) Where the funding responsibility for an RNU has been assigned to more than one Interconnection Customer in accordance with this GIDAP, the applicable Participating TO(s) shall invoice each Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, for such RNU in accordance with their respective Current ~~c~~Cost ~~r~~Responsibilities. Each Interconnection Customer may be invoiced up to a maximum amount no greater than that established by the Current ~~c~~Cost ~~r~~Responsibility assigned to that Interconnection Customer.

(c) Where the funding responsibility for an LDNU has been assigned to more than one Interconnection Customer, the applicable Participating TO(s) shall invoice each Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, for such LDNUs based on their respective Current ~~c~~Cost ~~r~~Responsibilities. Each Interconnection Customer may be invoiced up to a maximum amount no greater than that established by the Current ~~c~~Cost ~~r~~Responsibility assigned to that Interconnection Customer.

(d) Where the funding responsibility for an ADNU being constructed by one or more Participating TO has been assigned to more than one Option (B) Interconnection Customer, the applicable Participating TO(s) shall invoice each Interconnection Customer under LGIA Article 12.1 or SGIA Article 6.1, whichever is applicable, for such ADNUs based on their respective Current ~~c~~Cost ~~r~~Responsibilities.

Any permissible extension of the Commercial Operation Date of a Generating Facility will not alter the Interconnection Customer's obligation to finance its Assigned Network Upgrades where the Network Upgrades are required to meet the earlier Commercial Operation Date(s) of other Generating Facilities that have also been assigned cost responsibility for the Network Upgrades.

14.3.2 Repayment of Amounts Advanced for Network Upgrades and Refund of Interconnection Financial Security

14.3.2.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network

Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Generating Facility, commencing upon the Commercial Operation Date of the Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Generating Facility shall, for each of these Network Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Section 14.3.2.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

(1) For RNUs, in accordance with the Interconnection Customer's cost responsibility assigned up to a maximum of $60,000 per MW of generating capacity as specified in the GIA. The CAISO will publish an annual inflation factor and adjusted amount for this figure with the per unit cost publication on the CAISO Website pursuant to Section 6.4 of this GIDAP. Interconnection Customers will be entitled to repayment subject to the figure corresponding to their Commercial Operation Date.

(2) For LDNUs, except for LDNUs for Option (B) Generating Facilities that were not allocated TP Deliverability, in accordance with the Interconnection Customer's ~~assigned~~ Current ~~c~~Cost ~~r~~Responsibility.

(3) Option (B) Generating Facilities that were not allocated TP Deliverability will not receive repayment for LDNUs or ADNUs.

Unless an Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, such amounts shall include any tax gross-up or other tax-related payments associated with the Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the applicable Participating TO(s) on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the applicable date as provided for in this Section 14.3.2.1; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years of the applicable commencement date.

For Network Upgrades ~~for which~~ the Interconnection Customer funded but did not receive repayment, the Interconnection Customer will be eligible to receive Merchant Transmission Congestion Revenue Rights (CRRs) in accordance with CAISO Tariff Section 36.11 associated with those Network Upgrades, or portions thereof that were funded by the Interconnection Customer. Such CRRs would take effect upon the Commercial Operation Date of the Generating Facility in accordance with the GIA.

14.3.2.2 Repayment of Amounts Advanced Regarding Phased Generating Facilities

Upon the Commercial Operation Date of each phase of a Phased Generating Facility, unless the Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, the Interconnection Customer shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades for that completed phase in accordance with the Interconnection Customer's Current ~~c~~Cost ~~r~~Responsibility assigned for the phase and subject to the limitations specified in Section 14.3.2.1, if the following conditions are satisfied as described below:

(a) The Generating Facility is capable of being constructed in phases;

(b) The Generating Facility is specified in the GIA as being constructed in phases;

(c) The completed phase corresponds to one of the phases specified in the GIA;

(d) The phase has achieved Commercial Operation and the Interconnection Customer has tendered notice of the same pursuant to the GIA;

(e) All parties to the GIA have confirmed that the completed phase meets the requirements set forth in the GIA and any other operating, metering, and interconnection requirements to permit generation output of the entire capacity of the completed phase as specified in the GIA;

(f) The Network Upgrades necessary for the completed phase to meet the desired level of Deliverability are in service; and

(g) The Interconnection Customer has posted one hundred (100) percent of the Interconnection Financial Security required for the Network Upgrades for all the phases of the Generating Facility (or if less than one hundred (100) percent has been posted, then all required Interconnection Financial Security instruments to the date of commencement of repayment).

* * * * *

14.4 Special Provisions for Affected Systems, Other Affected PTOs

The Interconnection Customer shall enter into an agreement with the owner of the Affected System and/or other affected Participating TO(s), as applicable. The agreement shall specify the terms governing payments to be made by the Interconnection Customer to the owner of the Affected System and/or other affected Participating TO(s) as well as the repayment by the owner of the Affected System and/or other affected Participating TO(s). If the affected entity is another Participating TO, the initial form of agreement will be the GIA, as appropriately modified.

Any repayment by the owner of the Affected System shall be in accordance with FERC Order No. 2003-B (109 FERC ¶ 61,287).

14.4.1 Cost Allocation, Interconnection Financial Security, and Reimbursement for Multiple Participating TOs

Interconnection Studies will list separate cost estimates for facilities and Network Upgrades required on the interconnecting Participating TO and affected Participating TO's systems. These separate sums will produce a single, combined Maximum Cost Responsibility and a single, combined Maximum Cost Exposure for the Interconnection Customer. Current Cost Responsibilities for each Participating TO's facilities and Network Upgrades may be adjusted up to the Interconnection Customer's Maximum Cost Responsibility and Maximum Cost Exposure, as applicable.

The Interconnection Customer will post its initial and second Interconnection Financial Security to the interconnecting Participating TO only, for the facilities and Network Upgrades on both the interconnecting and affected Participating TOs' systems. The Interconnection Customer will post its third Interconnection Financial Security to each Participating TO based on the separate Current Cost Responsibilities for facilities and Network Upgrades on their respective systems.

Each Participating TO will repay amounts received for Network Upgrades pursuant to this GIDAP. Reimbursement for Reliability Network Upgrades will be paid by each Participating TO but subject to a single, combined maximum based upon the Interconnection Customer's generating capacity, as described in Section 14.3.2. If the amount funded for the Reliability Network Upgrades exceeds this maximum, each Participating TO will repay the Interconnection Customer proportional to its share of the Interconnection Customer's Current Cost Responsibility for the Reliability Network Upgrades.

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Appendix EE
Large Generator Interconnection Agreement for Interconnection Requests Processed under the Generator Interconnection and Deliverability Allocation Procedures (Appendix DD of the CAISO Tariff)

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Article 1. Definitions

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Assigned Network Upgrade (ANU) shall mean Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to the Interconnection Customer. Assigned Network Upgrades exclude Conditionally Assigned Network Upgrades unless they become Assigned Network Upgrades.

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Conditionally Assigned Network Upgrade (CANU) shall mean Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

* * * * *

Current Cost Responsibility (CCR) shall mean 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.

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General Reliability Network Upgrade (GRNU) shall mean Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

* * * * *

Interconnection Financial Security (IFS) shall mean any of the financial instruments listed in Section 11.1 of the GIDAP that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

* * * * *

Interconnection Reliability Network Upgrades (IRNU) shall mean Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

* * * * *

Maximum Cost Exposure (MCE) shall mean, 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.

* * * * *

Maximum Cost Responsibility (MCR) shall mean, 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.

* * * * *

Precursor Network Upgrades (PNU) shall mean Network Upgrades required for the Interconnection Customer consisting of (1) Network Upgrades assigned to an earlier Interconnection Customer in an earlier Queue Cluster, Independent Study Process, or Fast Track Process, that has executed its GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

* * * * *

Reliability Network Upgrades (RNU) shall mean the transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or thermal overloads. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which ~~such system operating limits~~ cannot be adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating. Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

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Article 11. Performance Obligation

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11.3 Network Upgrades and Distribution Upgrades. The Participating TO shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, except for Stand Alone Network Upgrades, which will be constructed, and if agreed to by the Parties owned by the Interconnection Customer, and Merchant Network Upgrades. The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Network Upgrades shall be funded by the Interconnection Customer, which for Interconnection Customers processed under Section 6 of the GIDAP (in Queue Clusters) shall be in an amount determined pursuant to the methodology set forth in Section 6.3 of the GIDAP. This specific amount is set forth in Appendix G to this LGIA. For costs associated with Area Delivery Network Upgrades, any amounts set forth in Appendix G will be advisory estimates only, and will not operate to establishing any cap or ~~m~~Maximum ~~c~~Cost ~~responsibility limit~~ Exposure on the cost responsibility of the Interconnection Customer for Area Delivery Network Upgrades.

11.4 Transmission Credits. No later than thirty (30) Calendar Days prior to the Commercial Operation Date, the Interconnection Customer may make a one-time election by written notice to the CAISO and the Participating TO to (a) receive Congestion Revenue Rights as defined in and as available under the CAISO Tariff at the time of the election in accordance with the CAISO Tariff, in lieu of a repayment of the cost of Network Upgrades in accordance with Article 11.4.1, and/or (b) decline all or part of a refund of the cost of Network Upgrades entitled to the Interconnection Customer in accordance with Article 11.4.1.

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

11.4.1.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Generating Facility, commencing upon the Commercial Operation Date of the Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Generating Facility shall, for each of these Network Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Article 11.4.1.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

(a) For Reliability Network Upgrades, the Interconnection Customer shall be entitled to a repayment of the amount paid by the Interconnection Customer~~'s assigned cost responsibility~~ for Reliability Network Upgrades as set forth in Appendix G, up to a maximum amount established in Section 14.3.2.1 of the GIDAP~~of $60,000 per MW of generating capacity~~. For purposes of this determination, generating capacity will be based on the capacity of the Interconnection Customer's Generating Facility at the time it achieves Commercial Operation. To the extent that such repayment does not cover all of the costs of Interconnection Customer's Reliability Network Upgrades, the Interconnection Customer shall receive Merchant Transmission CRRs for that portion of its Reliability Network Upgrades that are not covered by cash repayment.

* * * * *

(e) Where the Interconnection Customer finances the construction of Network Upgrades for more than one Participating TO, the cost allocation, Interconnection Financial Security, and repayment will be conducted pursuant to Section 14.4.1 of the GIDAP, and set forth in Appendix G.

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Appendix FF

Small Generator Interconnection Agreement for Interconnection Requests Processed Under the Generator Interconnection and Deliverability Allocation Procedures

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Article 5. Cost Responsibility For Network Upgrades

5.1 Applicability

No portion of this Article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

5.2 Network Upgrades

The Participating TO shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement, except for Merchant Network Upgrades. If the Participating TO and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Network Upgrades, including overheads, shall be borne initially by the Interconnection Customer. For costs associated with Area Delivery Network Upgrades, any cost estimates will be advisory in nature and will not be considered as definitive or as establishing a cap on the ~~m~~Maximum ~~c~~Cost ~~responsibility~~ Exposure of the Interconnection Customer for Area Delivery Network Upgrades.

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5.3.1 Repayment of Amounts Advanced for Network Upgrades

5.3.1.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Small Generating Facility, commencing upon the Commercial Operation Date of the Small Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Small Generating Facility shall, for each of these Network Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Article 5.3.1.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

(a) For Reliability Network Upgrades, the Interconnection Customer shall be entitled to a repayment of the amount paid by the Interconnection Customer~~'s assigned cost responsibility~~ for Reliability Network Upgrades up to a maximum amount established in Section 14.3.2.1 of the GIDAP~~of $60,000 per MW of generating capacity~~. For purposes of this determination, generating capacity will be based on the capacity of the Interconnection Customer's Generating Facility at the time it achieves Commercial Operation. To the extent that such repayment does not cover all of the costs of the Interconnection Customer's Reliability Network Upgrades, the Interconnection Customer shall receive Merchant Transmission CRRs for that portion of its Reliability Network Upgrades that are not covered by cash repayment.

(b) For Local Delivery Network Upgrades:

i. If the Interconnection Customer is an Option (B) Interconnection Customer and has been allocated and continues to be eligible to receive TP Deliverability pursuant to the GIDAP, the Interconnection Customer shall be entitled to repayment of a portion of the total amount paid to the Participating TO for the cost of Local Delivery Network Upgrades for which it is responsible. The repayment amount shall be determined by dividing the amount of TP Deliverability received by the amount of deliverability requested by the Interconnection Customer, and multiplying that percentage by the total amount paid to the

Participating TO by the Interconnection Customer for Local Delivery Network Upgrades.

ii. If the Interconnection Customer is an Option (B) Interconnection Customer and has not been allocated any TP Deliverability, the Interconnection Customer shall not be entitled to repayment for the cost of Local Delivery Network Upgrades.

iii. If the Interconnection Customer is an Option (A) Interconnection Customer, the Interconnection Customer shall be entitled to a repayment equal to the total amount paid to the Participating TO for the costs of Local Delivery Network Upgrades for which it is responsible.

(c) For Area Delivery Network Upgrades, the Interconnection Customer shall not be entitled to repayment for the costs of Area Delivery Network Upgrades.

(d) If an Option (B) Interconnection Customer elects and is eligible to construct and own Merchant Network Upgrades as set forth in Article 5.2.1 of this SGIA, then the Interconnection Customer shall not be entitled to any repayment pursuant to this SGIA.

Unless an Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, such amounts shall include any tax gross-up or other tax-related payments associated with Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the Participating TO on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the applicable date as provided for in this Article 5.3.1.1; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years of the applicable commencement date. Notwithstanding the foregoing, if this Agreement terminates within five (5) years of the applicable commencement date, the Participating TO's obligation to pay refunds to the Interconnection Customer shall cease as of the date of termination.

(e) Where the Interconnection Customer finances the construction of Network Upgrades for more than one Participating TO, the cost allocation, Interconnection Financial Security, and repayment will be conducted pursuant to Section 14.4.1 of the GIDAP, and set forth in this SGIA,

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Attachment 1

Glossary of Terms

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Assigned Network Upgrade (ANU) - Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to the Interconnection Customer. Assigned Network Upgrades exclude Conditionally Assigned Network Upgrades unless they become Assigned Network Upgrades.

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Conditionally Assigned Network Upgrade (CANU) - Reliability Network Upgrades and Local Delivery Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

* * * * *

Current Cost Responsibility (CCR) - 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.

* * * * *

General Reliability Network Upgrade (GRNU) - Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

* * * * *

Interconnection Financial Security (IFS) - Any of the financial instruments listed in Section 11~~0~~.1 of the GIDAP that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

* * * * *

Interconnection Reliability Network Upgrade (IRNU) - Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

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Maximum Cost Exposure (MCE) - 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.

* * * * *

Maximum Cost Responsibility (MCR) - 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.

