Memorandum

To: ISO Board of Governors

From: Neil Millar, Vice President of Infrastructure and Operations Planning

Date: May 4, 2022

Re: **Decision on Interconnection Process Enhancements – Phase 1**

This memorandum requires ISO Board of Governors action.

EXECUTIVE SUMMARY

The interconnection process enhancement 2021 initiative (IPE) is representative of the ISO's ongoing commitment to improve its Generator Interconnection and Deliverability Allocation Procedures (GIDAP) and make process enhancements as resource interconnection needs evolve.

To date, the ISO's GIDAP has fully processed nearly 2,000 projects, providing interconnection customers with the information needed to be able to make decisions on how to proceed with their projects and to compete for a power purchase agreement with California procurement entities. With the significant acceleration in procurement targets, numerous generator retirements, load growth, and state mandates for non-carbon emitting generation, the ISO's processes must continue to evolve to align with the new dynamics driving resource development. The dramatic increase in competition among suppliers has significantly increased the pressure on the GIDAP. With cluster 14, the ISO experienced unseen volumes of projects seeking to position themselves to compete in the procurement processes of load serving entities and other procurement entities. Across the country as well as in California, stakeholders and regulators have initiated discussions on methods to better accommodate increasing pressure on interconnection processes.

This IPE initiative consists of two phases. Phase 1 focuses on near-term enhancements that are needed immediately so they can be applied to the ongoing cluster 14 study process, as well as enhancements that have broad stakeholder support and can be resolved more quickly. The phase 2 enhancements focus on resolving longer term modifications and broader reforms to align interconnection processes with procurement activities. The phase 2 portion of the IPE initiative will continue in June, discussing the topics that stakeholders agreed were appropriate for further discussions. The ISO plans to present these enhancements to the ISO Board of Governors for decision in October. In parallel, staff is working with stakeholders on providing more data transparency. The development of a process to provide stakeholders greater data transparency and easier

access to data does not require a change to the ISO tariff and does not require the Board's approval to implement. This discussion was removed from the IPE initiative and is proceeding on a standalone basis. The first stakeholder meeting has been completed and stakeholder comment received.

Within the IPE initiative, ISO stakeholders and the ISO have worked together to develop enhancements to several components of the GIDAP. These enhancements are designed to better align the ISO's deliverability allocation process with procurement, and ensure viable projects easily retain deliverability while projects not moving forward relinquish deliverability. Likewise, the ISO proposes to raise the bar for interconnection requests to enter the queue and continue to be studied. The ISO also proposes to provide interconnection customers with more data to help interconnection customers progress while in queue.

The IPE phase 1 stakeholder discussions resulted in thirteen near-term enhancements that Management seeks approval for, presented here for Board consideration. They are:

1. Modifications to the transmission plan deliverability allocation process,
2. Requiring projects to demonstrate site exclusivity earlier in the process and increasing the site exclusivity deposits and non-refundable portions,
3. A new process allowing for the interconnection of new generation under an emergency state mandate,
4. Simplifying the downsizing process,
5. Enhancing the errors and omissions process to mitigate late changes,
6. Clarifying the definition of reliability network upgrade,
7. Clarifying interconnection request transfers from the Participating TO's wholesale distribution access tariff queue,
8. Clarifying site and point of interconnection change processes,
9. Allowing interconnection customers to make certain modifications to parked projects,
10. Clarifying the deadline for Appendix B data before Phase II studies,
11. Expanding deliverability transfer opportunities,
12. Clarifying requirements to utilize third-party interconnection facilities, and
13. Enhancing communication processes and data access using the resource interconnection management system.

Management recommends the following motion:

> ***Moved, that the ISO Board of Governors approves the proposed interconnection process enhancements, as described in the memorandum dated May 4, 2022; and***
>
> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal, including any filings that***

implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.

DISCUSSION AND ANALYSIS

The thirteen IPE issues addressed in this phase of the initiative include enhancements to help projects more efficiently and effectively move through the queue, enhancements that are intended help the ISO manage the queue, and enhancements that are intended to address other residual process improvement needs that have become apparent since the last IPE initiative in 2018. Management seeks Board approval of the following enhancements:

1. Modifications to the Transmission Plan Deliverability allocation process

The ISO sought stakeholder input on methods for enhancing the transmission plan deliverability allocation process to better align the process with generation procurement. The ISO's goals were to allocate deliverability to projects more likely to succeed and reach commercial operation, and to free up deliverability sooner by requiring projects to meet certain milestones to retain allocated deliverability.

