



California ISO

**2018 Interconnection Process
Enhancements**

Addendum to Draft Final Proposal

November 13, 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 will address 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 to the draft final proposal reviews topics still under development as well as two new 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 to the Draft Final Proposal stage. Figure 1, below, shows the current status within the overall 2018 IPE stakeholder process. This addendum to the draft final proposal provides further discussion on maximum cost responsibility and two new topics regarding interconnection request acceptance and validation criteria. The two new 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 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 included in this addendum to the draft final proposal is targeted for approval at the February 2019 Board of Governors meeting and 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.

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
Interconnection Requests	7.9	Impact of Modifications on Initial Financial Security Posting	July 2018
	8.1	Study Agreements	July 2018
Modifications	8.4	Project Name Publication	September 2018
	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
Interconnection Request Acceptance and Validation Criteria	9.6	Short Circuit Duty Contribution Criteria for Repower Projects	BPM Change
	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 all network upgrades in the phase I and phase II study reports 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 draft final proposal, the CAISO determined that further refinement to the proposal was necessary. The CAISO has amended its proposal in this addendum such that the updated cost responsibility framework and upgrade definitions should specify how conditionally assigned network upgrades from prior clusters affect upgrade assignment and cost responsibility based on whether GIAs have been executed and/or IFS postings have been made.

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

Stakeholder Input

CalWEA and PG&E have no objection to the draft final proposal. CalWEA provided reasonable suggestions to the terms and definitions that are incorporated herein.

EDF-R, LSA, NextEra, SPower, First Solar, and Intersect Power believe the proposal inappropriately imposes additional risk to generation developers. They believe that conditionally assigned network upgrades should not remain in the MCR after they have been removed as a conditionally assigned network upgrade for the project such that no headroom is created for other upgrades. Additionally, they believe conditionally assigned network upgrades that are identified as interconnection service network upgrades should not be included in a project's MCR and if included, should be removed upon GIA execution of a previous cluster and should be excluded from posting requirements similar to how other RNUs are treated.

PG&E, SCE, and SDG&E agreed that conditionally assigned network upgrades should be included in the MCR. In addition, they urged the CAISO to keep in its proposal the requirement that conditionally assigned network upgrades should be included in the MCR in the Phase I and Phase II study reports rather than raising the MCR later when an earlier queued project

withdraws prior to executing a GIA and the network upgrade is no longer needed. In addition, they are concerned that execution of a GIA does not guarantee that a project will progress towards completion in a timely manner. They requested that the trigger for the removal of conditionally assigned network upgrades not be the execution of the GIA, but rather some other trigger point, such as receipt of final financial postings and written authorization to proceed from the interconnection customer.

CAISO Response and Proposal

The CAISO is amending its proposal in this addendum to the draft final proposal and attempts to balance the concerns of providing reasonable cost certainty and financial responsibility to interconnection customers and, at the same time, not inappropriately increasing the cost risks to PTOs. The CAISO believes the following definitions and amended proposal provides the right balance for maintaining consistency with current tariff requirements and CAISO practices that have been used historically, and that are not explicitly provided for in the current tariff (by allocating conditionally assigned network upgrade costs in a consistent manner as cost allocations for assigned network upgrades).

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

1. Separately defines ANU and CANU to distinguish between upgrades a project has direct responsibility for and upgrades that it may become responsible for;
2. Separately defines a MCR and MCE to differentiate between the cost responsibilities for the upgrades currently assigned to the project and those upgrades that could potentially be assigned to the project or be removed from its responsibility;
3. Eliminates headroom issues with CANUs and ANUs by adjusting the MCR and MCE appropriately based on when upgrades are directly assigned or no-longer required;
4. Establishes a fixed-cost for the CANUs identified in the phase II study for the purpose of adjusting the MCR up if it becomes an ANU or adjusting the MCE down if it is removed from a projects responsibility;
5. To balance the fixed-cost CANU concept above, proposes to shift the PTO cost responsibility for upgrades from the execution of the GIA to the point at which a project provides its third IFS posting.

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

Proposed Definitions:¹

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 they become Assigned

¹ 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.