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Precursor Network Upgrades (PNU) - Network Upgrades required for the Interconnection Customer consisting of (1) Network Upgrades assigned to an earlier Interconnection Customer in an earlier Queue Cluster, Independent Study Process, or Fast Track Process, that has executed its GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

* * * * *

Reliability Network Upgrades (RNU) - The transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network

Upgrades necessary to remedy short circuit or stability problems, or system operating limits. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which ~~such system operating limits~~ cannot be adequately mitigated through Congestion Management, Operating Procedures, or Special Protection Systems based on the characteristics of the Generating Facilities included in the Interconnection Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating. Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

* * * * *

Attachment C – Draft Final Proposal

2018 Interconnection Process Enhancements Tariff Amendment

California Independent System Operator Corporation

2018 Interconnection Process Enhancements

Addendum #2 to Draft Final Proposal

December 21, 2018

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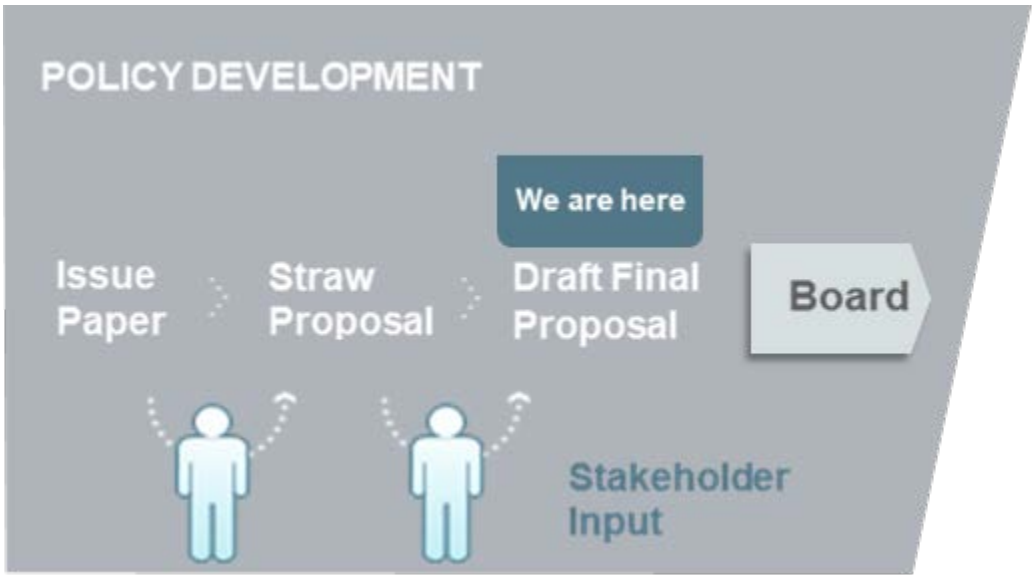
1. Introduction

Previous iterations of the California Independent System Operator Corporation's (CAISO) Interconnection Process Enhancement (IPE) initiative focused on several enhancements to the CAISO's interconnection and deliverability allocation procedures. The 2018 IPE addresses some substantial concepts, but also a myriad of minor concepts that have not been addressed in some time, along with issues that have surfaced since the 2015 IPE that need to be resolved. This addendum #2 to the draft final proposal reviews topics still under development as well as two recently added topics. Topics included in the 2018 IPE initiative fall into six broad categories; deliverability, energy storage, generator interconnection agreements, interconnection cost responsibility and financial security, interconnection requests, and modifications.

2. Stakeholder Process

The 2018 IPE stakeholder process is now at the Addendum #2 to the Draft Final Proposal stage. Figure 1, below, shows the current status within the overall 2018 IPE stakeholder process. This addendum #2 to the draft final proposal provides further discussion on maximum cost responsibility and two recently added topics regarding interconnection request acceptance and validation criteria. The two recently added topics are a direct result of recent experiences with the cluster 11 validation process and the ISO believes these topics need to be addressed, and seeks resolution in time for the upcoming cluster 12 application window. The CAISO has reviewed and considered stakeholder feedback provided through comments submitted on the addendum to the draft final proposal and has incorporated and addressed these comments in this addendum to the draft final proposal.

Figure 1: Stakeholder Process for 2018 IPE Stakeholder Initiative



3. Scope

Topics included in track 1 were finalized in the straw proposal and were approved at the July 2018 Board of Governors meeting, topics in track 2 were finalized in the revised straw proposal and were approved at the September 2018 Board of Governors meeting, and topics in track 3 will be presented at the November Board of Governors meeting. The table below reflects the total scope for this initiative and includes the identification of the Board of Governors meetings that each topic included in this initiative has been or will be presented for approval. Track 4 was added following the September 17, 2018 Stakeholder meeting to allow further discussion around topic 7.1 Maximum Cost Responsibility for NUs and two new topics 11.1 and 11.2 regarding interconnection request acceptance and validation criteria. The CAISO intends to present these track 4 topics to the February 2019 Board of Governors meeting in order to allow the resultant tariff revisions to be approved before the next cluster window opens on April 1. We thank you in advance for your prompt review and response to the compressed timeline of this proposal.

Table 1: Overall Topic Status

Category	Section	Topic	Targeted Board of Governors Meeting
Deliverability	4.1	Transmission Plan Deliverability Allocation	September 2018
	4.2	Balance Sheet Financing	September 2018
	4.3	Participating in the Annual Deliverability Allocation	September 2018
	4.4	Change in Deliverability Status to Energy Only	September 2018
	4.5	Energy Only Projects' Ability to Re-enter the Queue for Full Capacity	September 2018
	4.6	Options to Transfer Deliverability	September 2018
Energy Storage	5.2	Replacing Entire Existing Generator Facilities with Storage	BPM Change
Generator Interconnection Agreements	6.1	Suspension Notice	September 2018
	6.2	Affected Participating Transmission Owner	November 2018
	6.3	Clarify New Resource Interconnection Requirements	July 2018
	6.4	Ride-through Requirements for Inverter-based Generation	November 2018
Interconnection Financial Security and Cost Responsibility	7.1	Maximum Cost Responsibility for NUs and potential NUs	February 2019
	7.3	Eliminate Conditions for Partial IFS Recovery upon Withdrawal	September 2018
	7.5	Shared SANU and SANU Posting Criteria Issues	BPM Change
	7.6	Clarification on Posting Requirements for PTOs	July 2018
	7.7	Reliability Network Upgrade Reimbursement Cap	November 2018
	7.9	Impact of Modifications on Initial Financial Security Posting	July 2018
Interconnection Requests	8.1	Study Agreements	July 2018
	8.4	Project Name Publication	September 2018
Modifications	9.1	Timing of Fuel Type Changes	September 2018
	9.2	Commercial Viability – PPA Path Clarification	September 2018
	9.3	PPA Transparency	July 2018
	9.4	Increase Repowering Deposit	July 2018
	9.5	Clarify Measure for Modifications After COD	July 2018
	9.6	Short Circuit Duty Contribution Criteria for Repower Projects	BPM Change
Interconnnection Request Acceptance and Validation Criteria	11.1	Interconnection Request Acceptance	February 2019
	11.2	Validation Criteria	February 2019

Note: The topics in yellow were combined into one topic.

7. Interconnection Financial Security and Cost Responsibility

7.1 Maximum Cost Responsibility for Network Upgrades and Potential Network Upgrades

Background/Issue

Currently, an interconnection customer's Maximum Cost Responsibility (MCR) is established in its phase I and phase II study reports. The combined costs for reliability and local deliverability network upgrades in the phase I and phase II studies are compared, and the lower sum of the costs set the MCR for network upgrades for the project. An interconnection customer's *current* cost responsibility (*i.e.,* not necessarily its maximum) is then used to calculate its required interconnection financial security (IFS), which can change as the result of, *inter alia*, customers withdrawing from the queue. Additionally, the CAISO is aware that the current reassessment-related cost responsibility changes and the increased presence of conditional assigned (f.k.a. potential/contingent) network upgrade costs in project's study reports has created confusion around how the MCR plays out in practice. The CAISO also has observed confusion regarding when and how a given upgrade impacts the MCR and/or the current cost responsibility and IFS posting requirements.

Based on comments received on the addendum to the draft final proposal, the CAISO determined that further refinement to the proposal was warranted. The CAISO has amended its proposal in this addendum #2 as further specified below.

To avoid similar or duplicate acronyms, the CAISO is converting the use of *potential* network upgrades to *conditionally assigned* network upgrade.

The following terms and acronyms are used throughout this paper and further defined below:

- Assigned Network Upgrade (ANU)
- Conditionally Assigned Network Upgrade (CANU)
- Interconnection Service Reliability Network Upgrades (ISRNU)
- Precursor Network Upgrades (PNU)
- Current Cost Responsibility (CCR)
- Maximum Cost Responsibility (MCR)
- Maximum Cost Exposure (MCE)

Stakeholder Input

For purposes of clarification in this addendum #2, the CAISO generally refers to LSA, SPower, Nextera, EDF-Renewables (EDF-R), First Solar, Intersect Power, and Avangrid renewables (and sometimes, generally speaking, the generation developer community) collectively as "generators" or "developers" and further refer to PG&E, SCE, and SDG&E collectively as the "PTOs".

LSA, SPower, Nextera, EDF-Renewables (EDF-R), and First Solar have provided comments to numerous issues relative to this topic as follows:

The developers believe there are serious implications for generators with certain cost impacts and

increased uncertainty around cost exposure, project financing, and potential buyers. First Solar asks the CAISO to consider a proposal that does not increase the MCE, MCR, or financial postings from current practice.

1. **Maximum Cost Exposure adjustment downward:** the developers support the concept of adjusting the MCE downward with the MCR, pursuant to Appendix DD, Section 7.4, with the understanding that it could increase with the MCR if the situation were to occur.
2. **Identification and treatment of ISRNUs:** the developers believe the treatment and allocation of ISRNUs should be the same as other network upgrades and believe the CAISO has not adequately explained why these upgrades should be subject to more stringent requirements. Further, developers believe that if multiple projects share ISRNUs that are actually built then inclusion of the full cost of the upgrade in the MCR serves no purpose. Overall, developers propose that the CAISO include the allocated cost of an ISRNU as an ANU and the balance as a CANU, where the remaining amount could become that project's responsibility if the allocation changes.
3. **PTO network upgrade cost responsibility milestone to posting of third IFS:** the developers are opposed to changing the point at which a PTO becomes responsible for the cost of a network upgrade to the posting of the third IFS. They believe there is not sufficient evidence that the PTOs are actually harmed by the current practice of PTOs becoming responsible for backstopping a network upgrade at the execution of a GIA. Further, the developers believe the non-refundable amounts should cover the financing costs associated with backstopping a network upgrade.
4. **CANU allocation treatment in the Phase I study:** the developers believe that the 100% allocation of all CANUs in the Phase I study provides an unrealistic view of a project's true potential cost and could hinder projects starting to seek PPAs following their Phase I study. They note that the proposal provides no historical evidence of "gaming" and that the proposal ignores the significant cost of submitting an interconnection request.
5. **Projects needing to fund a PNU or CANU early to achieve COD or deliverability:** the developers believe projects should not be required to fully fund a PNU or CANU if needed for the later cluster project to achieve COD or obtain deliverability, and that they should only be responsible for the "expediting" costs of such upgrades. Developers believe Appendix DD, Section 14.2.2 should be adjusted to extend to network upgrades for deliverability required for later-queued projects. And further, the CAISO should retain the current requirement that ICs must fund only the cost to expedite upgrades, not the entire upgrade cost.
6. **RNU reimbursement cap impacts from CANU-to-ANU conversion:** the developers oppose the concept that when a CANU is converted to an ANU, the addition of converted RNUs will impact the total reimbursement cap established for such RNUs. They believe that when a CANU RNU is converted to an ANU RNU, the upgrade should not impact the RNU reimbursement cap.
7. **Additional developer reimbursement when later-queued projects utilize previously developed RNU:** the developers would like the opportunity to be reimbursed by later-clustered projects that use a RNU developed by current cluster where the RNU costs

exceeded the RNU Reimbursement Cap. Developers understand the complexity of the topic and have provided what they believe to be a simplified proposal in their recent comments.

Intersect Power provided comments asking about the implementation and timing impacts of cost-shift of network upgrades from GIA execution to posting of the third IFS. Further, Intersect Power agrees with LSA that the MCE should be adjusted downward with and according to the MCR reduction allowed in Appendix DD, Section 7.4.

Avangrid Renewables supports the CAISO's proposal to provide policy clarifications and structure to the existing framework though new definitions, however, opposes a number of the proposed policy items. Avangrid believes that the potential for gaming is unlikely when CANUs would be allocated in the Phase I study and notes the significant cost of submitting interconnection requests. Avangrid also requested that CAISO further clarify in what instances an increase of the MCR could occur after it is reduced according to Appendix DD, Section 7.4. Additionally, specific to the proposal, Avangrid believes the proposal imposes greater cost uncertainty over a longer period of time compared to existing policy; namely, the posting of the third IFS for PTOs to backstop the cost responsibility of a network upgrade. Avangrid is asking the CAISO to clarify the timing and impact of future and prior cluster projects due to the changes proposed. Lastly, Avangrid supports LSA's comments specific to ISRNU definition and treatment as well as the RNU reimbursement impacts of CANU-to-ANU conversions.

PG&E, SCE, and the Six Cities strongly support the Addendum to Draft Final proposal and believe it to be a balanced between the risk and cost allocation and responsibility between interconnection customers and PTOs. SDG&E has no objections to the addendum to draft final proposal.

SCE noted a few key points as follows:

1. SCE is aware of situations where developers have executed GIAs and have not proceeded to commercial operation in a timely manner. Generators use various tactics (like suspension or COD extensions) to delay start of construction and third postings and do not believe the GIA execution to be a good indicator that a project will truly construct a project.
2. SCE also references a situation where a project withdrew after executing a GIA that subsequently required SCE to backstop the financing and construction of an upgrade. In this situation, SCE stepped up and provided the required financing beyond the non-refundable fund amount from the withdrawn project.
3. SCE notes that they have experienced situations where developers have significantly slowed their pace of development following the execution of their GIA, therefore delaying their third posting. This resulting in the developer having more time to achieve a PPA, financing, and permitting, or not, and determine whether to withdrawal or proceed with development. Overall, SCE believes posting of the third IFS to be an appropriate point for the PTO to inherit responsibility for an upgrades cost due to the projects withdrawal.

PG&E believes the proposal and definitions proposed provide clarity and transparency to customers such that the terms and cost responsibility is clearly defined. Further, PG&E

supports the change to the trigger for removing a CANU from a project to the posting of the third IFS such that it protects the PTO from time and resource investments from potentially less-viable projects.

The Six Cities support the revised definitions and components of and adjustments to the MCR and MCE as proposed. The Six Cities observe that maintaining the MCE at the true potential cost exposure of the project, without adjustment downward will likely provide greater certainty and may minimize controversy regarding potential financing exposure that could occur if the MCE is adjusted upward and downward with the MCR.

CAISO's response to stakeholder comments

The CAISO appreciates the direct and descriptive stakeholder comments received following the addendum to the draft final proposal. The CAISO provides the following in response to the seven items established above and to individual stakeholder comments and questions.

1. **Maximum Cost Exposure adjustment downward:** CAISO agrees that it is reasonable to allow a downward adjustment the MCE in the same manner as the MCR is adjusted per Appendix DD, Section 7.4. It is important to note that the MCE can also increase based on the same requirements as the MCR in Section 7.4. This change is effectuated in the proposal below.

   Some developers also requested an explanation of how MCR could increase after it has decreased. Unforeseen system changes could occur where the scope of a previously identified upgrade increases or a new upgrade is now needed in a subsequent reassessment. While such circumstances are rare, they have occurred in the past and the current CAISO tariff provisions in Appendix DD, Section 7.4 allow for such an adjustment.

2. **Identification and treatment of ISRNUs:** the CAISO considered alternative options to change the treatment of ISRNUs by segregating the allocated and non-allocated ISRNUs between the MCR and MCE. In doing so, the CAISO determined that segregating ISRNUs between the MCR and MCE created extreme challenges and significant administrative burden for defining, calculating, and tracking a project's true MCR throughout the life of a project. More specifically, without including the full allocated cost of an ISRNU in the MCR, the process to define a MCR and provide an opportunity for adjustment downward according to Appendix DD, Section 7.4 became overly complex. This situation resulted in a complex process of tracking the cost of each upgrade for every project, which study each upgrade's allocation change occurred in, and which upgrade cost actually contributes to the MCR from each study. Therefore, the CAISO will not make adjustments to the separation of ISRNUs within the MCR and MCE. As defined above, 100% of an ISRNU will remain within a project's MCR and the project will only be required to post IFS on that allocated ISRNU cost.