Transmission plan deliverability refers to the transmission capacity needed for a generator to be deemed full capacity deliverability status and have the ability to deliver its output during peak conditions.[1] A resource does not require transmission plan deliverability to interconnect to the ISO system, and can instead elect to interconnect as an "energy only" resource. However, interconnection customers generally seek transmission plan deliverability to be eligible to provide resource adequacy capacity to a load serving entity. Currently, the ISO allocates transmission plan deliverability based a project's eligibility to seek an allocation from one of seven allocation groups that are arranged in decreasing order of priority. The order is based on having an executed power purchase agreement, being shortlisted for a power purchase agreement or actively negotiating a power purchase agreement, attesting to proceed without a power purchase agreement, and four other categories for operational or already-studied projects that need to be re-studied for deliverability.

This initiative garnered significant stakeholder interaction and went through a number of proposal iterations with the final proposal receiving strong stakeholder support. The result is a simplified and streamlined process that better aligns the allocation and retention of transmission plan deliverability with procurement activities, and aids in moving resources more efficiently and effectively through the queue. Management proposes to replace the original seven allocations groups with the four proposed

[1] Deliverability does not guarantee any level of transmission capacity or avoided curtailment. All generators are subject to security-constrained economic dispatch, which can be affected by bids, outages, and topology changes.

allocation groups depicted in the following table:

Proposed Allocation Groups[2]

Allocation Group	Status of Project	Allocation Requirement	Allocation Rank
A (combining prior groups 1 & 4)	Any project (active IR or achieved commercial operation)	Executed PPA requiring FCDS or interconnection customer is a LSE serving its own load	Allocated 1st
B (combining prior groups 2 & 5)	Any project (active IR or achieved commercial operation)	Shortlisted for PPA or actively negotiating a PPA	Allocated 2nd
C (combining prior groups 6 & 7)	Any project that achieved commercial operation	Commercial operation achieved	Allocated 3rd
D (replaces prior group 3)	Any active project that meets the allocation group D criteria[3]	No requirements for a PPA, shortlist, or commercial operation	Allocated 4th

Note: IR: Interconnection Request, PPA: Power Purchase Agreement, FCDS: Full Capacity Deliverability Status

The allocation groups are designed to prioritize projects based on their position in the queue cluster study process (including parking opportunities), giving priority to projects that are eligible to have delivery network upgrades built to achieve full capacity deliverability status.[4] Additional priority is given to projects that have obtained a power purchase agreement, or are on a power purchase agreement shortlist, that requires a project to be full capacity deliverability status. The lowest priority is given to projects that do not have a power purchase agreement, are not shortlisted and have yet to achieve commercial operation. This eliminates the current concept of "proceeding without a PPA," which stakeholders agreed was illusory, while still affording all interconnection customers the opportunity to obtain deliverability.

The ISO also proposes to clarify the type of power purchase agreement that warrants the highest priority for obtaining deliverability. Delivery network upgrades are financed by ratepayers to ensure sufficient resource adequacy capacity (and thus reliability). Although the tariff requires power purchase agreements to require deliverability, the ISO proposes to clarify that the off taker must require deliverability pursuant to a resource

[2] The allocation group designations have changed from numbers to letters to differentiate from the projects that have received allocations under the prior allocation definitions.
[3] All projects are eligible for Group D in the allocation cycle beginning in 2022, narrowing to only projects with full capacity deliverability status and partial capacity deliverability status in the allocation cycle beginning in 2023 and beyond. Projects choosing Group D become subject to additional restrictions that limit their flexibility.
[4] Only projects with full capacity deliverability status are able to build upgrades if needed to receive an allocation.

adequacy obligation. This clarification restores the ISO's intent and aligns deliverability with its intended purpose. However, Management also proposes that projects with a power purchase agreement with an entity that does not have a resource adequacy obligation can still qualify so long as they demonstrate the resource adequacy attributes of the project are procured by an entity with a resource adequacy obligation for a term of three years or more. The ISO also proposes that all power purchase agreements must have a minimum three-year term to qualify for the highest deliverability priority beginning with the 2023-24 allocation cycle.

