2018 Interconnection Process Enhancements

Addendum #2 to Draft Final Proposal

December 21, 2018

Table of Contents

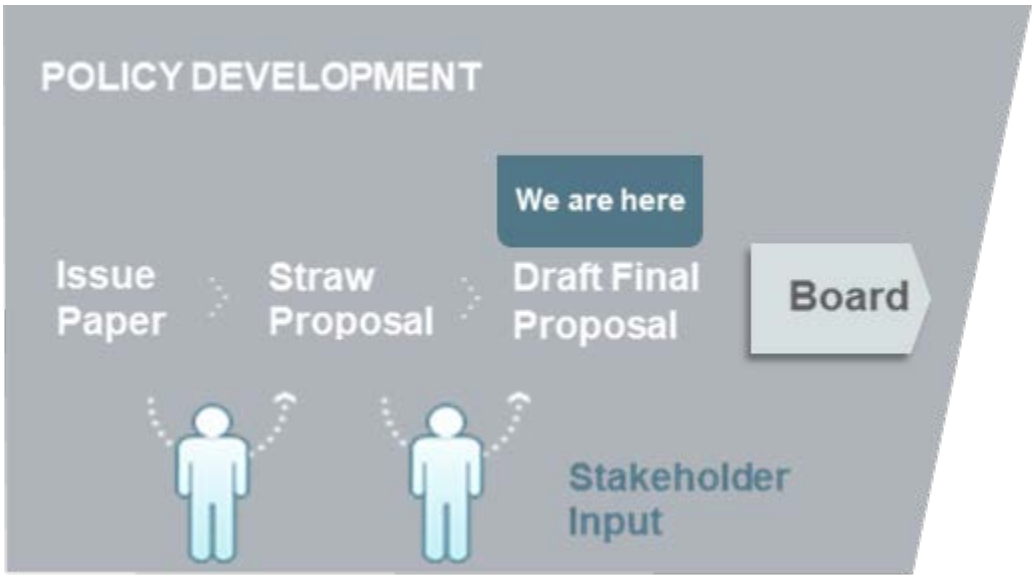
1. Introduction

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.

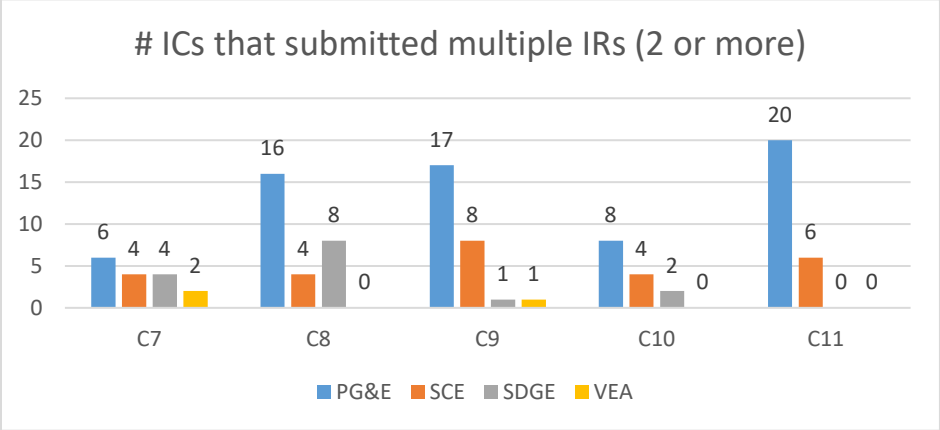
   Further, developers asked the CAISO to provide scenarios where gaming has occurred regarding interconnection customers submitting multiple interconnection requests to intentionally dilute the cost allocation of upgrades. The CAISO does not have sufficient visibility into developers' intent in submitting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

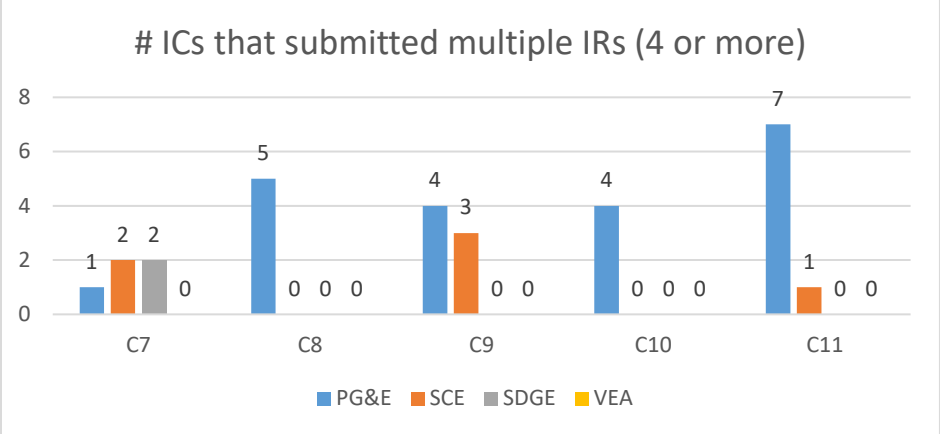
[1] Appendix DD, Section 13.1.1 – Tendering of generator interconnection agreement