3. **PTO network upgrade cost responsibility milestone to posting of third IFS:** the CAISO understands the generator community concerns that moving the milestone where a PTO assumes cost responsibility for network to the 3rd financial posting will add additional uncertainty to project development. The CAISO also understands the PTOs concern that assuming cost responsibly for network upgrades too early in the development process increases the PTO's financial risk. The ISO has reviewed this issue and believes there is

a compromising solution. The CAISO notes that there are two competing tariff requirements around executing a GIA, 1) the concept of executing a GIA just-in-time to begin construction of network upgrades[1], and 2) that generators must execute a GIA in order to retain its TPD allocation[2]. This second provision requires the PTOs and the generators to execute a GIA very early in the development process, and therefore increases the probability that a number of these projects will ultimately withdraw and therefore the PTO will assume the network upgrade cost responsibility for still needed upgrades. As such, the CAISO is changing this proposal such that it will retain the point at which the PTO becomes responsible for a network upgrade as the GIA execution, and proposes to remove the requirement for interconnection customers to execute a GIA to retain its TPD allocation. This will better align GIA execution with posting financial security toward construction.

4. **CANU allocation treatment in the Phase I study:** the CAISO understands the generator community concerns regarding the belief that the 100% allocation of all CANUs in the Phase I study provides an unrealistic view of a project's true potential cost and could hinder a projects starting to seek PPAs following their Phase I study. The PTOs and Six Cities appreciate that the proposal provides clarity and transparency to the cost allocations and true cost exposure of a project. The CAISO has reviewed this issue and the developer's suggested compromise and agrees that CANUs can be assigned an allocated cost in the phase I study. Given this agreement, it is important to ensure it is clear and defined that the final MCE will be defined in the Phase II study. The MCE created in the Phase I study is preliminary, not fixed, and could increase based on adjusted allocations to its CANUs in the phase II study. The CAISO does not believe it is reasonable to allow the phase I study to establish a projects final MCR because of the typically high withdrawal rate between phase I and phase II.

   The CAISO understands, based on historical stakeholder comments, that interconnection customers oppose the uncertainty of the MCEs' potential to adjust upward in the phase II study. However, the CAISO supports a process that allows for a final MCE to be defined in the phase II study and not be artificially deflated (by number of requests whether by the same or multiple customers). The CAISO believes the allocation of CANUs in Phase I as proposed in this addendum #2 is a reasonable adjustment to the CAISO's proposal in the first addendum to the draft final proposal where 100% of the CANU's cost was assigned to the project's MCE in phase I. The CAISO does not believe that any further accommodation of removing the cost signal of a CANU from a projects cost responsibility is appropriate. To do so would increase cost responsibility uncertainty for individual projects and or greatly increase cost risk to the PTOs.

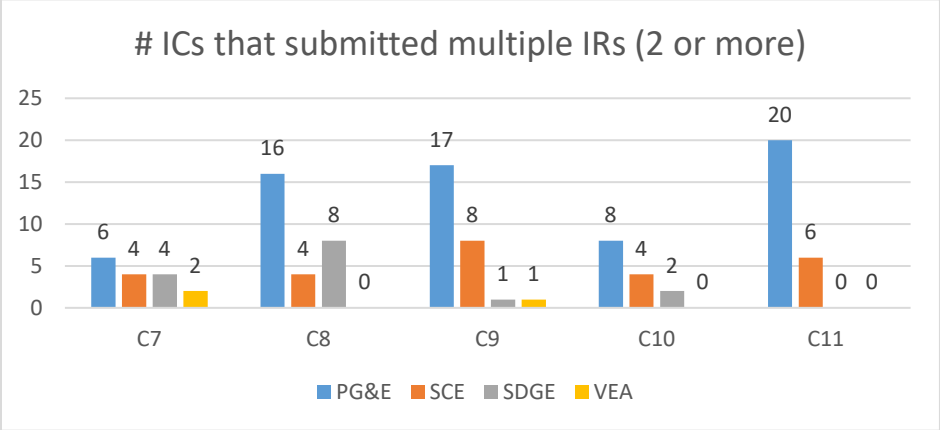
   Further, developers asked the CAISO to provide scenarios where gaming has occurred regarding interconnection customers submitting multiple interconnection requests to intentionally dilute the cost allocation of upgrades. The CAISO does not have sufficient visibility into developers' intent in submitting interconnection requests to determine

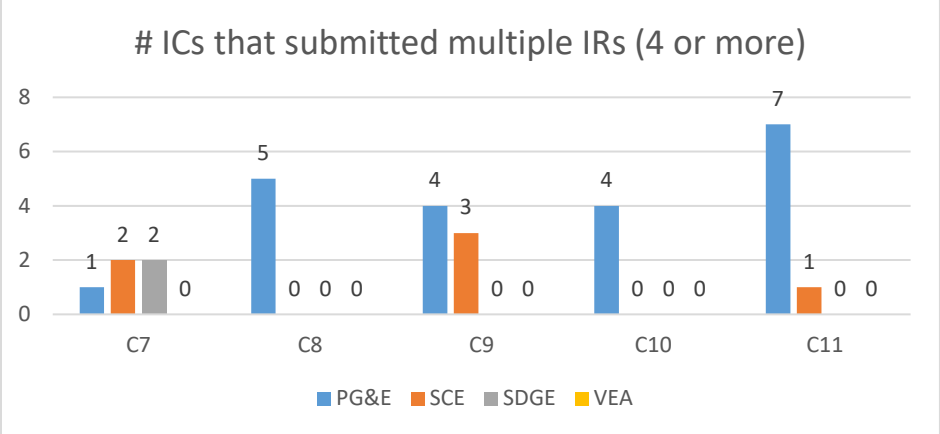
[1] Appendix DD, Section 13.1.1 – Tendering of generator interconnection agreement

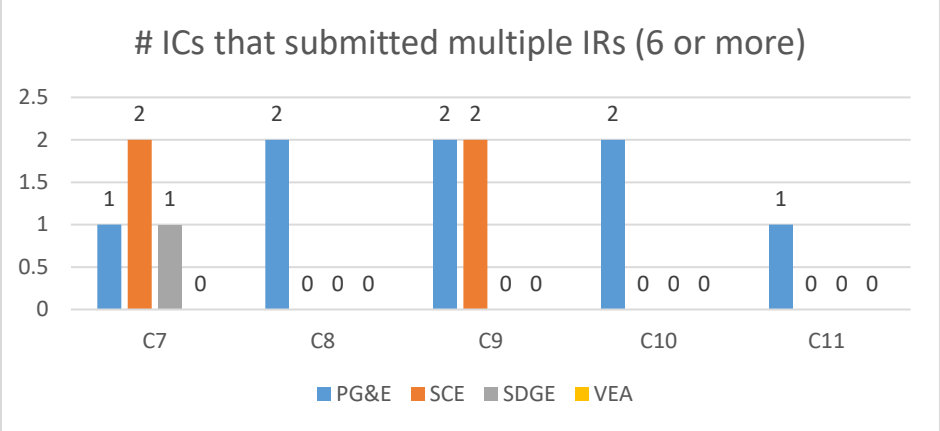
[2] Appendix DD, Section 8.9.3(3) – Criteria for retaining TP deliverability allocation

whether gaming is the intent. The CAISO's intention with this proposal is to eliminate this situation from occurring. While the CAISO considers the gaming issue to be of less significance than the issues described above, the following information is provided in response to the stakeholder request.

Over the past 5 clusters (7 through 11), 112 interconnection customers have submitted 2 or more interconnection requests within the same PTO area, 29 have submitted 4 or more, and 13 have submitted 6 or more. These figures indicate that interconnection customers are capable of submitting multiple interconnection requests to an area that could be sharing the same set of CANUs. The following Charts depict the values noted above:







5. **Projects needing to fund a PNU or CANU early to achieve COD or deliverability:** The CAISO notes that there is a distinction between a PNU, where a GIA was previously executed, and a CANU, where no GIA has been executed. The CAISO does not intend to change the applicability of the existing Appendix DD, Section 14.2.2 for later cluster projects that would like to proceed where a previous cluster required to build an upgrade that has executed a GIA, and therefore this upgrade is identified as a PNU for the later cluster. In item 3 below, the CAISO merely notes that, because no previous clusters have executed a GIA, the later cluster needing the CANU early (in order to achieve COD or deliverability) must post IFS for and fully fund that upgrade. The CAISO does not support a situation where the PTO or others are required to fund an upgrade when a GIA has not been executed and no interconnection customer or PTO has committed to constructing the upgrade.
6. **RNU reimbursement cap impacts from CANU-to-ANU conversion:** The CAISO does not agree with excluding the cost of CANUs (when CANUs convert to ANUs) from the RNU reimbursement cap calculation. An RNU identified as a CANU (because a GIA has not been executed) that is converted to an ANU will add to the total cost of RNUs and be subject to the RNU reimbursement cap. The CAISO implemented in a previous IPE track to adjust the reimbursement cap based on industry indices and believe this to be a reasonable solution to ensuring interconnection customers are refunded a fair value for the RNUs identified for their project. Frequently, interconnection customers withdraw projects that have high RNU costs, and to shelter later-cluster projects from these same high RNU costs would result in ratepayers paying for high costs that the reimbursement policy is intended to protect against.
7. **Additional developer reimbursement when later-queued projects utilize RNU previously developed:** consistent with our response in Track 3, the CAISO continues to note that this topic is not in the 2018 IPE scope. Further, introducing a new topic at this stage of the 2018 IPE process, particularly one the CAISO has grappled with in the past and knows to be complex, would not provide enough time to effectively evaluate and achieve a resolution.

CAISO's Response and Proposal

The CAISO is amending its proposal in this addendum #2 to the draft final proposal and attempts to respond to all stakeholder comments and balance the concerns of providing reasonable cost certainty for upgrades for all participants and ensure accurate cost allocations and responsibility are assigned and at the appropriate time. The proposal recognizes that the cost certainty concerns also apply to the PTOs and ratepayers and seeks to not increase cost risks to PTOs inappropriately. The CAISO believes the following definitions and amended proposal provides the right balance for maintaining consistency with current tariff requirements and CAISO practices that are not explicitly provided for in the current tariff, but have been used historically (specifically, the allocation of conditionally assigned network upgrade costs in a manner consistent with cost allocations for assigned network upgrades).

In response to stakeholder comments and suggestions, among other things, the proposal:

1. Proposes to adjust the MCE downward with the MCR, pursuant to Appendix DD, Section 7.4, with the understanding that it could increase with the MCR if the situation were to occur.
2. Identifies each ISRNU as 'allocated ISRNU' and 'non-allocated ISRNU' for the purposes of defining cost responsibility within the CCR and MCR.
3. As an alternative to the prior proposal's changing the point at which a PTO becomes responsible for the cost of a network upgrade to the posting of the third IFS, the CAISO proposes to retain the GIA as the point at which a PTO becomes responsible for network upgrade costs and appropriately align the execution of GIAs in the projects development process by removing the execution of a GIA from the TPD retention requirements.
4. Proposes to allocate non-ISNU CANUs per Appendix DD, Section 8.3 for RNUs and 8.4 for LDNUs, with the understanding that the potential revised allocation of such CANUs in Phase II can cause the MCE to increase.
5. Provides clarification as to the impacts of a project that needs to fund a PNU or CANU early in order to achieve COD or deliverability.
6. Clarifies that the RNU reimbursement cap can be impacted from a CANU-to-ANU conversion.
7. Clarifies that additional reimbursement to developers when later-queued projects utilize RNU previously developed by that developer is not within scope of this IPE paper.

The CAISO's amended proposal is a framework for overall upgrade assignments and associated cost responsibility as well as proposed definitions related to upgrades and cost responsibilities. They are:

Proposed Definitions:[3]

Assigned Network Upgrade (ANU): *Reliability and Local Delivery Network Upgrades for which the Interconnection Customer has a direct cost responsibility. Assigned Network Upgrades exclude Conditionally Assigned Network Upgrades until, or unless, they become Assigned Network Upgrades.*

Conditionally Assigned Network Upgrade (CANU): *Reliability and Local Delivery Network Upgrades whose cost responsibility is assigned to an earlier Interconnection Customer, but which may become the responsibility of the Interconnection Customer.*

Interconnection Service Reliability Network Upgrades (ISRNU): *Reliability Network Upgrades at the Point of Interconnection to accomplish the physical interconnection of the generator to the CAISO Controlled Grid. Conditionally Assigned Network Upgrades can be identified as Interconnection Service Network Upgrades.*

Precursor Network Upgrades (PNU): *Network Upgrades required for an Interconnection Customer, consisting of (1) Network Upgrades whose cost responsibility is assigned to an earlier Interconnection Customer that has* executed its GIA*; and (2) Network Upgrades in the approved CAISO Transmission Plan.*

Current Cost Responsibility (CCR): *The sum of the Interconnection Customer's current allocated costs for (1) Assigned Network Upgrades and (2) the current allocated cost for Interconnection Service Reliability 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 (MCR): *Pursuant to Appendix DD, the lower sum of an Interconnection Customer's (1) Assigned Network Upgrade costs, and (2) Interconnection Service Reliability Network Upgrades, from its Phase I or Phase II Interconnection Studies, which may be adjusted if a subsequent reassessment converts Conditionally Assigned Network Upgrades to Assigned Network Upgrades.*

Maximum Cost Exposure (MCE): *The sum of (1) the Interconnection Customer's Maximum Cost Responsibility and (2) the sum of the Interconnection Customer's Conditionally Assigned Network Upgrades from its Phase I or Phase II Interconnection Study, where the Maximum Cost Exposure established in the Phase II Interconnection Study defines the project's final Maximum Cost Exposure.*

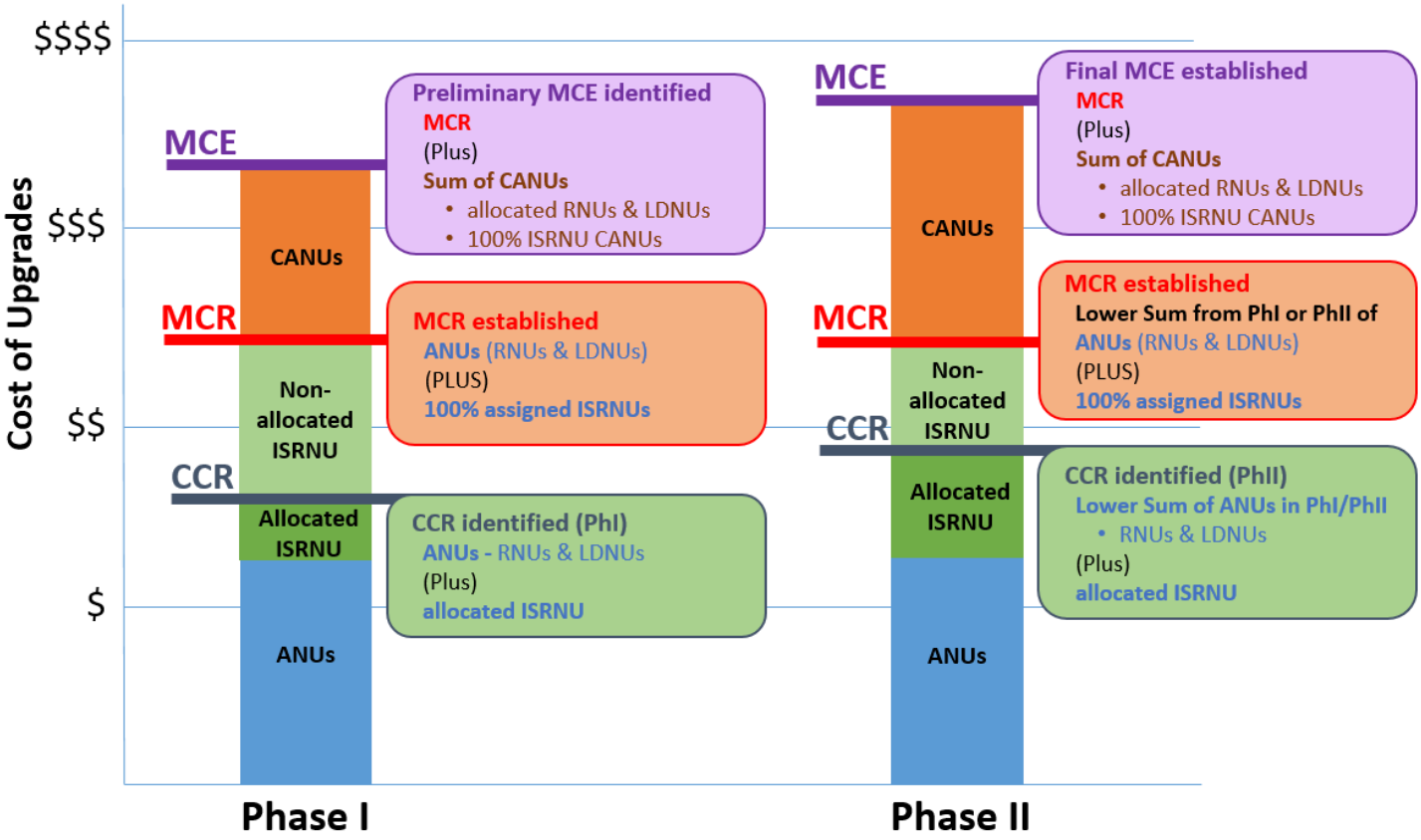
[3] The CAISO notes that these definitions are included to better understand the policy discussed herein. The CAISO Board of Governors approves policy; not specific tariff revisions, which the CAISO and stakeholders discuss separately near the conclusion of the policy process. Although the CAISO does not anticipate substantial changes to these definitions, the CAISO may change them—so long as they are consistent with the Board-approved policy—up to when it files its tariff revisions with FERC.