2. Requiring projects to demonstrate site exclusivity earlier in the process

"Site exclusivity" refers to having property rights to construct and operate a generator. Developers can use options, leases, or purchases for private land, and the applicable permits for public areas. Currently interconnection customers can submit cash deposits in lieu of site exclusivity up until construction.[5] Stakeholders suggested requiring actual site exclusivity earlier in the process to address the overheated queue.

Management proposes to increase the existing site exclusivity deposit requirement,[6] make 50 percent of the deposit non-refundable if the customer withdraws before demonstrating site exclusivity, and require a demonstration of site exclusivity to be eligible to continue with the phase II study. These changes will incentivize interconnection customers to withdraw less viable projects prior to entering the phase I study process. Additionally, by requiring a demonstration of site exclusivity to enter the phase II study, the ISO will reduce the number of projects entering the phase II study process. Management anticipates this will result in a more manageable queue, more accurate studies, and a higher percentage of viable projects in the phase II study. The ISO also plans to include a transition period for cluster 14 that allows interconnection customers with deposits to still enter the phase II study, but incentivizes them to demonstrate site exclusivity by subjecting them to 100 percent of their site exclusivity deposit being non-refundable upon withdrawal. Management also clarifies any interconnection customer with a deposit can receive a full refund upon demonstrating site exclusivity.

3. New process allowing for the interconnection of new generation under an emergency state mandate

Management proposes a new process to study and interconnect new generation based on an emergency state mandate. This would enable the ISO to accomplish the emergency interconnections it did last year[7] without having to petition FERC for a tariff waiver. Following an emergency proclamation and procurement by a state agency, the

[5] The current deposit amount is $100k for small generators (20 MW and below) and $250k for large generators (greater than 20 MW).
[6] To $250k for small generators (20 MW and below) and $500k for large generators (greater than 20 MW).
[7] The Proclamation of a State of Emergency beginning June 16, 2021, due to an extreme heat event was signed by the governor on June 17, 2021. https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Pro-7-30-21.pdf

ISO will work with the applicable participating transmission owner, state agency, and generator to expedite the interconnection process. Because the ISO anticipates these studies and interconnections will be rapid, the ISO does not propose to include any study timelines in the tariff. To prevent any "queue-jumping" and ensure only viable projects can use this process, the ISO proposes that any request must meet the following criteria:

1. The ISO will accept emergency generation study requests only pursuant to:
    (i) A specific emergency state mandate by the Governor of California, and
    (ii) Only for interconnections and additions specifically designated by a state agency, not including counties, municipalities, or community choice aggregation electric providers.
2. The ISO also must agree the interconnection is warranted to potentially maintain reliability, and that the interconnection will mitigate reliability risks.
3. The interconnection customer will submit an emergency generation study request, a $50,000 study deposit, and all necessary technical information to assess the new generation.
4. The interconnection cannot negatively impact the cost or timing of any queued project unless the impacted project belongs to the same developer and the developer consents to the impact.
5. The interconnection cannot require network upgrades above $1 million or that cannot be constructed in fewer than six months.
6. The installed generation will have interconnection service for no more than three years. For interconnection service beyond that period, the developer must obtain service through another tariff process, such as a new interconnection request.
7. During the three-year period, the generation will be ineligible for any deliverability except interim deliverability.

4. Simplifying the downsizing process

Management proposes to transition from an annual month-long window for receiving downsizing requests to allowing downsizing requests at any time through the existing modification process. This will also reduce the deposit required from $60,000 to $10,000. If a project has one or more network upgrades, the project would generally need to be included in the annual reassessment to determine if the project's network upgrades are still required along with any potential cost allocation adjustments. Impacts of projects with network upgrades whose impacts can be assessed without a study may be approved without having to participate in the annual reassessment study. Management believes the simplification of the downsizing process will enable interconnection customers to right-size their projects more easily and with less

administrative burden for all parties.