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 fall to the Interconnection Customer.*

Interconnection Service Network Upgrades (ISNU): *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 or 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 posted its third Interconnection Financial Security; 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 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 (MCR): *Pursuant to Appendix DD, the lower sum of an Interconnection Customer's Assigned Network Upgrade costs 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 lower sum of the Interconnection Customer's Conditionally Assigned Network Upgrades from its Phase I or Phase II Interconnection Study.*

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:

1. An interconnection customer is assigned network upgrades and associated cost responsibility of the following two components in its phase I and phase II study reports:
 - a. Assigned network upgrades
 - b. Conditionally assigned network upgrades

Either network upgrade could be identified as an Interconnection Service Network Upgrade.

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, with the following exception:

The allocation of cost responsibility for ANUs identified as ISNUs will be:

- a. For maximum cost responsibility – fully allocated (100% cost responsibility) to

each generation project that requires the upgrades to interconnect.²

- b. For current cost responsibility – the project’s current cost allocation associated with the phase I, phase II, or latest reassessment study report, as applicable. Projects within a cluster requiring the same ISNU will share the cost for the upgrade(s) equally.

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

- a. The phase I cost responsibility for CANUs will be the fully allocated cost (100% cost responsibility for each CANU) to each generation project that requires the upgrade to interconnect or achieve requested deliverability status.
- b. The phase II cost responsibility for CANUs will follow the current provisions in tariff Appendix DD, Section 8.3 for RNUs and 8.4 for LDNUs. The cost allocation assigned in a project’s Phase II study report will establish a fixed-cost for each CANU for the sole purpose of establishing the MCE 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 a 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 a CANU is converted and an ANU, or 2) adjust the MCE downward when a CANU is removed from a project’s responsibility. After a 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.

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

Note that this is current practice and in place to protect the PTOs from having to fund the ISNU when there is only one project remaining. This was instituted because the ISNU is needed even for just one project because unlike other RNUs, an ISNU is needed regardless of the capacity of the interconnecting project.

A CANU stops being a CANU and becomes a precursor network upgrade (as defined above) when at least one of the prior cluster projects provides its third IFS

² SCE’s 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 fully allocating (100% cost responsibility) into each generation project’s maximum cost responsibility that requires the “interconnection service” upgrades to interconnect achieves what SCE seeks to accomplish.

posting. 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 provided its third IFS posting. For clarification purposes, once a CANU is converted to an ANU, the ANU is just like any other ANU and, in accordance with current tariff policy, 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.

For clarification, 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 fully allocated approach 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 methodology³ and their request for clear cost certainty. The approach also addresses the PTO's request to shift their potential cost risk from the execution of a GIA to the point when the third IFS posting is made. 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 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 the gaming opportunity for interconnection customers to submit projects into a cluster only to dilute the phase I CANU cost allocations. 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.

4. The interconnection customer's **maximum cost responsibility** equals the sum of the ANUs in the phase I study before the phase II study is completed, and the lesser of the sum of the ANUs between phase I and phase II studies after the phase II study is completed, plus:
 - a. At the time a CANU becomes the cost responsibility of the interconnection customer (because all previous assigned clusters have withdrawn without posting the third interconnection financial security posting), the CANU

³ 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.

converts to an ANU and becomes part of the project's MCR and current cost responsibility for IFS posting requirements.

At the time a CANU becomes an ANU, the project's MCR will increase by the fixed-cost of the CANU established in that project's phase II study report and IFS postings will increase accordingly. The project's total assigned CANU cost responsibility is reduced by the fixed-cost of the CANU converting to an ANU.⁴ The MCE will remain unchanged when CANUs are converted to ANUs.

Eligibility for adjustments to the MCR will continue to follow Appendix DD, Section 7.4.

5. The interconnection customer's **maximum cost exposure** equals the lower of;
 - a. the sum of the (i) ANUs and (ii) the sum of the full cost of Interconnection Customer's CANUs in the Phase I study before the Phase II study is completed,

OR

 - b. the sum of (i) the ANUs and (ii) the sum of the allocated costs of Interconnection Customer's CANUs in the phase II study after the phase II study is completed,

PLUS

 - c. At the time a CANU is removed from the cost responsibility of the interconnection customer (because of previous-cluster IFS postings or 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 report.

Note that there is no opportunity for the MCE to be reduced according to Appendix DD, Section 7.4, as depicted in example #3 below. The intent of maintaining a MCE is to provide transparency of the true maximum cost exposure for the project at any given point in the study process.