Amended proposal for upgrade assignments and cost responsibility:

Incorporating the definitions above, the CAISO proposes the following modified approach to the assignment and cost allocation of network upgrades. The following depiction is intended to summarize how all the following factors play-out in the Phase I & Phase II and related MCR & MCE:

Key takeaways:

- Phase I includes allocated % of cost responsibility for CANUs (instead of 100%)
  - Except ISRNU CANUs – allocated 100%
- ISRNUs are assigned 100% cost responsibility within the phase I & phase II MCR
- Phase I MCE is preliminary identification only – Final MCE established in phase II
- MCE can increase or decrease between phase I and phase II
- MCR can increase up to Phase II MCE when CANUs convert to ANUs
- CCR can increase up to the MCR if ISRNU allocations are adjusted
- MCE can decrease when CANUs are removed from IC responsibility



1. An interconnection customer is assigned network upgrades and associated cost responsibility for the following three components in its phase I and phase II study reports:

    a. Assigned network upgrades

    b. Conditionally assigned network upgrades

    c. Interconnection service reliability network upgrades

    Conditionally assigned network upgrades could be identified as an Interconnection Service Reliability Network Upgrade (ISRNU-CANU) as described in item 4 below.

2. Cost allocation of **assigned network upgrades** will follow the current provisions in tariff Appendix DD, Section 8.3 for RNUs, and 8.4 for LDNUs. (refer to item 4 below for treatment of ISNRU)

3. Cost allocation of **conditionally assigned network upgrades** is as follows:

    a. The phase I cost responsibility for CANUs will follow the current provisions in tariff Appendix DD, Section 8.3 for RNUs and 8.4 for LDNUs when the upgrade is required to interconnect or achieve requested deliverability status.

    A MCE will be provided in the phase I study, however, it is important to note that the MCE in phase I is preliminary only. The MCE may increase in Phase II due to allocation changes of CANUs in the phase II studies – at which point item b. below will take effect (a final MCE is established).

    The CAISO is aware of and understands the tension between having a MCE that will not increase from phase I to phase II (Addendum 1 proposal to allocate 100% CANU costs in Phase I and then allocate percent share in Phase II) and not being saddled with a 100% cost responsibility for CANUs in phase I. For purposes stated in the CAISO's comments above, this proposal seeks to find a solution to not saddle developers with the highest possible MCE in the phase I study, but allow the MCE to increase in phase II. This proposal further provides the PTOs greater certainty and understanding of financial risk, while not hindering developers with excessive cost signals in the phase I study reports.

    The CAISO believes the allocation of CANUs in Phase I, as proposed in this addendum #2, is a reasonable adjustment to the CAISO's proposal in the first addendum to the draft final proposal where 100% of the CANU's cost was assigned to the project's MCE in phase I. The CAISO does not believe that any further accommodation of removing the cost signal of a CANU from a projects cost responsibility is appropriate. To do so would increase cost responsibility uncertainty for individual projects and or greatly increase cost risk to the PTOs.

    b. The phase II cost responsibility for CANUs will also follow the current provisions in tariff Appendix DD, Section 8.3 for RNUs and 8.4 for LDNUs.

    The cost allocation for CANUs assigned in a project's Phase II study will establish a fixed-cost for each CANU for the sole purpose of establishing the MCE for the project and for adjusting the MCR and MCE when applicable (as discussed

herein). At the time a CANU is converted to an ANU, the project's MCR will increase by an amount equal to that upgrade's fixed-cost established in that project's phase II study. At the time the CANU is removed from a projects responsibility, the MCE will be reduced by an amount equal to that upgrade's fixed-cost established in that project's phase II study.

Said another way for clarification, the fixed-cost for each CANU in the phase II study as established above is only used to 1) adjust the MCR upward when the CANU is converted and an ANU, or 2) adjust the MCE downward when the CANU is removed from a project's responsibility. When the CANU is converted to an ANU, all ANU cost allocations are recalculated based on the number of remaining projects that have cost responsibility for the ANUs. The sum of a project's revised ANU cost allocations are assigned to the project and any costs that exceed the MCR become the responsibility of the PTO.

A CANU stops being a CANU and becomes a precursor network upgrade when at least one of the prior cluster project executes its GIA. In that event, later cluster project(s) will no longer have cost responsibility for that network upgrade.

A CANU stops being a CANU and becomes an assigned network upgrade when all prior cluster projects allocated a cost responsibility (assigned or conditionally) for the network upgrade withdraw without having executed its GIA. Once the CANU is converted to an ANU, the ANU is just like any other ANU and, in accordance with current tariff policy for reassessment studies, may create headroom for other ANUs up to the projects MCR. Moreover, after the CANU is converted to an ANU, a project's cost allocation for the ANU may then adjust (up or down) in a reassessment study, similar to other ANUs, up to the project's MCR. Any costs allocated above the MCR become the responsibility of the PTO.

Eligibility for adjustments to the MCR will follow Section 7.4 of Tariff appendix DD. Additionally, after a CANU is converted to an ANU, the increased cost may impact the RNU reimbursement cap.

No IFS postings are made for CANUs. IFS postings are only required when a CANU becomes an ANU, as discussed below.

The CAISO believes that the proposed approach for allocating CANUs in phase I and the allocated fixed-cost established in phase II is a fair and reasonable solution to interconnection customers' request to improve the cost allocation methodology[4] and their request for clear cost certainty. A significant number of projects withdraw from the queue between phase I and phase II, and, unlike network upgrades triggered within a cluster study group, CANUs will typically not go away due to withdrawals between phase I and phase II. This could result in the phase I allocation of CANU costs being very low per project and the phase II allocated costs being significantly higher, based on the smaller

[4] The Draft Final Proposal proposed that a CANU be included in the MCR and that any time a CANU is removed from a project's MCR, it may provide headroom within the MCR for increasing cost allocations of a project's other ANUs through the reassessment study process.

number of projects left needing the CANU in the phase II study. This methodology provides for a more realistic scope and impact to those projects that proceed through the phase II study. It also eliminates any potential gaming opportunity for interconnection customers to submit multiple projects into a cluster only to intentionally dilute the phase I CANU cost allocations and reduce the MCE[5]. It also provides more certainty to the PTOs regarding the potential cost risk associated with those upgrades required by clusters later than the currently assigned cluster.

If the interconnection customer wishes to achieve its commercial operation date before its CANU(s) are completed by the cluster/project that is currently funding such upgrades, if no project that currently has the CANU as an ANU has executed a GIA, that interconnection customer must post and fully fund the reliability CANU(s) required for the interconnection in lieu of the earlier-queued cluster. The CAISO merely notes that because no previous clusters have executed a GIA the later cluster needing the CANU early (in order to achieve COD or deliverability) must post IFS for and fully fund that upgrade. The CAISO does not support a situation where the PTO or others are required to fund an upgrade when a GIA has not been executed and no interconnection customer or PTO has committed to constructing the upgrade. The CAISO notes that interconnection customers have only desired to achieve commercial operation ahead of such CANUs in very few circumstances, and in those situations the CAISO and PTO worked to find case-by-case solutions. The CAISO anticipates that if this situation arises again, other options may be available, and the CAISO and PTO would work with the interconnection customer to identify potential solutions in addition to those identified above.

4. The treatment and cost allocation for **upgrades identified as ISRNUs** is as follows:

    a. The treatment and cost allocation for **CANUs identified as ISRNUs** (ISRNU CANUs) is as follows:

        The allocation of cost responsibility for CANUs that are identified as ISRNUs will be fully allocated (100% cost responsibility) within the MCE in the phase I and phase II study to each generation project that requires the upgrades to interconnect.

        At the time a CANU identified as an ISRNU becomes the responsibility of the current cluster/project and the project is allocated all or a portion of the cost, the allocated portion will convert to an 'allocated ISRNU' cost and, potentially, a 'non-allocated ISRNU'. The allocated-ISRNU will be included in the projects CCR and MCR and the non-allocated ISRNU will be included in the calculation of MCR.

    b. The treatment and cost allocation for **assigned RNUs identified as ISRNU**s is as follows:

        i. **'allocated ISRNUs'** is the portion of the ISRNU that is allocated to a project in any given study and that will fall within the project's CCR and MCR. Projects within a cluster requiring the same ISRNU will be allocated and share the cost for the upgrade(s) equally. This is identified as the 'allocated

[5] The CAISO only points out a potential gaming opportunity, but does not have evidence that this type of gaming has occurred in the past.

ISRNU' cost responsibility. This cost is used to calculate the interconnection customer's CRR, from which the IFS posting requirement is determined.

ii. **'non-allocated ISRNUs'** is the portion of the ISRNU cost that equals 100% of the ISRNU's cost minus the project's allocated ISRNU amount for the ISRNU. The non-allocated amount will be included in the costs that are used in the calculation of the project's MCR. [6]

Note that this is an adjustment to the previous proposal and current practice and in place to accommodate project developers as well as protect the PTOs from having to fund the ISRNU when there is only one project remaining.

Note that the allocated and non-allocated ISRNU costs will always sum to 100% of the ISRNU's cost (split between the calculations for CCR and MCR as discussed below) because, unlike other RNUs, the ISRNU is needed even for just one project and, further, is needed regardless of the capacity size of the interconnecting project. The allocated amount can change in each study (phase I, phase II and reassessments) depending on the number of projects that share the need for the ISRNU in that study, which will revise the CCR as appropriate to cover the allocated amount. This will continue up until the time of the third posting, at which time the final cost allocation will be determined based on the projects in the cluster group that remain to fund the ISRNU. At that time, the final allocations will be determined and set, with the non-allocated amounts no longer needed (and will go away), because 100% of the cost of the ISRNU will be covered by project's that have made their third postings.

An example of a non-allocated-to-allocated ISRNU cost shifting to CCR would be a scenario where 4 projects share an ISRNU in the phase II study, and therefore, each project is allocated 25% of the upgrade cost within their CCR and each project would then have 75% of the ISRNU's cost as a non-allocated ISRNU portion of the upgrade within their MCR (totaling 100% of the ISRNU's cost for each project). Then, two projects withdraw prior to reassessment 1, resulting in an incremental adjustment to the remaining two project's allocation to 50% each of the ISRNU, which will increase the CCR by an equal amount. The remaining projects would then have 50% of the ISRNU's cost as a non-allocated ISRNU amount in their respective MCRs.

5. The interconnection customer's **maximum cost responsibility** equals:

a. In Phase I

The sum of 1) the allocated ANU costs in the phase I study before the phase II study is completed, plus 2) the sum of the assigned ISRNU costs,

[6] SCE's previous comments raised a concern with "plan of service" RNUs, stating, confirmation is needed from the CAISO that plan of service RNUs will be treated differently versus other RNUs. The ISO believes that by allocating that portion allocated ISRNU within the CCR and the remaining non-allocated IRSNU in the calculation of the MCR, it achieves what SCE seeks to accomplish.

AND

b. In Phase II

The lesser sum of 1) the allocated ANU costs, plus 2) the sum of the assigned ISRNU costs, between the phase I and phase II studies

PLUS

c. CANUs that become ANUs

At the time a CANU becomes the cost responsibility of the interconnection customer (because all previous cluster projects assigned that upgrade have withdrawn without executing its GIA) the CANU converts to an ANU and becomes part of the project's MCR and within the CCR for IFS posting requirements.

At the time a CANU becomes an ANU, the project's MCR and CCR will increase by the fixed-cost of the CANU established in that project's phase II study report. The IFS postings will also increase accordingly. The project's total assigned CANU cost responsibility is reduced by the fixed-cost of the CANU converting to an ANU.[7] The MCE will remain unchanged when CANUs are converted to ANUs because its cost switches from being a portion of the MCE (above the MCR) to being a portion of the CCR (below the MCR).

PLUS

d. ISRNU CANUs that become allocated to a project

At the time a CANU identified as an ISRNU becomes the cost responsibility of the interconnection customer (because all previous cluster projects assigned that upgrade have withdrawn without executing its GIA), that portion of the allocated ISRNU becomes part of the project's MCR and CCR for IFS posting requirements. The MCR will increase by an equal amount of that now allocated ISRNU. That portion of the non-allocated ISRNU remains within the calculation that determines project's MCR.

Eligibility for adjustments to the MCR will continue to follow Appendix DD, Section 7.4.

[7] For example, if cluster 5 triggered an upgrade, it is considered a CANU for cluster 6, cluster 7, and cluster 8 if no projects in cluster 5 requiring the upgrade has executed its GIA. When all applicable cluster 5 projects withdraw, the upgrade becomes an assigned upgrade for cluster 6, but remains a CANU for cluster 7 and cluster 8.

In this example, assuming all cluster 5 projects withdrawal and a cluster 6 project executed its GIA, the CANU becomes an assigned network upgrade and that project becomes responsible for the fixed-costs of the CANUs as identified in that Cluster 6 project's Phase II study report. Such fixed-costs will then be included in the project's MCR and CCR and the project must then post additional financial security for that now ANU. Then, for cluster 7, cluster 8, and any future cluster, that network upgrade now becomes a precursor network upgrade and any CANU cost responsibility is removed from those project's MCE.

6. The interconnection customer's **maximum cost exposure** is as follows;

   a. In Phase I:

   The sum of (i) MCR as defined above, and (ii) the sum of allocated costs of CANUs, and (iii) the sum of the full allocated costs of CANUs identified as ISRNUs,

   AND

   b. In Phase II

   The sum of (i) MCR as defined above, and (ii) the sum of allocated costs of CANUs, and (iii) the sum of the full allocated costs of CANUs identified as ISRNUs,

   The MCE established in the phase II study establishes a final MCE that will remain for the life of the project, except when the MCE can be reduced as discussed in c. below.

   PLUS

   c. At the time a CANU is removed from the cost responsibility of the interconnection customer (because a previous-cluster project executed a GIA or the upgrade is no longer needed), the MCE will be reduced by an amount equal to that upgrades' fixed-cost established in the project's Phase II study.

   At any time a (or a portion of the) non-allocated ISRNU cost allocation has converted to an allocated ISRNU (because a re-allocation has occurred in an interconnection or reassessment study), the CCR increases by the amount of the non-allocated portion converted to the allocated ISRNU cost and the MCE remains unchanged.

   Note that if the MCR is adjusted following Appendix DD, Section 7.4, the MCE will be adjust in an equal manner to an amount equal to the sum of 1) the new MCR, plus 2) any remaining CANUs.