5. Enhancing the errors and omissions process

The GIDAP has a process for dealing with errors and omissions discovered after initial interconnection studies are published. The current rules allow interconnection customers additional time to repost interconnection financial security when warranted, but do not address substantial negative impacts late in the interconnection process. Although such errors and omissions are very rare, they can have a disparate impact on a project. Management proposes to enhance the error and omission process by allowing interconnection customers to receive all of its posted interconnection financial security and any unused portions of its study deposit if it receives a substantial error or omission.[8] Management also proposes to expand the definition of a substantial error or omission to include instances where the error or omission results in the termination of a power purchase agreement. Management believes these enhancements will provide interconnection customers with more options and fair results for late study changes they did not cause.

6. Clarifying the definition of Reliability Network Upgrade

Management proposes to clarify that remedial action schemes or other upgrades needed for reliability are still considered reliability network upgrades even if they are initially identified in a deliverability study. This is an important clarification because the ISO caps reliability network upgrade cash refunds to ensure ratepayers only pay for those upgrades warranted by the capacity a new generator creates. There has been some confusion on the part of interconnection customers in the past because certain upgrades required for reliability first appear in deliverability studies; however, they are not delivery network upgrades. Reliability network upgrades are those upgrades that address thermal overloads and short-circuits. Interconnection customers cannot interconnect safely and reliably without them. The fact that some reliability network upgrades first appear in deliverability studies is simply a result of an iterative study process, but it does not change the nature of the upgrades.

7. Clarifying transfers from the participating transmission owner's wholesale distribution access tariff queue to the ISO queue

Participating transmission owner's wholesale distribution access tariff processes hold windows for accepting new interconnection requests at roughly the same time each year as the ISO. It is not uncommon for a small number of projects to submit an interconnection request to the wrong entity, reasonably thinking their requested point of interconnection is to the distribution grid instead of the ISO controlled grid. Sometimes these inadvertent errors are only discovered after the window when the ISO can accept new requests. As such, Management has developed tariff language allowing the ISO to accept interconnection request transfers from the participating transmission owner's wholesale distribution access tariff queue to the ISO queue when it is still possible to

[8] Currently defined as a change of five percent of costs or $1 million, or a delay of more than one year.

include them without slowing the queue.

8. Clarifying project site and point of interconnection changes while in queue

Currently the GIDAP does not provide specific rules for interconnection customers seeking to modify their site location for point of interconnection based on initial feedback provided in early scoping meetings. To ensure changes are allowed, but do not delay the start of interconnection studies, Management proposes interconnection customers must confirm their points of interconnection within five business days of the project's scoping meeting, and any change in point of interconnection will be limited to within the same transmission study area as the point of interconnection originally requested in its interconnection request. If an interconnection customer requests a change of its point of interconnection consistent with this criteria, it may change its site as well. This clarification will provide flexibility without affecting the ISO's ability to start and perform studies.

9. Allowing for interconnection customers to make modifications to their parked projects

When an interconnection customer does not receive the deliverability allocation it sought, it can "park" its project to re-seek deliverability the next year, convert to energy only, or withdraw. Management proposes to clarify the modifications that a parked project may request: downsizing, fuel-type, technology type,[9] point of interconnection, and permissible technological advancements. To make these changes while parked, the interconnection customer must post its second interconnection financial security. This proposal provides interconnection customers with more flexibility to make necessary changes while parked without subjecting the ISO and transmission owners to unnecessary studies for a project that may make significant changes or withdraw based on the next deliverability allocation results.

10. Criteria for a deadline in the Appendix B validation process

The GIDAP Appendix B is a document that interconnection customers must submit to the ISO after the Phase I study results meeting. The Appendix B contains information on changes that an interconnection customer may make prior to beginning the phase II study process. The information must be validated by the ISO and any omissions or errors in the information corrected before the ISO can begin the phase II studies. Management proposes to add a deadline for the validation of Appendix Bs, such that they must be deemed valid by 70 calendar days after the date of the Phase I study. The ISO will iterate with each interconnection customer within this deadline to ensure interconnection customers provide Appendix Bs early and can cure any deficiencies. This process will ensure that the Phase II study is not delayed.

[9] *E.g.*, wind to storage, solar to storage, solar to wind, etc.