6. The interconnection customer only posts **interconnection financial security** for the current cost responsibility of ANUs (those upgrades that attribute to their current cost responsibility). Interconnection customers will not post IFS for the cost of CANUs unless and until they become ANUs for those interconnection customers.

⁴ 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 posted its third interconnection financial security posting. 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 posted its third interconnection financial security posting, 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 current cost responsibility 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 is removed from those project's CANU cost responsibility.

If the interconnection customer wishes to achieve commercial operation before its CANU(s) are completed by the cluster/project that is currently funding such upgrades, that interconnection customer must post and fund the reliability CANU(s) required for the interconnection in lieu of the earlier-queued cluster.⁵ The CAISO notes that interconnection customers have only desired to achieve commercial operation ahead of such precursor or 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.

CAISO's response to stakeholder comments

The CAISO understands developers' concerns that CANUs could potentially impact a project's ability to obtain project financing. The proposal seeks to provide interconnection customers a clearly defined MCR based on ANUs, directly assigned to that project.

In regard to interconnection customer's concerns related to CANUs creating headroom for ANUs, the proposal seeks to eliminate any opportunity for a CANU to create headroom for an ANU. As stated above, once a CANU is converted to an ANU it is just like any other ANU and, according to current tariff policy, may create headroom for other ANUs up to the project's 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, and the CAISO does not propose to change this methodology.

The CAISO understands the interconnection customer's concerns related to ISNUs being fully allocated to a project's MCR and the issue with requiring interconnection customers in aggregate posting greater than 100% of such ISNU total cost. PTOs are concerned that upgrades identified as ISNUs are required whether one or multiple projects proceed and unlike other RNUs, an ISNU is needed regardless of the capacity of the interconnecting project. The CAISO believes that there is a compelling need to include a full allocation of an ISNU in each project's MCR to accommodate potential future cost allocation adjustments in a reassessment study as the number of projects needing the ISNU decline. This proposal mitigates the issue of interconnection customer's posting greater than 100% of an ISNUs total cost by only requiring IFS postings for ISNUs at the current allocated cost of the ISNU.

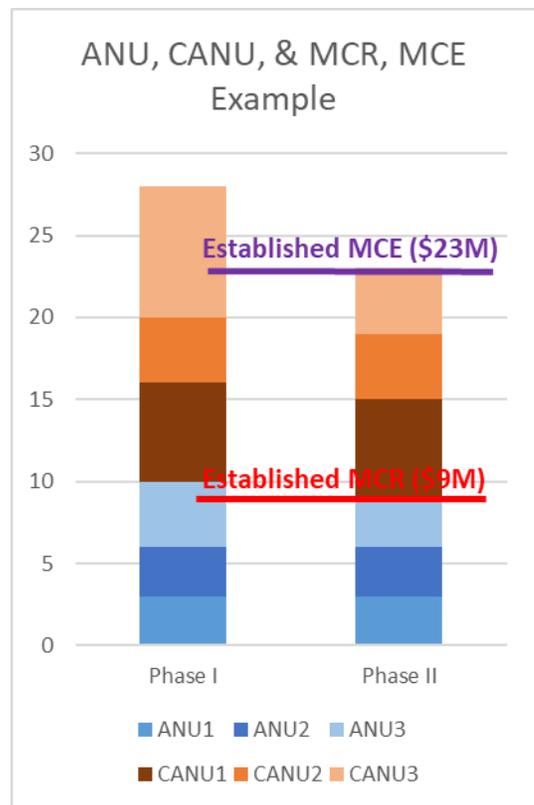
The PTOs have concerns with a PTO becoming responsible for the cost of network upgrades upon the execution of a GIA. With options for a project to suspend its GIA and an executed GIA providing little indication of a project's likelihood of continuing to commercial operation, the PTOs do not believe that an executed GIA is the appropriate trigger for them to backstop the funding of a network upgrade when the upgrade is still needed by future clusters. With the proposed implementation of the ranking groups for the allocation of transmission plan deliverability and

⁵ Appendix DD, Section 14.2.2 "Construction of Network Upgrades that are or were an Obligation of an Entity other than the Interconnection Customer," addresses the circumstance where the network upgrade is assigned to a prior cluster that has executed a GIA and therefore the network upgrade is not a CANU.

proposed changes to cost responsibility herein, the CAISO proposes to change the transfer of cost responsibility to a PTO at the time a project posts its third interconnection financial security posting for its assigned network upgrades identified in its executed GIA. Projects that receive a transmission plan deliverability allocation must execute a GIA to retain the allocation, potentially years before the project’s in service date, which affects the certainty that they will proceed to construction. The proposal to shift the PTO funding backstop requirement from the execution of the GIA to the point when projects provide their third IFS posting offers the PTO and other interconnection customers more certainty and clarity that the project and associated upgrades have a high probability of being constructed.