7. The interconnection customer only posts **interconnection financial security** for the current cost responsibility, including 1) the ANUs, and 2) current allocated ISRNUs (those upgrades that attribute to their current cost responsibility). Interconnection customers will not post IFS for the cost of 1) CANUs (unless and until the upgrades become ANUs within the ANU Cap), or 2) that portion of non-allocated ISRNUs.

Timing and Implementation of this proposal:

The timing and implementation of topics in this section 7.1 proposal are as follows:

1. **Upgrade and cost responsibility definitions and policy:** the CAISO proposes to introduce the upgrade definitions and treatment of CCR, MCR, and MCE in the Cluster 11, Phase II studies. Previous clusters will retain their previously identified MCR and treatment of 'other potential network upgrades' (as identified in the cluster 10 and prior studies).
2. **Removal of GIA execution requirement to retain deliverability:** the CAISO proposes to implement this effective immediately following the FERC ruling for all projects that have not yet executed a GIA. Specifically, interconnection customers will not be required to execute a GIA to retain its TPD allocation at the time they submit their TPD retention affidavits in 2019 (typically due December 1).

The following examples and charts depict the establishment of a MCR and MCE, the allocation treatment of an ISRNU (including allocated costs (in MCR) and non-allocated costs (in MCE)), the conversion of a CANU to an ANU, and the removal of a CANU from a projects cost responsibility:

1) In this example, a few things occur between Phase I and Phase II:

a. ANU2 increases from $4M to $8M bringing the sum of ANUs from $7M to $11M, and

b. The allocation of the ISRNU is assigned to 3 projects in Phase I and changes from 3 projects to 2 projects (due to withdrawal) in Phase II. The allocated ISRNU cost increases from $2M to $3M (causing the CCR to increase), and

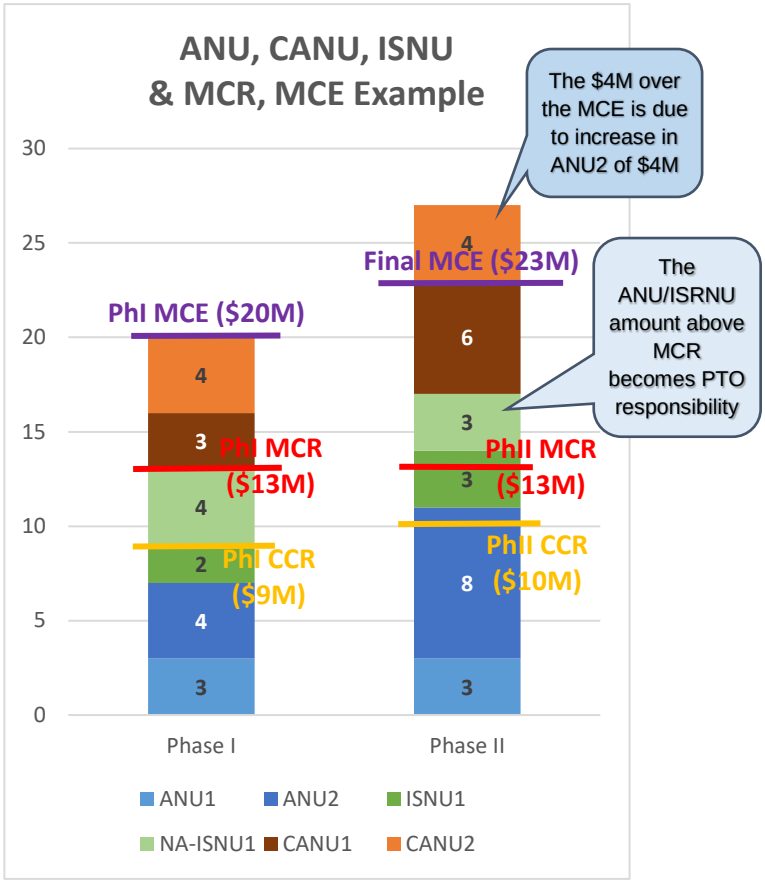
c. The allocation of CANU1 increases from $3M to $6M (causing the MCE to increase).

In Phase I:

a. The CCR is established by the sum of 1) ANUs, plus 2) the allocated ISRNU cost. In this case $9M (3+4+2)

b. The MCR is established by the sum of 1) ANUs, plus 2) 100% allocated ISRNU cost. In this case $13M (3+4+2+4), and

c. The preliminary MCE is provided by the sum of 1) the MCR above, plus 2) the allocated cost of each CANU. In this case $20M (3+4+2+4+3+4),



In Phase II:

a. The CCR is established by 1) the lower sum of ANUs between the phase I and phase II, plus 2) the allocated ISRNU costs in phase II. In this case $10M (3+4+3)

b. The MCR is established by the lower sum of 1) the ANUs, plus 2) 100% allocated ISRNU cost, in the phase I and phase II study. In this case MCR = $13M (3+4+2+4)). In this case the MCR is set by phase I and remains unchanged between phase I and phase II, and

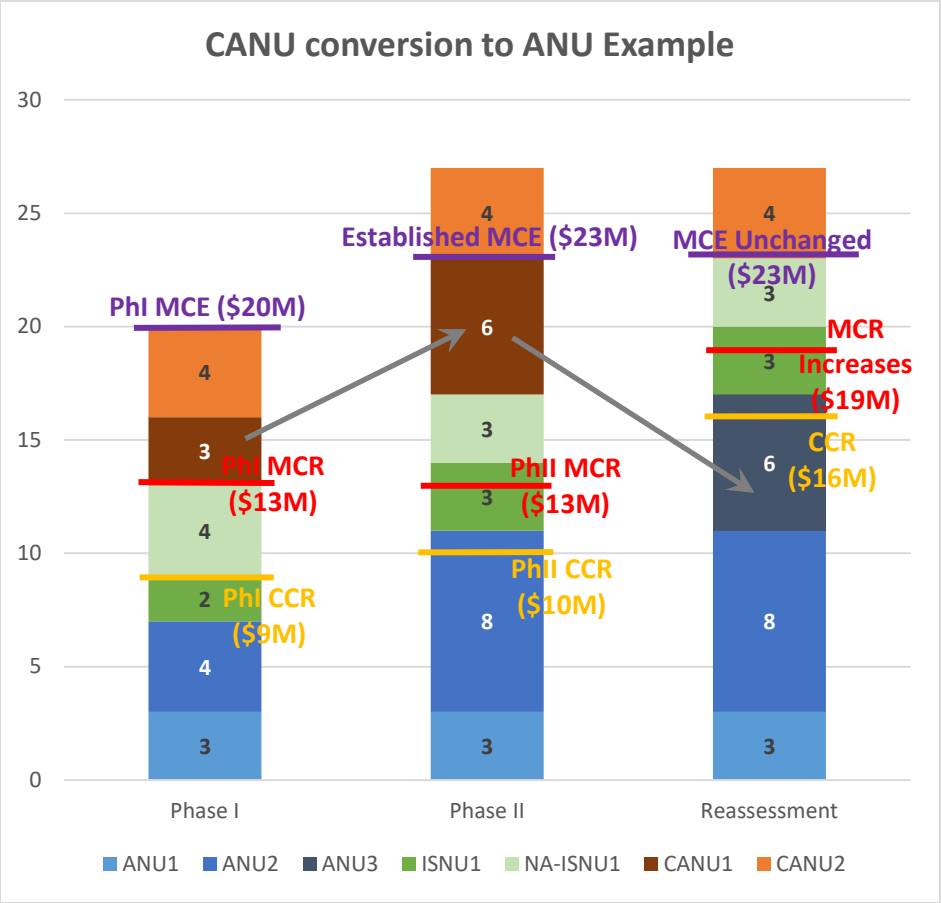
c. The final MCE is established by the sum of 1) the MCR above, plus 2) the allocated cost of each CANU in the Phase II study. In this case $23M (13+6+4).

At this point in the scenario, the total ANU costs exceed the adjusted MCR. Therefore, the amount over the MCR will become the cost responsibility of the PTO.

	ANU1	ANU2	ISNU1	NA-ISNU1	CANU1	CANU2
Phase I	3	4	2	4	3	4
Phase II	3	8	3	3	6	4
PhI CCR	9	PhI MCR	13	PhI MCE	20	
PhII CCR	10	PhII MCR	13	PhII MCE	23	

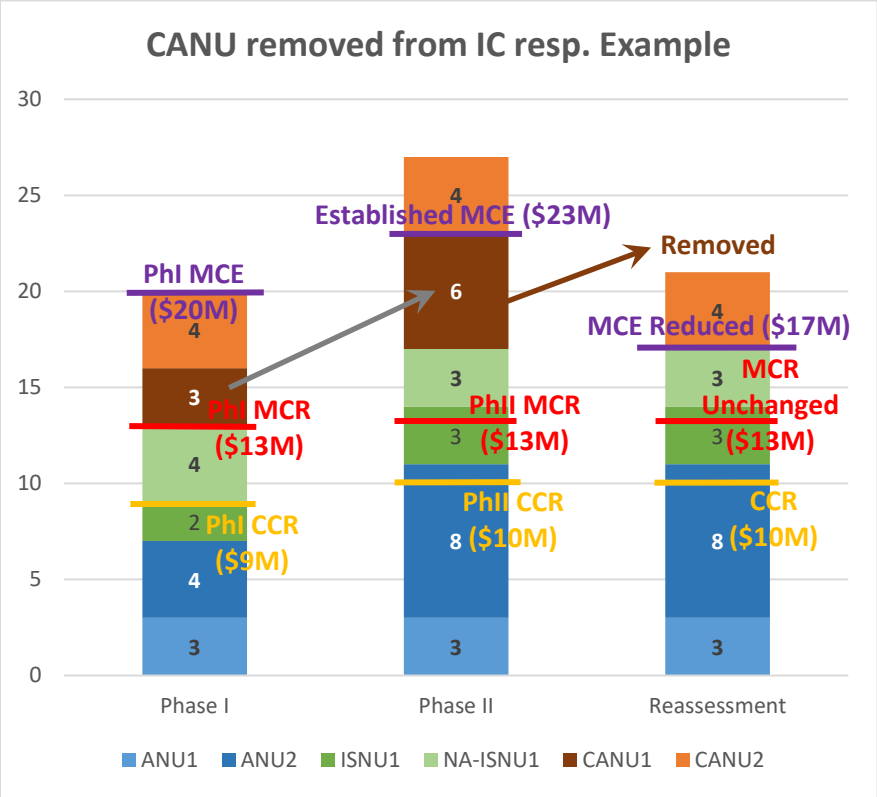
One of two situations can occur with CANUs, 1) they are converted to an ANU, or 2) they are removed from a project's cost responsibility. When a CANU is converted to an ANU, the MCR will increase by the fixed-cost of that upgrade as identified in the project's phase II study and the MCE will remain unchanged. Conversely, when a CANU is removed from a project's cost responsibility, the MCE will be reduced by the fixed-cost of that upgrade as identified in the project's phase II study and the MCR will remain unchanged. The following two examples depict them independently of each other.

2a) In a subsequent reassessment study: CANU1 ($6M in phase II) becomes an ANU3 ($6M) and the current cost responsibility of the project increases. This example shows the interconnection customer's MCR and CCR has increased by the fixed-cost of CANU1 ($6M) as identified in the phase II study. The established MCE remains unchanged.



	ANU1	ANU2	ANU3	ISNU1	NA-ISNU1	CANU1	CANU2
Phase I	3	4	---	2	4	3	4
Phase II	3	8	---	3	3	6	4
PhI CCR	9	PhI MCR		13	PhI MCE		20
PhII CCR	10	PhII MCR		13	PhII MCE		23
Reassessment	3	8	6	3	3	---	4
Reassess CCR	16	Reassess MCR		19	Reassess MCE		23

2b) In a subsequent reassessment study: CANU1 ($6M in phase II) is removed from the cost responsibility of the project. This example shows the interconnection customer's MCE has decreased by the fixed-cost of CANU1 ($6M) as identified in the phase II study. The MCR and CCR remains unchanged.



	ANU1	ANU2	ISNU1	NA-ISNU1	CANU1	CANU2
Phase I	3	4	2	4	3	4
Phase II	3	8	3	3	6	4
PhI CCR	9	PhI MCR	13	PhI MCE	20	
PhII CCR	10	PhII MCR	13	PhII MCE	23	
Reassessment	3	8	3	3	0	4
Reassess CCR	10	Reassess MCR	13	Reassess MCE	17	

3) Following the previous examples in 1, 2a, and 2b, the example below depicts a more complex (and somewhat extreme) scenario that impacts the MCR and MCE in various ways. In this example and as depicted:

i. In Phase I:

a. ISRNU1 has a total cost of $6M and is currently allocated between three projects ($2M each); therefore $2M is considered an allocated ISRNU and remaining $4M is considered a non-allocated ISRNU, and

b. CANU1 is currently allocated between two projects ($3M each), and

c. ANU2 is currently allocated between two projects ($4M each), and

d. The CCR is established by the sum of 1) ANUs, plus 2) the allocated ISRNU cost. In this case (3+4+2)

e. The MCR is established by the sum of 1) ANUs, plus 2) plus the 100% allocated ISRNU cost. In this case $13M (3+4+2+4), and

f. The MCE is established by the sum 1) the MCR above, plus 2) of the allocated cost of each CANU. In this case $20M (3+4+2+4+3+4).

ii. In Phase II:

a. One project withdrew that was sharing in the cost of the ISRNU. Therefore the ISRNU is now allocated between two projects ($3M each); therefore $3M is considered an allocated ISRNU and remaining $3M is considered a non-allocated ISRNU, and

b. The other project sharing CANU1 has withdrawn. The allocation increased to $6M, and

c. The other project sharing ANU2 has withdrawn. The allocation increased to $8M, and

d. The CCR is established by 1) the lower sum of ANUs between the phase I and phase II, plus 2) the allocated ISRNU costs in phase II. In this case $10M (3+4+3)

e. The MCR is established by the lower sum of 1) the ANUs, plus 2) the 100% allocated ISRNU cost, between the Phase I and Phase II study. In this case MCR = $13M (3+4+2+4)), and

f. The MCE is established by the sum of 1) the MCR above, plus 2) the allocated cost of each CANU. In this case $23M (3+4+2+4+6+4), and

g. Additionally, based on the phase II study, each CANU has established it's fixed-cost for the sole purpose of adjusting the MCR or MCE in the event the CANU is converted to and ANU or removed from the projects responsibility, and

h. At this point in the scenario, the total ANU plus ISRNU costs exceed the MCR. Therefore, the amount over the MCR will become the cost responsibility of the PTO.

iii. In Reassessment 1:

a. CANU1 ($6M) is converted to ANU3, which causes the established CCR and MCR to increase by $6M, the fixed-cost amount established in the phase II study, and

b. At this point in the scenario, the total ANU costs exceed the adjusted MCR. Therefore, the amount over the MCR will become the cost responsibility of the PTO.

iv. In Reassessment 2:

a. ANU1 ($3M) and ANU3 ($6M) are removed from the project's cost responsibility:

b. This results in the project's CCR to be adjusted downward and equals the sum of 1) the ANUs, plus 2) the allocated ISRNU. In this case $11M (8+3)

c. The MCR also adjusted downward based on Appendix DD, Section 7.4. In this scenario, the MCR was reduced by $5M to the sum of remaining ANUs and ISRNUs of $14M (8+3+3), and

d. The MCE has also been reduced. At this point, the MCE is established by the sum of 1) the MCR established in c. above ($14M), plus 2) the remaining CANU cost ($4M), totaling $18M (14+4).

v. In Reassessment 3:

a. CANU2 ($4M) is converted to an ANU4 at the fixed-cost ($4M) established in the project's phase II study, and

b. The other remaining project responsible for the ISRNU withdrew resulting in the full cost of the ISRNU to become this projects responsibility ($3M to $6M), and

c. Due to system changes, a new ANU5 was added to the project's cost responsibility at $6M[8]. (The CAISO understands this may be an unlikely case but wanted to show how it would impact a project's MCR and MCE if it were to occur)

As a result of the three items above, a few things occur in reassessment 3:

1. For the purpose of establishing MCR, the MCR is 1) the original phase II MCR, plus 2) all phase II CANUs costs that have ever converted to ANU[9] in the course of the reassessments. In this case $23M (13+6+4).