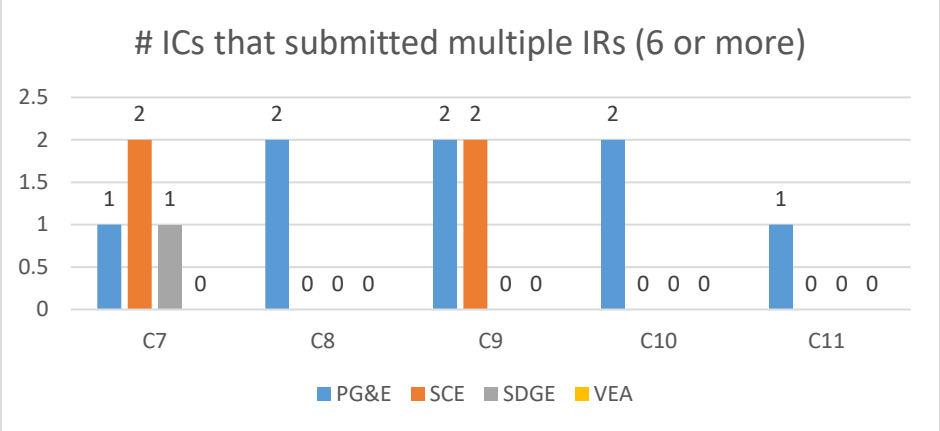
[2] Appendix DD, Section 8.9.3(3) – Criteria for retaining TP deliverability allocation

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.*

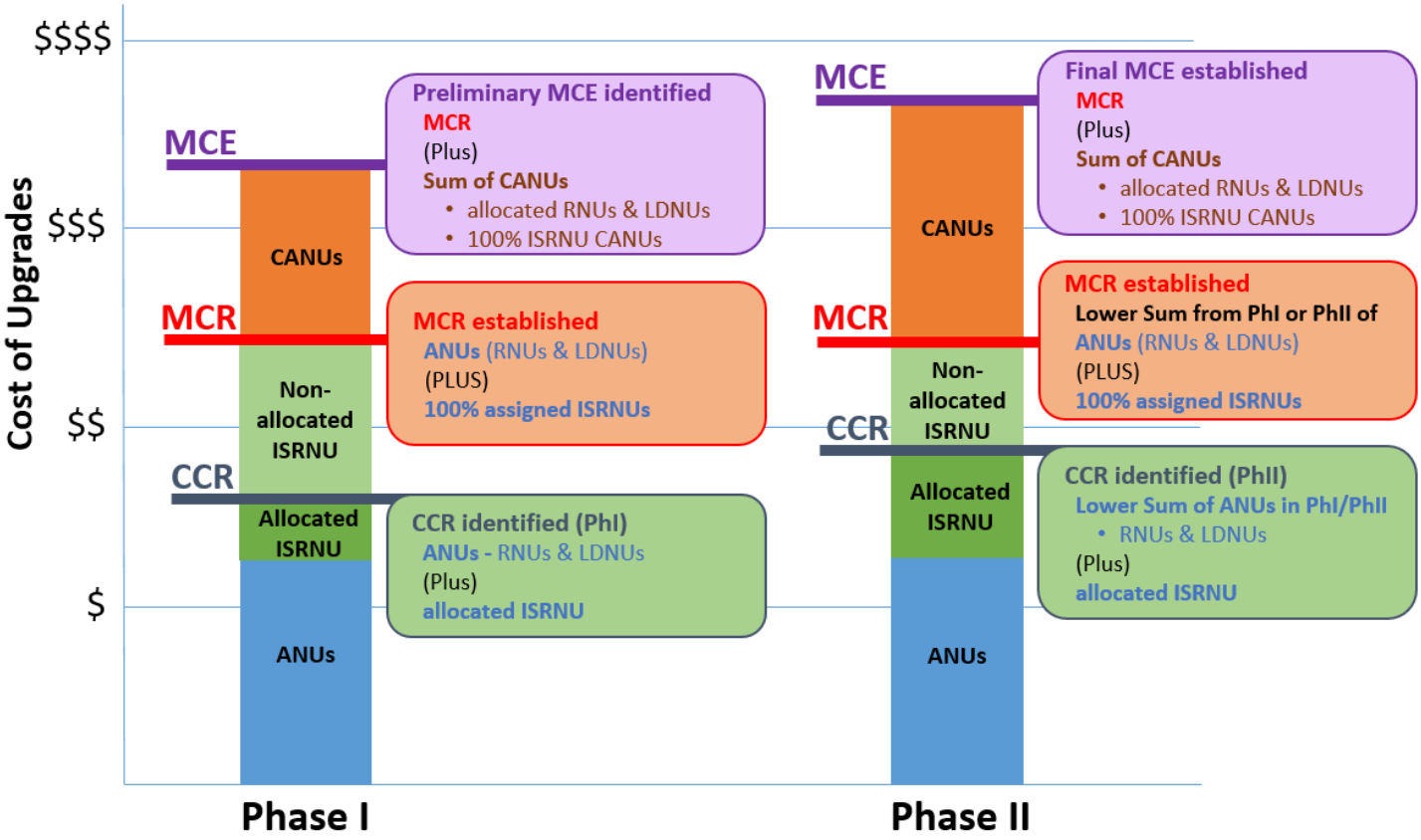
[3] The CAISO notes that these definitions are included to better understand the policy discussed herein. The CAISO Board of Governors approves policy; not specific tariff revisions, which the CAISO and stakeholders discuss separately near the conclusion of the policy process. Although the CAISO does 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