The following charts depict examples of the establishment of a MCR and MCE, the conversion of a CANU to an ANU, and the removal of a CANU from a projects cost responsibility:

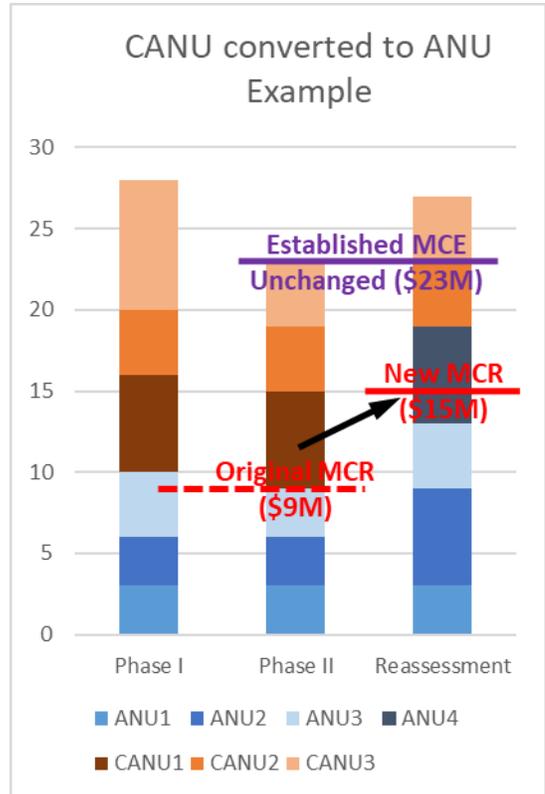
1) The MCR is established by the lower sum of the ANUs in the Phase I and Phase II study reports. The MCE is established by the sum of the MCR and the lower of the 1) sum of the full allocated cost of each CANU identified in the phase I study (prior to the phase II study), or 2) sum of the allocated cost of each CANU from the phase II study.



	ANU1	ANU2	ANU3	CANU1	CANU2	CANU3
Phase I	3	3	4	6	4	8
Phase II	3	3	3	6	4	4

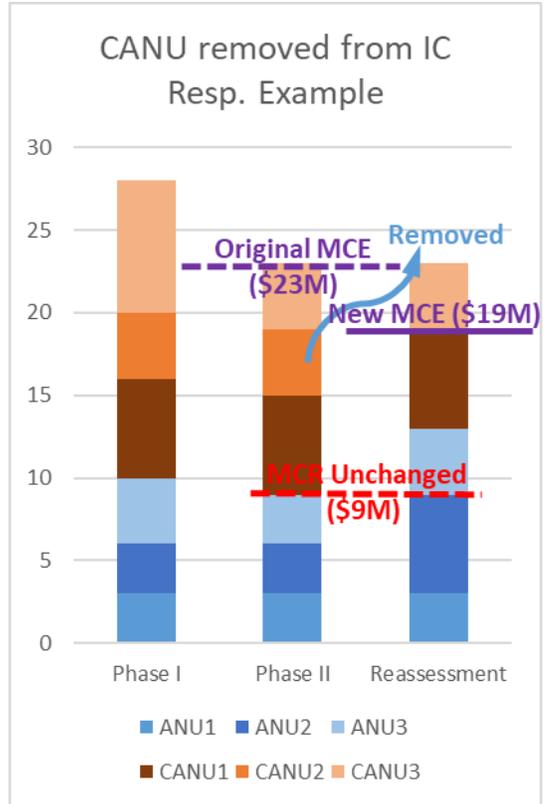
One of two situations can occur with CANUs, 1) they are converted to an ANU, or 2) they are removed from a project’s cost responsibility. When a CANU is converted to an ANU, the MCR will increase by the fixed-cost of that upgrade as identified in the project’s phase II study and the MCE will remain unchanged. 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, a CANU (CANU1 = \$6M) becomes an ANU (ANU4 = \$6M) and the current cost responsibility of the project. This example shows the interconnection customer’s MCR has increased by the fixed-cost of the CANU (\$6M) as identified in the phase II study. The established MCE remains unchanged.