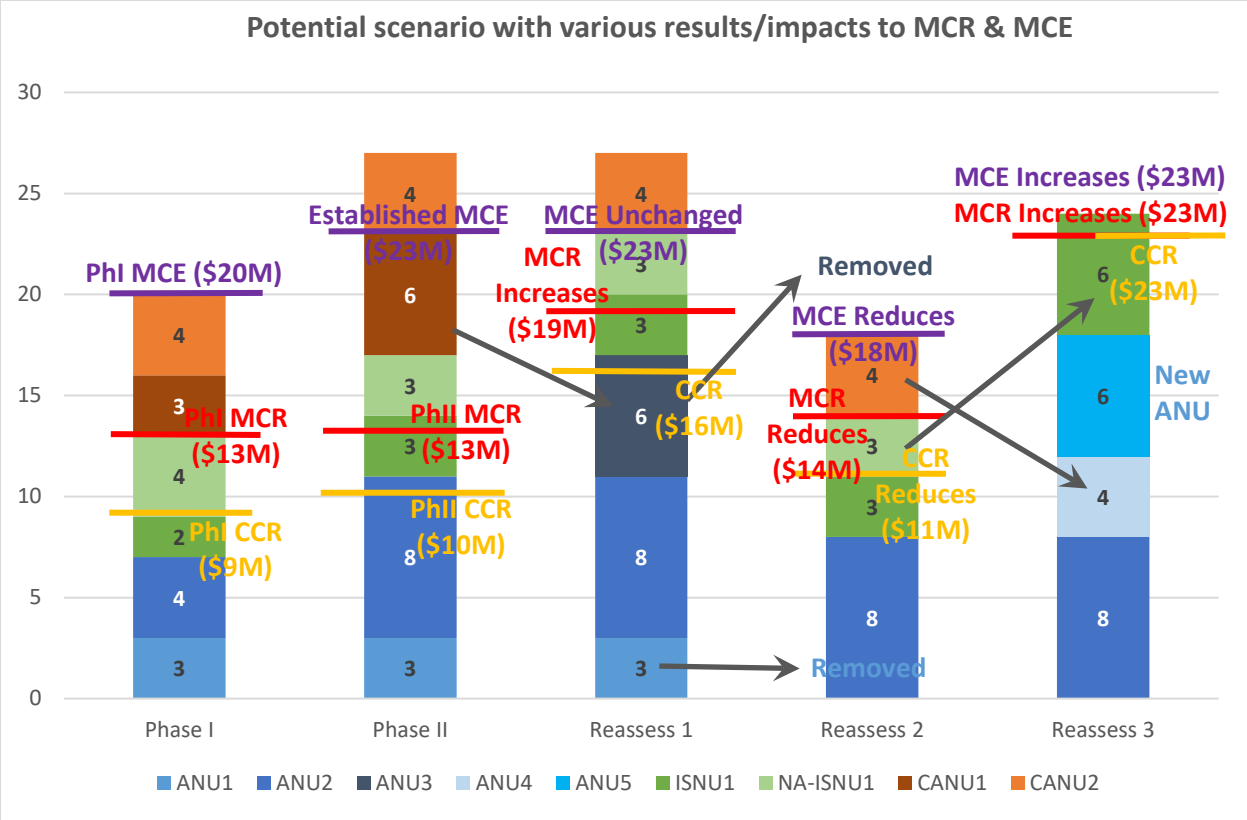
2. The cost re-allocation is the sum of 1) the allocated ANUs (including the new ANU5), plus 2) the allocated ISRNUs, $24M (8+4+6+6). However, the MCR cannot increase above the MCR as established in 1. above. Therefore, the MCR increases to the $23M as the total re-allocation is higher than MCR as established in 1. above.

[8] In accordance with Tariff Appendix DD Section 7.4.3(ii).

[9] All CANUs converted to an ANU are considered in this calculation, even those that have been removed in a reassessment study, such as CANU1 that became ANU3 in reassessment 1 and was removed in reassessment 2.

3. The CCR is the lower between the re-allocated costs and the MCR. In this case $23M.
4. The MCE increases to $24M upon the same criteria as 2. above, however, cannot exceed the MCE established in the Phase II study. Therefore the MCE is established here at $23M.

Eligibility for downward adjustments to the MCR will follow Appendix DD, Section 7.4.



	ANU1	ANU2	ANU3	ANU4	ANU5	ISNU1	NA-ISNU1	CANU1	CANU2
Phase I	3	4	---	---	---	2	4	3	4
Phase II	3	8	---	---	---	3	3	6	4
PhI CCR	9	PhI MCR		13		PhI MCE	20		
PhII CCR	10	PhII MCR		13		PhII MCE	23		
Reassess 1	3	8	6	---	---	3	3	---	4
Reassess 1 CCR	16	Reassess 1 MCR		19		Reassess 1 MCE	23		
Reassess 2	0	8	0	---	---	3	3	---	4
Reassess 2 CCR	11	Reassess 2 MCR		14		Reassess 2 MCE	18		
Reassess 3	0	8	0	4	6	6	---	---	---
Reassess 3 CCR	23	Reassess 3 MCR		23		Reassess 3 MCE	23		

11. Interconnection Request Acceptance and Validation Criteria

This topic was introduced in the addendum to draft final proposal in 2018 IPE as a result of the cluster 11 validation process. As detailed in the first addendum to the draft final proposal, the CAISO put forth a proposal to improve problematic areas of the GIDAP cluster interconnection request receipt and validation process.

11.1 Interconnection Request Acceptance Criteria

In the first addendum to the draft final proposal, the CAISO proposed to specify minimum requirements for documentation and information that interconnection customers must provide when submitting an interconnection request during a cluster application window. The CAISO proposed that an interconnection request submittal would need to meet minimum requirements to be deemed a complete interconnection request and eligible to continue on to the validation process. The CAISO further proposed a five (5) business day tariff requirement for the CAISO to review interconnection request submittals and notify interconnection customer whether an interconnection request submission has been deemed complete or incomplete. If the interconnection request is not deemed complete by the close of the cluster application window the interconnection request would be rejected and would not move into the validation process.

11.2 Interconnection Request Validation Criteria

In the first addendum to the draft final proposal, the CAISO proposed revisions to the interconnection request validation process and timelines. The CAISO believes the proposal will more efficiently and effectively assist interconnection customers during the interconnection request validation process and scoping meetings. The proposal also provides greater flexibility to the CAISO when large volumes of complex interconnection requests are received by enabling the CAISO to give interconnection customers more time if the CAISO misses any of its validation timeline requirements.

Stakeholder input to Sections 11.1 and 11.2:

PG&E and SCE support the interconnection acceptance criteria and validation criteria proposals and believe the process of accepting and validating interconnection requests should become more efficient. PG&E continued to note that they support the day-for-day extension when the CAISO and PTOs exceed their response timeline.

LSA is seeking additional comment as to why the additional two week addition to the interconnection request validation window implemented with cluster 11 was not sufficient to meet the needs proposed by this topic. Additionally, they are seeking clarification on the terms completeness and validation processes.

First Solar supports LSA's comments related to both topics.

CAISO's response to stakeholder comments

In response to LSAs request for clarification: in 2017, for implementation in the queue cluster 11 interconnection request application/validation window, the CAISO proposed, and FERC approved, a change to the close of the application window from April 30 to April 15th for the purpose of increasing the time necessary to validate the increasing volume of and technically complicated interconnection requests submitted during the window. The vast majority of interconnection customers submit their interconnection requests on the last day of the window regardless of how long the window is open. The CAISO thus sought to take unused time from the window to increase the much-needed time for interconnection customers to cure deficiencies.

Independent of those changes, in the cluster 11 process, the CAISO and PTOs were faced with many challenges during the validation process, including, but not limited to, interconnection requests missing or having incorrect data or models being submitted that do not function. Much of the issues encountered were of such severity that the CAISO and PTOs maintain the interconnection request should not be accepted and interconnection requests with certain deficiencies should not be allowed to proceed into the interconnection request validation process. These types of issues often require multiple turns between the interconnection customer and the CAISO/PTOs, taking time to review and re-review as needed. While the increased validation window did assist with the validation process, the CAISO remained challenged with meeting specific tariff-driven timelines and requirements. During cluster 11, the issues encountered were especially problematic because the vast majority of interconnection requests were submitted to one area, thereby burdening the same set of engineers disproportionately.

To summarize and explain the difference between the "completeness" and the "validation" processes – the CAISO is proposing that an interconnection request must meet a set of minimum requirements to be deemed a complete and accepted interconnection request. Any interconnection request that does not meet the requirements listed below by the close of the request window would be deemed incomplete and would not proceed to the interconnection request validation process. The validation process reviews and confirms the technical data submitted meets the requirements for the project to be studied.

1) Study deposit
2) Evidence of site exclusivity or deposit in lieu of site exclusivity
3) Completed Appendix 1 (Interconnection Request Form)
4) Completed Attachment A to Appendix 1 (Generating Facility Data -Excel)
    a. Technical Validation tab – must have no errors, all warnings must be explained[10]

[10] The technical validation tab within the IR form is not a comprehensive validation tool. It is designed to lists errors and warnings that are obvious such as missing or inconsistent data. Each error or warning message will include specific information regarding the data item in question and the reason for the error or warning. Missing and indisputably wrong data are categorized as an error. Suspicious data are categorized as a warning and would not subject an interconnection request to be deeded incomplete.

   b. IR Validation & Comments tab – must have Column A filled in with “Yes” or “N/A” on all items
5) Load Flow Model (*.epc) must be submitted
6) Dynamic Data (*.dyd) must be submitted
7) Reactive Power Curve must be submitted
8) Site drawing must be submitted
9) Single Line Diagram must be submitted
10) Plot showing flat run and bump test (fault at bus and clear after 4-6 cycles) from the PSLF must be submitted [the red underlined text was recommended change by PG&E in their comments]
11) Plot showing requested MW at POI from the PSLF must be submitted

The two proposals are intended to ensure interconnection customers are submitting quality data that can be reviewed and validated in a timely manner. Additionally, the proposals provide fair and equitable treatment for interconnection customers when the CAISO and PTOs exceed their tariff-driven timelines during the application window or validation process.

12. EIM Governing Body Role

For this initiative, the ISO plans to seek approval from the ISO Board only. The ISO believes this initiative falls outside the scope of the EIM Governing Body’s advisory role, because the initiative does not propose changes to either real-time market rules or rules that govern all ISO markets. This initiative is focused on ISO generator interconnection process. This process applies only interconnections to the ISO controlled transmission, and does not apply to transmission outside the ISO balancing authority area. The ISO seeks stakeholder feedback on this proposed decisional classification for the initiative.

Attachment D – Board Memoranda

2018 Interconnection Process Enhancements Tariff Amendment

California Independent System Operator Corporation

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market and Infrastructure Development

Date: January 30, 2019

Re: **Decision on Interconnection Process Enhancements – Track 4**

This memorandum requires Board action.

EXECUTIVE SUMMARY

The interconnection process enhancement (IPE) 2018 is the California Independent System Operator Corporation's current stakeholder initiative in its ongoing commitment to a continuous improvement process of the Generator Interconnection and Deliverability Allocation Procedures (GIDAP). IPE 2018 included a large number of topics, the majority of which were approved by the Board in 2018. Management now seeks Board approval of proposals for the following three remaining 2018 IPE topics:

1. Network upgrade definitions and cost responsibility
2. Minimum acceptance criteria for interconnection requests
3. Validation procedures for interconnection requests

Management recommends the following motion:

> ***Moved, that the ISO Board of Governors approves the proposed interconnection process enhancements, as described in the memorandum dated January 30, 2019; and***
>
> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.***

DISCUSSION AND ANALYSIS

There are currently 288 active projects in the interconnection queue that have not achieved commercial operation. To accomplish the interconnection and queue

management processes effectively in a changing environment, the ISO strives to enhance interconnection processes when needed. To that end, Management seeks Board approval of the following enhancements:

1. Network upgrade definitions and cost responsibility

This enhancement seeks to provide tariff definitions to clarify which network upgrades impact interconnection costs and how those costs are established. Currently, an interconnection customer's maximum cost responsibility is established in the ISO interconnection study reports. An interconnection customer's *current* cost responsibility (*i.e.,* not necessarily its maximum) is then used to calculate its required interconnection financial security posting, which can change over time as the result of customers withdrawing from the queue or other factors, and which can be confusing to interconnection customers. The ISO also has observed confusion with some interconnection customers regarding when and how a given transmission upgrade impacts their maximum cost responsibility, current cost responsibility, and interconnection financial security posting requirements.

To address this ambiguity, Management proposes to establish new cost responsibility terms into the tariff and the ISO studies that will clarify the various levels of cost responsibility and potential financing requirements. These terms are intended to increase transparency without disrupting the ISO's current generator interconnection procedures. Specifically, Management proposes to:

a. establish terms to the tariff that will clearly distinguish between currently assigned network upgrades and conditional network upgrades the interconnection customer could be assigned;

b. identify those network upgrades needed to interconnect for reliability; and identify those precursor network upgrades financed by others, but which the interconnection customer needs to interconnect; and

c. establish terms to the tariff clearly distinguishing among an interconnection customer's current cost responsibility, current maximum cost responsibility, and total financial exposure for financing the network upgrades and interconnection facilities it needs to interconnect and to achieve its requested level of service.

By doing so, the ISO, transmission owners, and interconnection customers will have a clear and thorough understanding of each party's financial responsibilities and risks throughout the interconnection process.

Management also proposes to remove the requirement that projects receiving an allocation of transmission plan deliverability must execute a Generation Interconnection Agreement (GIA) to retain the allocation. Currently, any project that receives an allocation of transmission plan deliverability must execute a GIA by December 31 of the year they receive an allocation to retain it. In many cases, this results in the execution of GIAs very

early in a project's life cycle, increasing the likelihood of projects with GIAs withdrawing. Early execution of a GIA also adds financial risks to Participating Transmission Owners (PTOs) because the PTO assumes financial responsibility for the construction of still needed network upgrades when a project with an executed GIA withdraws. Management believes this proposal will better align the execution of GIAs with a project's lifecycle and the point where projects are more likely to move forward with construction, and in turn, reduces the risk of PTOs having to finance network upgrades.

2. Minimum acceptance criteria for Interconnection requests

This enhancement seeks to establish specific requirements for what must be included in an interconnection request application by the close of the application window. The vast majority of interconnection requests are submitted for inclusion in a group study called the annual cluster study process. The annual cluster application window is open from April 1 through 15 of each year. The current minimum requirements for submitting an interconnection request are a study deposit, site exclusivity documentation (or a deposit), and a completed interconnection request application. However, the current tariff does not clearly define what constitutes a complete interconnection request, and therefore the ISO and the PTOs have found it increasingly challenging to timely validate many interconnection requests because of missing or incorrect information. This has resulted in an inordinate amount of time being used to obtain missing or incomplete information during the limited time period the ISO has to validate interconnection requests. During the last two cluster windows the ISO and PTOs have struggled to begin the study process on schedule because not all interconnections requests have been validated on schedule.

To address this problem, Management proposes to clarify and document the minimum requirements for a complete interconnection request application and the associated timelines with verifying that an interconnection application is complete. When the ISO receives an interconnection request, it will perform an initial review to verify completeness. The ISO's completeness review will confirm, for example, that all components of the applications have been submitted. Only once an interconnection request is deemed complete will the ISO and PTO proceed to the technical review for validation.