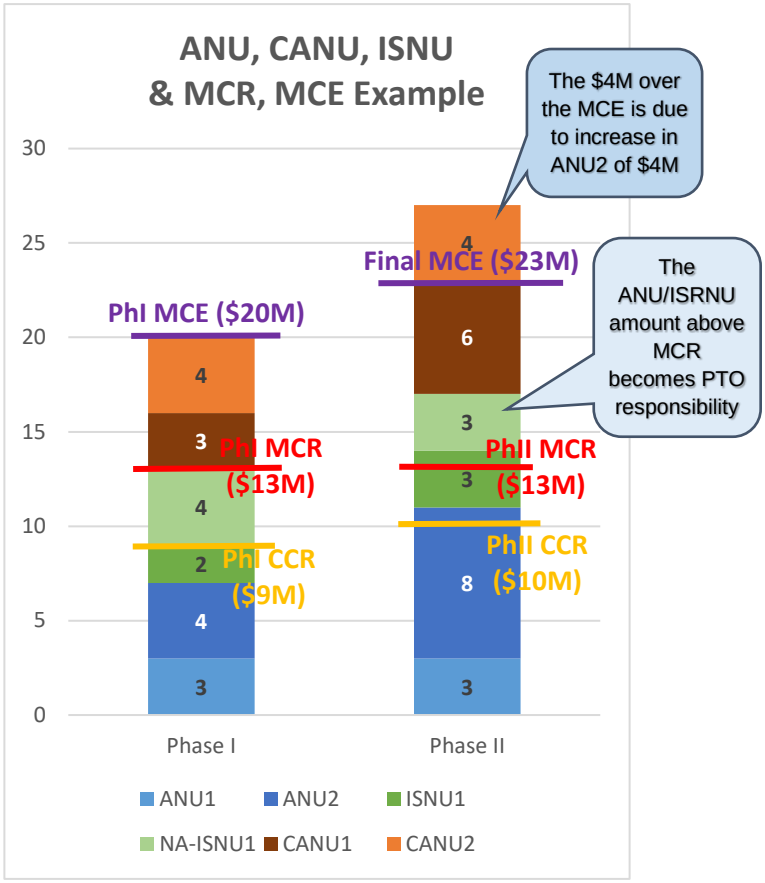
c. The allocation of CANU1 increases from $3M to $6M (causing the MCE to increase).