	ANU1	ANU2	ANU3	ANU4	CANU1	CANU2	CANU3
Phase I	3	3	4	---	6	4	8
Phase II	3	3	3	---	6	4	4
Reassessment	3	6	4	6	---	4	4

2b) In a subsequent reassessment study, a CANU (CANU2 = \$4M) is removed from the cost responsibility of the project. This example shows the interconnection customer’s MCE has decreased by the fixed-cost of the CANU (\$4M) as identified in the phase II study. The MCR remains unchanged.



	ANU1	ANU2	ANU3	CANU1	CANU2	CANU3
Phase I	3	3	4	6	4	8
Phase II	3	3	3	6	4	4
Reassessment	3	6	4	6	---	4

3) Following the previous examples in 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. The MCR is established at \$9M and MCE is established at \$23M. Additionally, based on the Phase II study, each CANU has established its fixed-cost for the sole purpose of adjusting the MCR or MCE in the event the CANU is converted to an ANU or removed from the project's responsibility.
- ii. In reassessment 1,
 - a. ANU2 and ANU3 cost allocations have increased a total of \$4M (ANU2+\$3M and ANU3+\$1M)
 - b. CANU2 is removed from the project's responsibility, which causes the MCE to be reduced by \$4M, the fixed-cost established in the phase II study, to \$19M.
 - c. CANU1 is converted to ANU4, which causes the established MCR to increase by \$6M, fixed-cost established in the phase II study.

At this point in the scenario, the total ANU costs exceed the adjusted MCR.

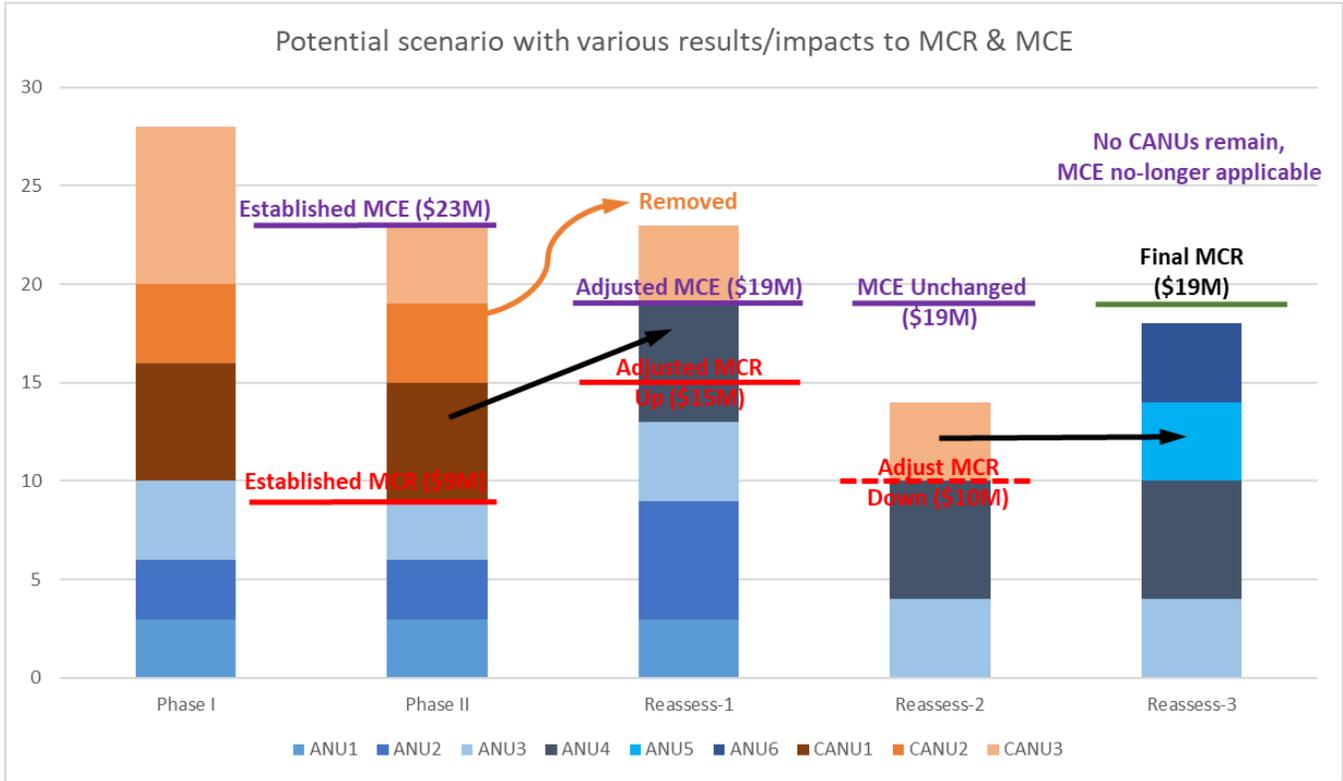
Therefore, the amount over the MCR will become the cost responsibility of the PTO.