Management also proposes adding a 5 business day timeline for the ISO to review an interconnection request for completeness and inform the interconnection customer of the results. The ISO will, however, make a good faith effort to complete the review in less than 5 business days from the receipt date of each interconnection request. If the ISO fails to inform the interconnection customer within the 5 business day requirement, and the interconnection customer should have been informed prior to April 15, the ISO will grant a day-for-day extension to the interconnection customer beyond the April 15 window closure. Given this 5 business day review time, interconnection customers that submit applications before April 7[1] and are determined by the ISO to be incomplete will have an opportunity to resubmit their application before the window closes on April 15. Submittals received after

[1] For certain calendar years, April 8 and 9 would be the last date to guarantee having a second opportunity to submit.

these dates are at risk of not having their review completed until after the window closes, which risks having their application found incomplete with no opportunity to correct for missing items and therefore not being able to participate in that year's cluster study process.

This risk should be easy to manage as interconnection customers have months, if not years, to prepare for the April 1 through April 15 annual open window period. Customers wanting an opportunity to cure an incomplete application simply need to submit it prior to April 7. Moreover, the proposed specific list of submittal requirements provides clear expectations for developing a complete interconnection request.

Management believes that clarifying interconnection request requirements will provide more time for the ISO and PTO to review and validate credible interconnection requests and does not disadvantage those interconnection customers that made the appropriate effort to submit a complete interconnection request by April 15. Clearer requirements also will benefit the ISO, PTOs, and interconnection customers by eliminating much of the back-and-forth communication on data and document deficiencies.

3. Validation procedures for interconnection requests

This enhancement seeks to modify the interconnection request validation process by extending the validation period and by providing flexibility in meeting validation timelines. Even with complete interconnection requests, the ISO and the PTOs have been challenged to meet the validation timelines currently established in the tariff. This has been the result of more interconnection requests, increased complexity of the proposed generating facilities, and the complex reliability requirements they must meet. To provide the ISO and PTO sufficient time to work with interconnection customers to ensure that their interconnection requests are valid and ready for the Phase I study process, the ISO proposes to adjust the interconnection request validation timelines. This will be achieved principally by extending the validation deadline by one month, and by allowing some flexibility for extensions to what previously were rigid deadlines. The proposal extends the deadline for deeming an interconnection request valid from May 31 to June 30.

In recent cluster windows, the ISO and interconnection customers have found it beneficial in certain circumstances to hold scoping meetings prior to an application being deemed completely valid. Therefore, this proposal removes the requirement that scoping meetings must be held only after an interconnection request is deemed valid.

The proposal also provides flexibility by easing the current rigid validation timelines and enabling the ISO to give interconnection customers more time if the ISO or PTO misses its expected timelines due to an extremely large volume of interconnection requests or a large number of highly complex interconnection requests. In these cases, the ISO will grant a day-for-day extension to the interconnection customer beyond the June 30 validation deadline for every day the ISO or PTO exceeds their expected response time. Management believes the proposed modifications to the interconnection request validation procedures will

provide increased efficiency and flexibility, benefiting interconnection customers, the ISO, and the PTOs.

POSITIONS OF THE PARTIES

A majority of stakeholders generally support Management's proposal to clarify network upgrade definitions and cost responsibility, though some caveated their support with a request for certain clarifications or by raising a concern with one specific component. PG&E and SCE fully supported topics 2 and 3 and no other stakeholder raised objections to them. A comprehensive summary of all stakeholder comments with Management's response is provided in Attachment A.

CONCLUSION

Management recommends that the Board approve the three proposals in this memorandum. These changes are generally supported by most stakeholders and were refined through a yearlong stakeholder process that addressed the majority of stakeholder comments and concerns. The proposed modifications improve the effectiveness of the interconnection process, improve transparency, and improve the balance of risk between participants in the process. The proposed modifications will continue to improve the ISO's generator interconnection procedures to help California and the West to have robust capacity and meet their public policy goals while protecting ratepayers from undue costs.

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market and Infrastructure Development

Date: August 29, 2018

Re: **Decision on Interconnection Process Enhancements – Track 2**

This memorandum requires Board action

EXECUTIVE SUMMARY

The Interconnection Process Enhancement (IPE) 2018 is the California Independent System Operator Corporation's current stakeholder initiative in its ongoing commitment to a continuous improvement process of the Generator Interconnection and Deliverability Allocation Procedures (GIDAP). As discussed at the July Board meeting, IPE 2018 identified a total of twenty-five (25) topics for inclusion in the IPE initiative this year. Some will require tariff amendments and some will result in modifications to business practice manuals. Seven enhancements were approved at the July Board meeting, and eight additional topics have reached successful conclusion in the stakeholder process and are being presented here for Board consideration. They are:

1. Allocating transmission plan deliverability
2. Options for converting to energy only
3. Options for transferring deliverability
4. Retaining energy storage facilities added to retiring generators
5. Generator Interconnection Agreement suspension
6. Eliminating conditions for partial recovery of financial security
7. Adding project names to interconnection queue
8. Prohibiting technology changes for delayed projects

Management recommends the following motion:

> ***Moved, that the ISO Board of Governors approves the proposed interconnection process enhancements, as described in the memorandum dated August 29, 2018; and***
>
> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal, including any filings that***

implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.

DISCUSSION AND ANALYSIS

The ISO currently has 289 active projects in the interconnection queue that have not achieved commercial operation. To manage the interconnection and queue management processes effectively in a changing environment, the ISO strives to enhance interconnection processes when needed. To that end, Management seeks Board approval of the following enhancements:

1. Allocating transmission plan deliverability

Transmission plan deliverability refers to the transmission capacity needed for a generator to be deemed full capacity deliverability status (FCDS) and have the ability to deliver its output during peak conditions. A resource does not have to have transmission plan deliverability to interconnect to the ISO system and can instead opt to interconnect as an energy only resource. However, interconnection customers generally seek transmission plan deliverability to be eligible to provide resource adequacy capacity to a load serving entity. The ISO allocates transmission plan deliverability based on a project's progress, as reflected through its status with permitting, financing, site control, and most importantly, in obtaining a power purchase agreement (PPA). Management proposes to modify the transmission plan deliverability allocation process to better align the process with the current generation procurement landscape in California, and to mitigate issues with projects that have not obtained a PPA. Management proposes seven deliverability allocation ranking groups, as depicted below. This proposal also provides interconnection customers greater opportunity to obtain deliverability while in energy only status, which has generally prevented projects from receiving deliverability. By providing an option for energy only projects to obtain a deliverability allocation, the opportunity for energy only projects seeking deliverability is enhanced, which allows for the elimination of the more restrictive annual full capacity

deliverability process for energy only projects. The proposed seven allocation groups are shown in the table below.

Allocation Group	Project Status	Commercial Status
1	Study/Parking Process	Executed or regulator-approved PPA requiring full capacity deliverability status (FCDS) or interconnection customer is load serving entity serving own load
2	Study/Parking Process	Shortlisted in a RFO/RFP
3	Study Process (Following Ph. II Only)	Proceeding without a PPA
4	Converted to Energy Only, or Energy Only projects that achieved commercial operation	Executed or regulator-approved PPA requiring FCDS
5	Converted to Energy Only, or Energy Only projects that achieved commercial operation	Shortlisted in a RFO/RFP
6	Converted to Energy Only	Commercial operation achieved
7	Energy Only	Commercial operation achieved

The allocation groups are designed to prioritize projects based on their position in the queue cluster study process (including parking opportunities), giving priority to projects that are eligible to have delivery network upgrades built to achieve FCDS. Additional priority is given to projects that have obtained a PPA, or are on a PPA shortlist, that requires a project to be FCDS. Lower priority is given to projects that are energy only and the lowest priority given to projects that have reached commercial operation without an allocation as energy only. Parking is an option where a project that fails to obtain an allocation can choose to suspend further action for up to two years, which provides additional time to obtain a PPA and remain eligible for groups 1 and 2.

Allocation groups 1 and 2 include projects that have completed the study process and projects that are coming out of their first or second year of parking following the study process. Groups 1 and 2 require an executed PPA or to be on an active shortlist for obtaining a PPA that requires FCDS. Group 3 includes projects that have just completed the study process and attest that they will proceed to commercial operation regardless of whether they are able to obtain a PPA. Groups 4 and 5 include projects that originally requested FCDS but converted to energy only because they did not qualify for an allocation while eligible to participate in groups 1 and 2. The proposal has been modified from the original draft final proposal presented to stakeholders on July 10, 2018 to also allow in Groups 4 and 5 energy only projects that achieved commercial operation. Groups 6 and 7 include projects that have achieved commercial operation with an energy only status and request an allocation. Groups 6 and 7 have the lowest priority because their ability to proceed to commercial operation is not contingent on receiving an allocation and are not required to have a PPA to receive an allocation. Group 7 is last because those projects were not studied as FCDS in the phase II study process.

2. Options for converting to energy only

Because energy only projects do not have deliverability such that they can provide resource adequacy capacity, they do not have to finance delivery network upgrades as a condition of interconnection. Currently, projects may only voluntarily convert from full capacity deliverability status or partial capacity deliverability status to energy only deliverability status at certain times during the interconnection process (generally very early). Management seeks to provide more opportunities for projects to convert to energy only. Management also proposes to better define the consequences for such conversions, namely, ensuring that such conversions do not shift costs to other interconnection customers or transmission owners late in the interconnection process. This protection will apply regardless of whether the change to energy only status is by customer choice or required by the tariff.

Management proposes to allow projects to convert from full capacity deliverability status to partial capacity or energy only at any time following the Phase II study process. The following are the situations where a project that converts to energy only is required to retain cost responsibility for their assigned deliverability network upgrades[1], unless the annual reassessment study shows that these upgrades are no longer needed for other queued projects:

a. Projects that change to energy only deliverability status by choice after its phase II study is complete.
b. Projects that are converted to energy only as a result of failure to meet commercial viability criteria.
c. Projects that are converted to energy only as a result of failing to meet the allocation retention criteria, except as specified in the modification below.

The above proposal has been modified from the original draft final proposal presented to stakeholders on July 10, 2018 to incorporate stakeholder input received after the draft final proposal was posted. Based on that input the ISO determined that a modification to the proposal was warranted and an addendum to the draft final proposal was posted on August 28, 2018. Specifically, the addendum addressed two circumstances where projects that are converted to energy only as a result of failing to meet the allocation retention criteria will not be required to retain the cost responsibility for the delivery network upgrades.

1) If a project that obtained a deliverability allocation by having a PPA and the procuring entity unilaterally terminates the PPA through no fault of the

[1] The project sponsor will be fully reimbursed for these costs once the upgrade is in-service and the generator achieves commercial operation.

interconnection customer. The project would have to demonstrate evidence on the reason that the procuring entity terminated the PPA.

2) If a project that obtained a deliverability allocation by being included in an RFO shortlist, but does not receive a PPA.

Projects in these two circumstances could also park or re-seek deliverability if they and their cluster still have opportunity to do so under the tariff.

3. Options for transferring deliverability

Although deliverability is not a property right that can be sold or assigned, interconnection customers have some ability to effectively "transfer" deliverability among their own onsite generating units. Examples include transferring deliverability from an existing generator to a newly constructed onsite generating facility through the repower process, and between generating facilities at the same point of interconnection through the material modification process. Generally the same entity must own the original facility that holds the deliverability and the new facility seeking to receive the deliverability. Management proposes to clarify the methodology used in the deliverability transfer assessment process to improve transparency and the efficiency of the assessment and to provide one additional opportunity for transferring deliverability, which is to transfer deliverability between the original facilities and expansion facilities for interconnection requests submitted under the behind-the-meter independent study process. The same deliverability transfer methodology will apply to the reservation of deliverability associated with a generator in the repowering process, the transfer of deliverability among generating units at a generating facility, the transfer of deliverability within the same interconnection request, and the transfer of deliverability associated with the behind-the-meter capacity expansion process.

4. Retaining energy storage facilities added to retiring generators

Management proposes to modify the generating unit retirement assessment process to include an evaluation to determine if a storage facility that has been added to an operating generating facility can continue to operate after the original generating facility retires. This assessment will be based on the ISO's current analysis of whether the new facilities will materially change the electrical characteristics of the generator such that new studies are required. In addition, the retirement assessment will determine if the deliverability associated with the original generator can be transferred to the storage facility. This will allow the storage facility to remain online with deliverability as long as there is no reliability impact (or there is an ability to mitigate that impact).

5. Generator Interconnection Agreement suspension

Currently, interconnection customers have a unilateral right to suspend their generation interconnection agreements for up to three years starting immediately following execution of the agreement. This suspension does not require the customer to define

the agreement suspension's start and end dates, which often impact the construction of network upgrades needed for other projects. Management proposes to modify the generator interconnection agreement suspension process to: 1) require a generator that requests a suspension to provide a start and estimated end date of such suspension, and 2) condition allowing the suspension on a finding by the ISO that the suspension will not materially impact other interconnection customers. The interconnection customer can seek to mitigate identified material impacts to other customers (*e.g.,* continuing to make payments on shared network upgrades while in suspension) to satisfy that condition.

6. Eliminating conditions for partial recovery of financial security

Interconnection customers post interconnection financial security to finance the construction of their network upgrades. This security is liquidated if the customer withdraws from the queue. However, when a project withdraws from the interconnection queue, it recovers a substantial part of its interconnection financial security if it meets one of several criteria (*e.g.*, it failed to secure a power purchase agreement or critical permit). Virtually all customers have met the requirements to receive a partial refund of their financial security. Management proposes to eliminate the burden for receiving a refund by eliminating the conditions for partial recovery of interconnection financial security for withdrawn projects. Consequently, interconnection customers will recover any refundable amount more quickly upon withdrawal.

7. Adding project names to interconnection queue

The ISO's public interconnection queue currently provides a variety of project information by queue number (*e.g.*, point of interconnection, participating transmission owner, capacity, interconnection agreement status). The ISO tariff currently considers project names as confidential information and does not provide project names in the public interconnection queue. Management proposes to add project names to the public interconnection queue. This will provide more transparency for customers seeking to identify unique project names that conform to NERC reliability standards, and will allow for better coordination with other state agencies dealing with permitting.

8. Prohibiting technology changes for delayed projects

The tariff currently does not provide detailed limitations on the timing or types of technology and fuel type changes that an interconnection customer may request. Stakeholders have observed that older projects in the queue have received approval for technology changes very late in the process, including for projects that have already been in the queue for ten years or more. Management proposes to prohibit projects from requesting technology changes if the project's current commercial operation date

has exceeded or will exceed the 7- or 10-year time-in-queue threshold. Management proposes to nevertheless allow *de minimus* fuel-type change (lesser of 5% or 10 MW).

POSITIONS OF THE PARTIES

The ISO conducted stakeholder outreach on these topics consisting of an issue paper on January 24, 2018, a straw proposal on May 21, 2018, and a revised straw proposal on July 10, 2018. Stakeholders were able to provide comments at each phase with a majority fully or partially supporting the eight Track 2 topic proposals with some exceptions. The more notable exceptions are summarized below along Management's response to them. A comprehensive summary of all stakeholder comments is provided in Attachment A.

Allocation of transmission plan deliverability

First Solar and Intersect Power recommend deliverability be allowed to projects that obtain a PPA with counterparties that do not have a resource adequacy requirement. The ISO does not agree that the limited amount of remaining deliverability available for allocation should be provided to projects that are procured by entities that do not have a resource adequacy requirement. First Solar also recommended revising the criteria associated with the proposed allocation group 3 where projects designate that they will proceed to commercial operation even if they are not able to obtain a PPA for their project. Specifically, First Solar recommends that projects should be allowed more time to elect the allocation status of a project that will proceed to commercial operation even if it does not obtain a PPA, and further request the ability to change the project's Commercial Operation Date (COD) if a PPA is obtained. The ISO does not agree because the recommended change would allow "gaming" the process whereby projects could get an allocation when they have no intention of building their project without a PPA. This is the very behavior the ISO seeks to eliminate through the proposed criteria.