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

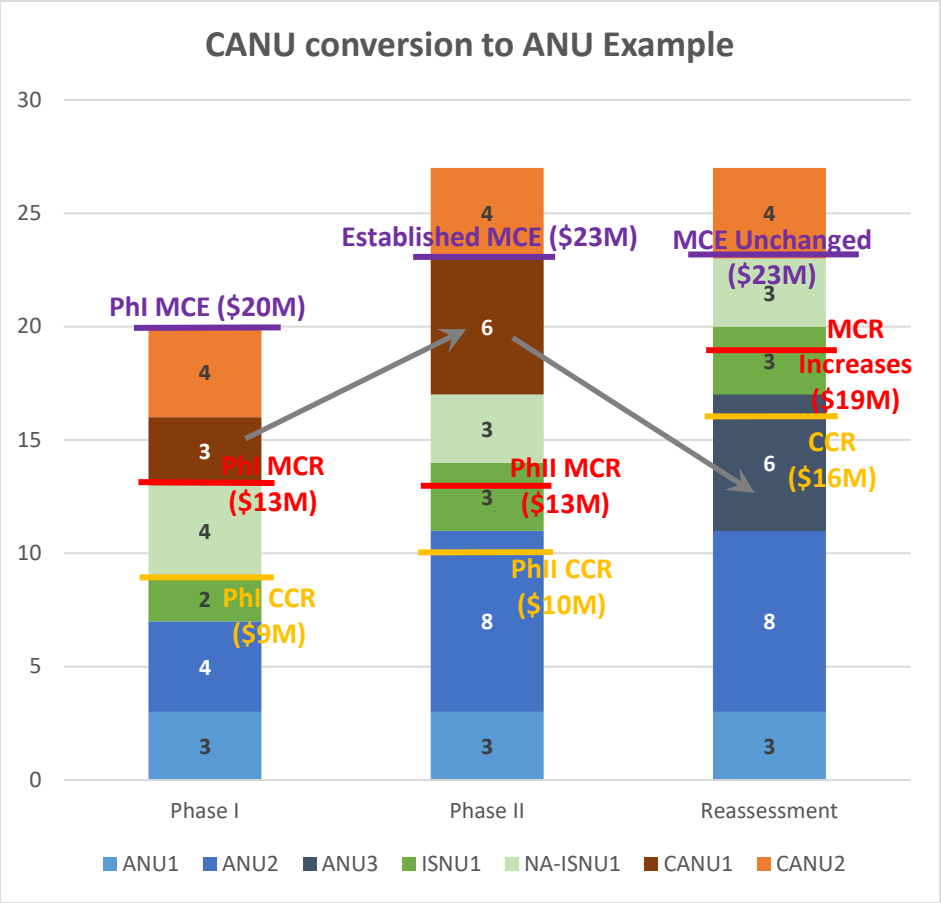
c. The final MCE is established by the sum of 1) the MCR above, plus 2) the allocated cost of each CANU in the Phase II study. In this case $23M (13+6+4).

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	

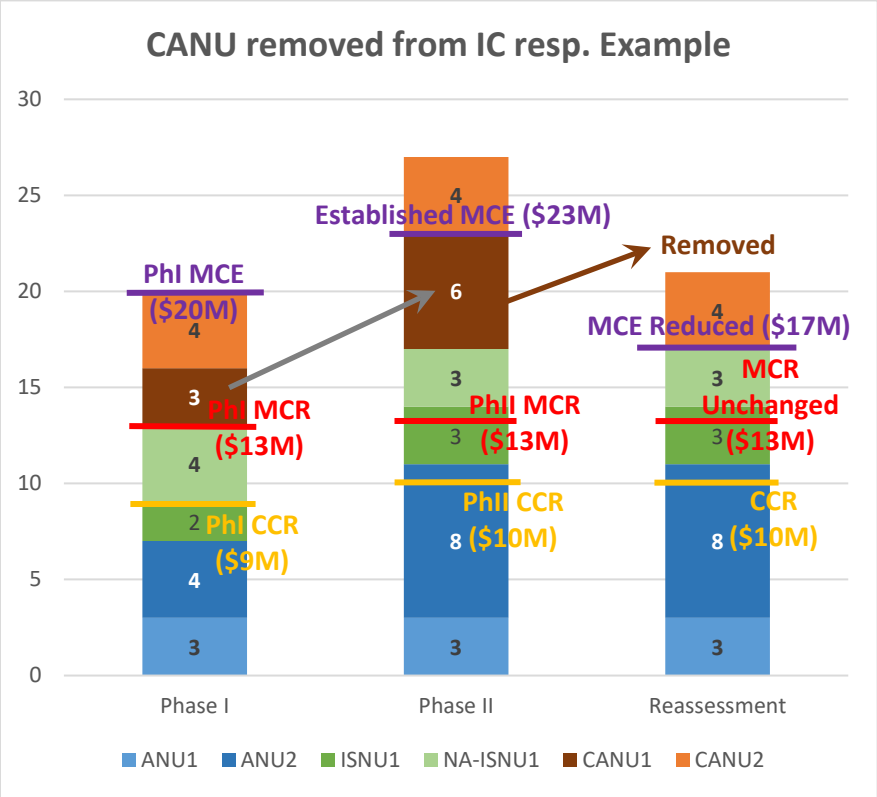
One of two situations can occur with CANUs, 1) they are converted to an ANU, or 2) they are removed from a project's cost responsibility. When a CANU is converted to an ANU, the MCR will increase by the fixed-cost of that upgrade as identified in the project's phase II study and the MCE will remain unchanged. 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).