- iii. In Reassessment 2, ANU1 and ANU2 are both removed from the project's cost responsibility. This allows the project's MCR to adjust downward based on Appendix DD, Section 7.4. In this scenario, the MCR was reduced by \$5M to \$10M. Because the MCR can increase back to the previous MCR per Section 7.4, the MCE remains unchanged at \$19M.
- iv. In reassessment 3,
 - a. CANU3 is converted to an ANU5 at the fixed-cost (\$4M) established in the project's phase II study, and
 - b. Due to system changes, a new ANU6 was added to the project's cost responsibility at \$4M⁶. (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 two items above, a few things occur in reassessment 3:

1. The final MCR is now established at \$19M (reassessment 1 adjusted MCR (\$15M) + CANU3/ANU5 (\$4M)). The MCR increases back to the maximum allowed as established in from the phase I and phase II studies plus the cost of the CANUs converted to ANUs. Eligibility for downward adjustments to the MCR will follow Appendix DD, Section 7.4, which in this example did not meet the criteria for a decrease.
- c. Lastly, all CANUs have been removed or converted to ANUs and the MCE is no longer applicable.

⁶ In accordance with Tariff Appendix DD Section 7.4.3(ii).



	ANU1	ANU2	ANU3	ANU4	ANU5	ANU6	CANU1	CANU2	CANU3
Phase I	3	3	4	---	---	---	6	4	8
Phase II	3	3	3	---	---	---	6	4	4
Reassess-1	3	6	4	6	---	---	---	---	4
Reassess-2	0	0	4	6	---	---	---	---	4
Reassess-3	0	0	4	6	4	4	---	---	---

11. New Topic - Interconnection Request Acceptance and Validation Criteria

This topic is a new proposal that has been included in 2018 IPE as a result of the cluster 11 validation process. The CAISO seeks to continually improve the cluster validation process and seeks input from stakeholders on this proposal in the 2018 IPE Initiative.

11.1 Interconnection Request Acceptance Criteria

The cluster application window for the submittal of interconnection requests is open from April 1-15 of each year. In order for the CAISO and PTO to begin the review and validation of the interconnection request, an interconnection customer must submit a study deposit, a completed interconnection request, and site exclusivity documentation or a site exclusivity deposit. Once all three elements are submitted, the interconnection request may go through the validation process for the CAISO and the PTOs to review the interconnection request for deficiencies.

The CAISO has determined that there is a need to clarify specific minimum requirements for an interconnection request to be deemed a complete interconnection request. The CAISO has been accepting interconnection requests that have large amounts of missing and incorrect information, making the validation process much more challenging. Many of the interconnection requests have missing files and data, and errors in power flow and dynamic models such that the models cannot be run.

The CAISO believes that including more detailed interconnection request requirements provides more time for the CAISO and PTO to review credible interconnection requests and does not disadvantage those interconnection customers that made a significant effort to submit a complete interconnection request by the April 15 deadline. In addition, more clarity in the requirements should eliminate much of the back and forth communication between the CAISO and the interconnection customer on what data and documents are needed.