EDF-R, the Large Scale Solar Alliance (LSA), and NextEra recommend reducing the PPA requirements from PPAs that require deliverability to PPAs that are seeking deliverability, but do not require deliverability as an absolute requirement. As stated previously, the ISO does not agree that the limited amount of remaining deliverability available for allocation should be provided to projects that are procured by entities that do not require deliverability as a requirement within the PPA.

Various parties would like the opportunity for energy only projects to re-enter the queue, pay for upgrades identified as needed in a deliverability study, and seek a deliverability allocation. Currently, once an energy only project completes the interconnection process, it cannot reenter the interconnection process to be restudied and seek to build additional network upgrades to allow the project to become fully deliverable. While the ISO decided not consider this topic in IPE 2018 due to not having sufficient time for it given all the other 2018 policy issues, the ISO agrees to consider this topic in a future IPE stakeholder initiative.

Options for converting to energy only

EDF-R, LSA, and NextEra recommend that extra studies be performed before the interconnection customer elects to convert to energy only so that the customer will know if its network upgrades are no longer needed. Alternatively, these stakeholders recommend that the ISO provide the interconnection customer with the ability to withdraw its request to convert to energy only if their delivery network upgrades are still needed. The ISO disagrees because these additional study requirements would be burdensome and can be performed by the interconnection customers themselves. The ISO's study process schedule is integrated with the transmission planning study process and cannot accommodate additional studies.

Intersect Power suggests that funds should only be retained if deliverability upgrades are still needed for other projects in the same cluster. The ISO disagrees because that would require the transmission owner to fund the subject upgrade if the project withdraws after converting to energy only, producing an opportunity for the interconnection customer to game the withdrawal process.

First Solar expressed concerns over the number of projects that would be adversely impacted by these changes and urged the ISO to consider other ways to address the concern identified with projects that purposely put themselves in a position where they are required to be converted to energy only in order to have their cost responsibility for delivery network upgrades removed, thereby reducing their non-refundable funds when they subsequently withdraw from the queue. In follow up discussions with First Solar, the ISO found that First Solar had misinterpreted the breadth of projects impacted by the proposal. However, they did raise a valid concern related to projects that receive an allocation by having a PPA or being on a PPA short list, and then lose the allocation in the retention process through no fault of their own. As a result, the ISO modified the proposal to exclude projects that fall within those scenarios.

Options for transferring deliverability

EDF-R, LSA, and NextEra support the proposal and recommend that that such transfers be extended to any project at the same point of interconnection, regardless of ownership. The ISO disagrees because this would make deliverability a marketable commodity, which would be a significant paradigm shift in the current deliverability procedures and bypass the ISO's deliverability allocation process.

Prohibiting technology changes for delayed projects

EDF-R, First Solar, and NextEra recommend technology additions, not wholesale or partial changes, be allowed beyond the 7/10 year time-in-queue threshold. The ISO disagrees because the process of adding new technologies to a project has enabled projects to incrementally make changes that result in wholesale technology conversions, which warrant a new interconnection request.

CONCLUSION

Management recommends that the Board approve the eight changes proposed in this memorandum. These changes are generally supported by stakeholders and were refined to address many of their comments and concerns throughout the stakeholder process. The proposed modifications improve the effectiveness of allocating deliverability to projects and expands customer options. These modifications also protect projects, transmission owners, and ratepayers. The proposed modifications will continue to improve the ISO's generator interconnection procedures to help California and the West to have robust capacity and meet their public policy goals.

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market and Infrastructure Development

Date: November 7, 2018

Re: **Decision on Interconnection Process Enhancements – Track 3**

This memorandum requires Board action.

EXECUTIVE SUMMARY

The interconnection process enhancement (IPE) 2018 is the California Independent System Operator Corporation's current stakeholder initiative in its ongoing commitment to a continuous improvement process of the Generator Interconnection and Deliverability Allocation Procedures (GIDAP). As discussed at the July and September Board meetings, IPE 2018 identified twenty-five topics for this year. Some require tariff amendments and some will result in modifications to business practice manuals. A total of fifteen enhancements have been approved by the Board to date and a couple more are still being discussed with stakeholders and are planned to be presented at the February 2019 Board meeting. Management now proposes for Board approval of three topics that require tariff amendments, which are as follows:

1. Revise ride-through requirements for inverter-based generation;
2. Revise the reliability network upgrade reimbursement cap; and
3. Define and memorialize the concept of an *affected* participating transmission owner

Management recommends the following motion:

> ***Moved, that the ISO Board of Governors approves the proposed interconnection process enhancements, as described in the memorandum dated November 7, 2018; and***
>
> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.***

DISCUSSION AND ANALYSIS

The ISO currently has 288 active projects in the interconnection queue that have not achieved commercial operation. To accomplish the interconnection and queue management processes effectively in a changing environment, the ISO strives to enhance interconnection processes when needed. To that end, Management seeks Board approval of the following enhancements:

1. Revise ride-through requirements for inverter-based generation

On August 16, 2016, fires burning in the southern California area caused several high voltage transmission lines to relay due to smoke contamination. During this time, the ISO observed over 1,100 MW of solar PV generation capacity that was unexpectedly lost during the routine clearing of the transmission line faults. Since that time, the ISO has observed twelve more instances of unexpected loss of solar PV generation, which occurred during the routine clearing of transmission system faults. The most recent event occurred on May 11, 2018. The ISO brought this issue to the attention of NERC, which formed a task force to investigate. The ISO was an active participant in this task force.

In May 2018, NERC issued a reliability guideline and an advisory notice for inverters. The documents contained recommendations for the reliable operation of inverter-based generation systems. Management proposes to update the technical requirements of the large and small generator interconnection agreements to include the basic recommendations contained in the NERC documents.

The proposed new requirements include (1) the elimination of momentary cessation for transient low voltages that typically occur on inverters during the clearing of a transmission line fault, (2) the elimination of inverter tripping for momentary loss of synchronism, and (3) the coordination of the central plant controller with the individual inverter control systems. In addition to these requirements, Management proposes to require the installation of diagnostic equipment for projects executing a large generator interconnection agreement. The diagnostic equipment functions identified in the proposal include constant monitoring of the inverter-based generation output and recording transient data during generation events defined as inverter ride-through or trip conditions. Management also proposes to require that the generator store data for a minimum of 30 days, and make the data available to the ISO and the interconnecting PTO within ten days upon request. There are no telemetry requirements included in the proposal.

These new technical requirements will apply to all new asynchronous generators in the generation interconnection process that have not yet executed a generation interconnection agreement. They also will apply to all asynchronous generators that have executed a generation interconnection agreement and are in development if the generator is changing its inverter equipment through the modification process. Finally, they will apply to all asynchronous generators that are already in service and repower or replace inverter equipment for reasons other than individual inverter replacement in kind (*e.g.*, due to individual inverter failure or other typical maintenance issues).

2. Revise the reliability network upgrade reimbursement cap

In 2012, the ISO established a $60,000 per MW reimbursement cap for reliability network upgrades to provide an incentive for interconnection customers to make efficient siting decisions that take into account the cost of required transmission. This cap establishes the amount of money the interconnection customer is reimbursed from the participating transmission owner for reliability network upgrades once the project achieves commercial operation, thus protecting ratepayers from undue costs.

In the 2018 IPE, stakeholders representing interconnection customers expressed concern that this $60,000 per MW reimbursement figure has remained static since 2012. Management agrees that updating the $60,000 per MW figure annually to account for inflation and construction cost escalation is appropriate and consistent with the original intent.

Management proposes to escalate annually the $60,000 per MW cap by an industry-based escalation factor for reliability network upgrade reimbursements, starting in year 2013. The ISO will work with stakeholders to identify the most appropriate industry escalation factor, and will incorporate the reliability network upgrade cost cap escalation into the annual PTO per-unit cost guide update process, publishing the annual updated reliability network upgrade cost cap on the ISO web site with the updated PTO per-unit cost guides.

3. Define and memorialize the concept of an *affected* participating transmission owner

The tariff addresses the participating transmission owner as the entity where the interconnection customer's project interconnects. However, depending on the electrical proximity of a project, an interconnection sometimes may impact a nearby participating transmission owner as well. In effect, the ISO and the generator must mitigate an interconnection's impact with the "interconnecting PTO" and the "affected PTO."

This type of interconnection creates two sets of issues: (1) how the reliability network upgrade reimbursement cap, financial security postings, cost responsibilities, and cost repayment for network upgrades are allocated between the interconnecting and affected PTOs; and (2) and whether the contractual arrangements should be a separate agreement with each PTO or one combined four-party agreement with both PTOs executing a single agreement.

<u>Financial Considerations</u>

Management proposes to modify the tariff to describe separate network cost estimates for the interconnecting PTO and any affected PTOs. These PTO cost estimates will sum to establish a single maximum cost responsibility for the interconnection customer's entire project. This framework enables the ISO to consider potential alternative network upgrades that might provide more efficient and lower overall network

cost solutions without being constrained by an interconnection customer having multiple maximum costs responsibilities across multiple PTOs.

The interconnection customer will make their first and second interconnection financial security posting to the interconnecting PTO and will make the third interconnection financial security posting to each PTO separately based on each PTO's network upgrade cost estimate. In addition, interconnection customers will be entitled to receive repayment for their contribution to the cost of network upgrades from each PTO separately. Repayment of amounts advanced for reliability network upgrades will be paid by each PTO up to a combined maximum of $60,000 (escalated per item 2, above) per MW of generating capacity as specified in the generator interconnection agreement. Total repayment from each PTO will be applied proportionately based on the amount paid to each PTO for its reliability network upgrades.

Single vs Multiple Generation Interconnection Agreements

The ISO currently documents the contractual rights and obligations of the ISO, interconnection customer, interconnecting PTO and affected PTO in two separate agreements. The ISO enters into a *pro forma* small or large generator interconnection agreement with the interconnection customer and interconnecting PTO under which interconnection service is provided to the interconnection customer. If an interconnection request also requires mitigations to another PTO's facilities, the ISO enters into a non *pro forma* affected participating transmission owner agreement with the interconnection customer and affected PTO that establishes the mitigation measures required on the affected PTO's electric system due to the interconnection of the interconnection customer's generating facility to the ISO controlled grid.

The ISO could not reach sufficient support with stakeholders on a proposal to continue with the existing contracting process or move to a single agreement. Therefore, the ISO is not proposing a change to the tariff at this time. However, the ISO did commit, if all parties agree, to pilot a single four-party generator interconnection agreement, which will seek to ensure that all parties affected by the interconnection customer's interconnection are accountable to each other in a single agreement.

POSITIONS OF THE PARTIES

The ISO conducted stakeholder outreach on these topics consisting of an issue paper on January 24, 2018, a straw proposal on May 21, 2018, a revised straw proposal on July 10, 2018, and a draft final proposal on September 17, 2018. Stakeholders were able to provide comments at each phase with a majority fully or partially supporting the four Track 3 topic proposals with some exceptions. The more notable exceptions are

summarized below along with Management's response to them. A comprehensive summary of all stakeholder comments is provided in Attachment A.

1. Modify ride-through requirements for inverter-based generation

Pacific Gas & Electric (PG&E), the Large-scale Solar Association (LSA), and EDF Renewables (EDF-R) all indicated their support for the proposal.

SPower responded that the technical revisions seem reasonable, but that the proposal should apply only to projects submitting new interconnection requests after the new provisions become effective. SPower expressed concern that the new standards should not apply retroactively to projects already operating or in the study process, even if a request is made to modify the inverters. As discussed, the proposed technical revisions recommended by NERC seek to solve critical grid reliability issues, and Management believes that these revisions should apply to as many asynchronous generators as possible going forward. Moreover, FERC has used execution of the GIA (or substantial modifications thereafter) as the point of demarcation for similar new requirements, most recently the capability to provide primary frequency response. This would include all projects that have not executed a generation interconnection agreement, generators who repower, and generators that are changing their inverters through the modification process. Management agrees that the technical requirements should not apply to generators that are not changing their inverters through the modification process simply to replace individual inverters due to inverter failure or other maintenance issues. However, for substantial modifications, the new requirements should apply.

San Diego Gas & Electric (SDG&E) generally supports the proposal, but suggested that the voltage units specified in the technical proposal be specified in per unit values versus root mean square (RMS). Management's proposal uses RMS voltage values to be consistent with existing NERC Standard PRC-024. SDG&E also proposed that the ISO include a requirement that all generators provide data for frequency events below 59.9 Hz. Management does not agree with this proposal because no other generators are required to automatically report data for frequency events.

First Solar provided comments that the proposal should be more specific and identify minimum time parameters of recorded data both pre- and post-event. First Solar also commented that the proposal should provide clear guidance as to what events need to be recorded. Management agrees. The ISO held a technical workshop after the last stakeholder meeting. Various attendees, including First Solar, participated and consensus was reached on the time ranges and the scope of events to be recorded. It was agreed with stakeholders at the technical workshop that this would be reflected in the tariff filing.

California Wind Energy Association (CalWEA) commented that it is aligned with the ISO's objectives to address ride-through requirements, but that there should be no rush to a solution unless the industry is "completely on board" with the proposed requirements. Further, CalWEA stated that the requirements should apply to all inverter-based generation throughout the ISO service territory, including on the distribution system. The ISO notes that

the requirements identified in its proposal are based on recent NERC advisories and in the recently issued NERC Reliability Guideline for bulk connected inverter-based generation. Further, the ISO notes that these proposed requirements cannot be applied to inverter-based generation connected to the distribution system. Generation interconnected to the distribution system is subject to the CPUC's Rule 21, which is contained in each PTO's distribution tariff. The ISO's proposed requirements will apply to all new inverter-based generators interconnecting to the transmission system.

2. Modify the reliability network upgrade reimbursement cap

All stakeholders who responded to the ISO's proposal on this issue support escalating the $60,000 per MW cap for reliability network upgrade reimbursement.

CalWEA suggested that the same escalation factor applied by each PTO in estimating the future escalated cost of reliability network upgrades should be applied to the reliability network upgrade reimbursement cap for that PTO. EDF-R, Nextera, SPower, and LSA each commented that the index mechanism that the ISO selects should be shared with stakeholders, open to comment, and monitored when implemented to ensure it is representative of any changes in PTO per-unit costs. As discussed earlier in this memo, the ISO will work with stakeholders to identify the most appropriate escalation factor for this industry.

PG&E requested clarification on whether the ISO intends for changes in the per-MW reliability network upgrade reimbursement cap to be retrospective or prospective. Management proposes that the escalation of the reimbursement cap will apply to all generators that have not yet achieved commercial operation.

Stakeholder discussions on this topic also raised a concern that the $60,000 per-MW maximum reimbursement amount for funds advanced for reliability network upgrades has the potential to be circumvented in instances where earlier-queued projects withdraw from the queue but the upgrades are still needed by later-queued resources. SCE continues to believe that such a situation could play out in a manner that results in the reliability network upgrade reimbursement cap being circumvented. Management believes that a proposal is not justified at this time because no actual gaming has occurred and potential future gaming was determined to be unlikely. The ISO will monitor the situation and address any issue on an *ad-hoc* basis.

3. Define and memorialize the concept of an *affected* participating transmission owner

Stakeholders unanimously support the proposals to address how the interconnection customer's financial security postings, cost responsibility, and affected PTO repayment will be disbursed among the interconnecting and affected PTOs.

CONCLUSION

Management recommends that the Board approve the three proposals in this memorandum. These changes are generally supported by stakeholders and were refined to address many of their comments and concerns throughout the stakeholder process. The proposed modifications improve the effectiveness of the interconnection process and the reliability of the transmission system. The proposed modifications will continue to improve the ISO's generator interconnection procedures to help California and the West to have robust capacity and meet their public policy goals while protecting ratepayers from undue costs.