11. Expanding deliverability transfer opportunities

Projects frequently transfer deliverability when adding storage or changing generating components at nearby sites. Management proposes to revise the tariff to allow transfers of deliverability between eligible projects at the same substation and voltage level, instead of the only allowing transfers between projects at the same exact point of interconnection. This will provide interconnection customers the maximum flexibility possible without affecting deliverability studies.

12. Clarifying requirements for interconnection requests proposing to utilize a third party owned gen-tie

Management proposes that any interconnection request that proposes to utilize third-party interconnection facilities must provide documentation as part of their interconnection request demonstrating that the owner will share available capacity. The interconnection customer would then demonstrate it has solidified these rights before the phase II study. The ISO has dealt with a number of projects that created uncertainty because the interconnection customer delayed obtaining permission from the interconnection facility owner. With the declining number of open positions for interconnecting new generators, the ISO expects these type of interconnection requests to increase. The interconnection facility requirement is analogous to the site exclusivity requirement: the ISO should not expend resources studying projects that may lack the fundamental rights to actually construct their proposed generators. Similar to that requirement, Management also proposes a transition period for cluster 14 projects already in queue.

12. Enhanced communication process post interconnection requests validation using the RIMS application

Historically, various documents have been shared with the participating transmission owner's and interconnection customers via email. Management proposes that deliverability allocation results, financial security posting requests, material modification assessment documentation (data files and results), repowering and limited operation study documents (request, study plan and study report), and other final communication among the parties will be provided in the resource interconnection management system. This will provide a central exchange for data, and will provide interconnection customers with increased transparency to see results and make decisions while in queue.

POSITIONS OF THE PARTIES

The ISO initiated the IPE 2021 initiative with a preliminary issue paper on September 30, 2021, followed by a stakeholder meeting where stakeholders were invited to present topics and issues for consideration in the initiative. Through stakeholder input the topics addressed in phase 1 were reduced to those that had sufficient stakeholder support. In total, five papers were posted, each with an associated stakeholder meeting and

comment process. The IPE 2021 Phase 1 Final Proposal and the IPE 2021 Phase 1 tariff revisions were posted on April 21, 2022, follow up with a stakeholder conference call on April 28, 2022.

Section 1 Enhancements

1. Modifications to the transmission plan deliverability allocation process

   - Stakeholders voiced broad support for allocations groups A, B, and C

   Based on stakeholder comments, the following adjustments were made to the final proposal.

   - Allocation group D was adjusted to allow projects to convert to energy only after their eligibility for group D ends instead of being required to withdraw.
   - The power purchase agreement requirements were adjusted to reduce the term of the power purchase agreement from 5 to 3 years, and to eliminate the lower ranking of power purchase agreements with large customers who resale the resource adequacy attributes to and entity with resource adequacy obligation.

2. New process allowing for the interconnection of new generation under an emergency state mandate

   - 6 stakeholders fully support proposal as is
   - 4 stakeholders support the proposal but had lingering concerns or requested further clarification that were addressed in the final proposal
   - 1 stakeholder opposed the proposal suggesting it could be misused

   In response to the comments Management has made further clarifications in the final proposal to address stakeholder concerns.

3. Requiring projects to demonstrate site exclusivity earlier in the process

   - 10 stakeholders fully support the proposal
   - 3 stakeholders suggest more stringent requirements
   - 3 stakeholders suggest less stringent requirements

   Based in the comments, Management believes that the proposal has struck the right balance.

Section 2 Enhancements

Enhancements 4 – 13 received broad stakeholder support.

CONCLUSION

Management recommends that the ISO Board of Governors approve the thirteen enhancements proposed in this memorandum. These enhancements are generally supported by stakeholders and were refined to address many of their comments throughout the stakeholder process. The proposed modifications improve the effectiveness of allocating deliverability to projects and expand customer options. These modifications also help move resources through the queue, manage the queue, and modify the Generator Interconnection and Deliverability Allocation Procedures to be more adept at dealing with the current significant generation expansion requirements. The proposed enhancements will better accommodate interconnecting significant amounts of new generation expeditiously to meet near-term reliability challenges. Finally, the proposed modifications will continue to improve the ISO's generator interconnection procedures to help California and the West have robust capacity and meet their public policy goals.

Management looks forward to bringing the IPE phase II initiatives to the ISO Board of Governors in October, 2022.