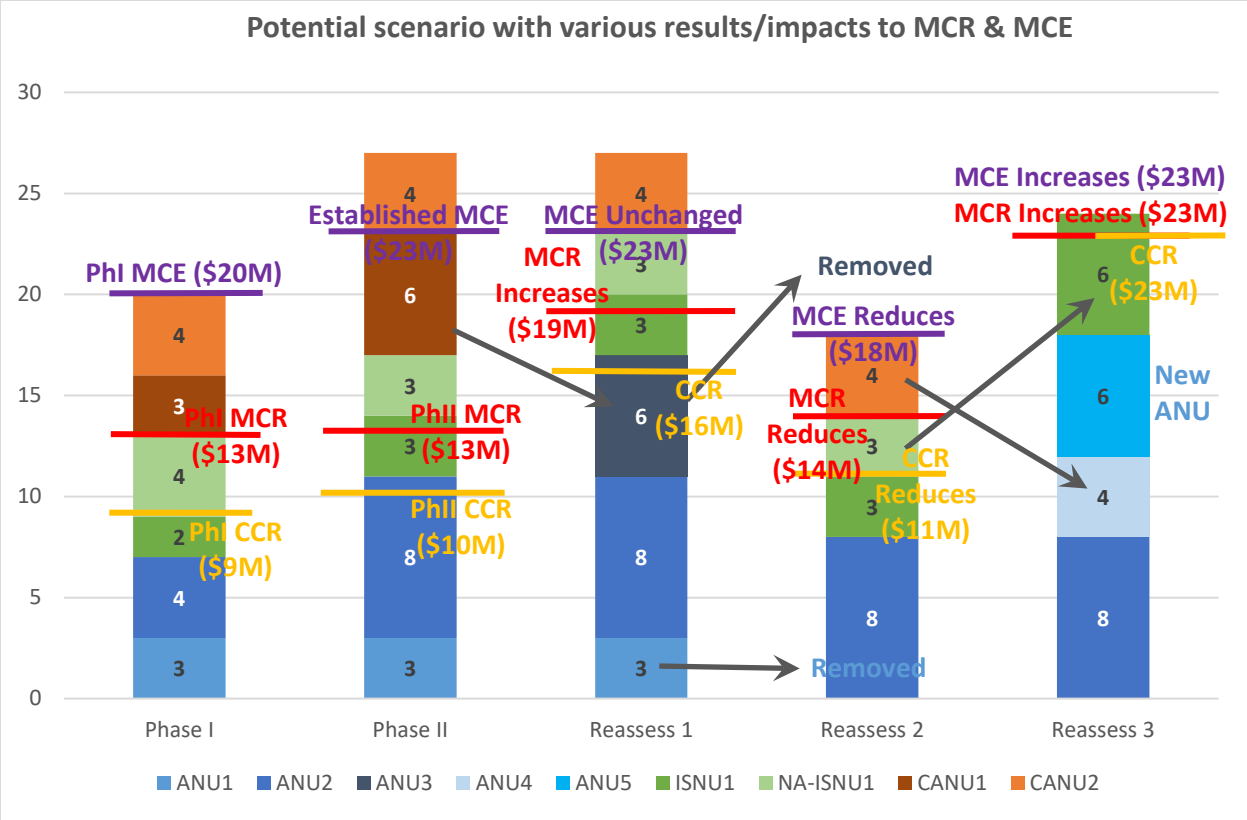
2. The cost re-allocation is the sum of 1) the allocated ANUs (including the new ANU5), plus 2) the allocated ISRNUs, $24M (8+4+6+6). However, the MCR cannot increase above the MCR as established in 1. above. Therefore, the MCR increases to the $23M as the total re-allocation is higher than MCR as established 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.