The CAISO proposes to specify minimum requirements for an interconnection request to be deemed a complete package prior to validation. Specifically, if an interconnection request submitted during the application window is not deemed complete, it will not move on to the validation process. However, as described below, if the interconnection request is submitted early in the application window, there may be an opportunity for the interconnection customer to correct any issues – up until the application window closes. If the issues are not corrected by the close of the cluster window, the project will not move on to the validation process and will not be included in the cluster studies subsequent to the validation process. Below are the minimum requirements the CAISO proposes to include in Appendix DD:

- 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 explained⁷
 - 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 from the PSLF must be submitted
 - 11) Plot showing requested MW at POI from the PSLF must be submitted

The CAISO proposes a five (5) business day tariff requirement to notify the interconnection customer that the interconnection request has been submitted and is deemed complete or incomplete. For example, if an interconnection customer submits an interconnection request by April 1 the CAISO will provide a response indicating it is complete or incomplete within five (5) business days. If it is incomplete, the interconnection customer will have until April 15 to submit the additional materials necessary for the Interconnection request to be deemed complete. The CAISO also proposes that if the CAISO is not able to meet the five (5) business day review requirement the interconnection customer would receive a day-for-day extension to the April 15 interconnection request submittal deadline (described further below).

11.2 Interconnection Request Validation Criteria

During the cluster application window, Tariff Appendix DD requires the CAISO to provide a number of notifications to interconnection customers submitting interconnection requests. Interconnection requests with deficiencies are processed through the validation period that ends on May 31. Any interconnection request that is not been deemed valid by May 31 will not be included in the cluster study process for that year. Current CAISO interconnection request processing timelines include a ten (10) business day initial review requirement and a five (5) business day requirement to respond to subsequent responses provided by the interconnection customer seeking to cure their identified deficiencies.

In clusters 10 and 11, the CAISO and the PTOs were challenged to meet the required response times and due dates due to the volume and increased complexity of interconnection requests received. Moreover, an increasing number of interconnection requests were submitted with missing information and poor technical data quality.

The CAISO has determined that the interconnection request validation process and timelines should be adjusted to more efficiently and effectively manage the validation process. The CAISO proposes to modify the interconnection request validation process utilizing the following

⁷ 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.

process sequence:

1. Interconnection requests are submitted during cluster application window, which opens on April 1 and closes on April 15 of each year (no change)
2. Within five (5) business days of receipt of an interconnection request, the CAISO will provide notice to the interconnection customer that:
 - a. the CAISO has received the interconnection request package; and
 - b. the CAISO has deemed the interconnection request package complete or incomplete. The CAISO will provide a list of components of the interconnection request package that were missing or incomplete.
3. Within ten (10) business days of deeming an interconnection request package complete, the CAISO and PTO will perform a validation of the information contained in the interconnection request and notify the interconnection customer whether their interconnection request has been deemed:
 - a. valid and ready to enter the phase I study process; or
 - b. invalid and include a list of deficiencies outlining the information that the interconnection customer must correct to have an interconnection request that is valid and ready to enter the phase I study process.
4. The CAISO will have five (5) business days to evaluate each subsequent receipt of information submitted by an interconnection customer to determine if the interconnection request can be deemed valid, or provide a list of the remaining deficiencies.
5. Interconnection requests must be valid and all scoping meetings completed no later than June 30. Interconnection requests not valid by the required date will not be studied.
6. The CAISO will grant a day-for-day extension to the June 30 deadline for any individual interconnection request in instances where the CAISO/PTO exceeds any CAISO required response timeline. A day-for-day extension will be provided for each of the following deadlines:
 - a. the five (5) business day requirement for the evaluation of the completeness of a project's interconnection request package;
 - b. the ten (10) business day requirement for the evaluation of a project's interconnection request validation; and
 - c. any five (5) business day requirement for the evaluation of an interconnection customer's submission of information attempting to cure deficiencies – except for when such exceedances occur after May 31.

In this proposed process, the validation deadline moves from May 31 to June 30, removing the requirement for scoping meetings to be held only after an interconnection request is deemed valid.

The CAISO believes that this revised process enables the CAISO and PTO to more efficiently and effectively assist interconnection customers during the interconnection request validation

process and scoping meetings. It 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 its timeline requirements. With these changes, the interconnection customers will be held to the strict deadline of June 30th, plus any day-for-day extensions, such that any interconnection request that is not valid by June 30, or extended deadline, would be considered withdrawn.

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.