



# Memorandum

**To:** ISO Board of Governors

**From:** Neil Millar, Vice President, Infrastructure & Operations Planning

**Date:** July 7, 2021

**Re:** **Decision on Cluster 14 Interconnection Procedures**

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*This memorandum requires Board action*

## EXECUTIVE SUMMARY

The California Independent System Operator Corporation's Generator Interconnection and Deliverability Allocation Procedures (GIDAP) holds an open window each year for the submission of new interconnection requests to be studied in the next cluster study process. Each cluster study process consists of two phases, Phase I and Phase II, with financial security postings being due after each phase in order to move forward to the next step. In the last decade the ISO has received an annual average of 113 queue cluster interconnection requests. This year the ISO received 373 interconnection requests seeking to be studied in cluster 14. To accommodate this cluster 14 "supercluster" and ensure meaningful study results, the ISO, as well as the participating transmission owners must expand the GIDAP study timelines and alter its study processes. Management's proposed revisions to the cluster 14 timeline and study process will only apply to cluster 14 and are summarized here:

1. Extend the overall study process by approximately one-year with accompanying study modifications while allowing for faster studies if possible;
2. Only the Phase II studies will set the binding interconnection customer cost caps; and
3. Interconnection customers will be eligible for a 100% refund of initial financial security posting if their Phase II study costs go up more than 25% or their timeline is extended a year or more from the Phase I results, and they withdraw before their second interconnection financial security is due, which follows the Phase II studies.

The protracted schedule necessary to address cluster 14, and the resultant delay to open the cluster 15 window, should not preclude load serving entities from timely accessing resources necessary to meet proposed procurement. Prior to cluster 14, there were approximately 44,000 MW of renewable resources and 47,000 MW of energy storage resources in the ISO generator interconnection queue. With cluster 14

there are now over 97,000 MW of renewable resources, 147,000 MW of energy storage resources and 245,000 of total MW in the ISO generation interconnection queue. These amounts reflect the strong competition among developers seeking to obtain a power purchase agreement for the 11,500 MW of additional resource procurement recently authorized by the California Public Utilities Commission. These amounts also demonstrate the ISO's longstanding efforts to facilitate the interconnection of additional resources to meet California's renewable portfolio standards as well as evolving reliability requirements.

During this initiative, a number of stakeholders suggested that the ISO apply additional, stricter criteria to enter or continue in the study process. Suggestions included requiring site control, power purchase agreements, select resource types, or other indicators of high readiness levels. Management has agreed to vet these proposals and others in a more extensive interconnection process enhancement initiative later this year.

Management recommends the following motion:

***Moved, that the ISO Board of Governors approves the proposed cluster 14 interconnection procedures, as described in the memorandum dated July 7, 2021; 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.***

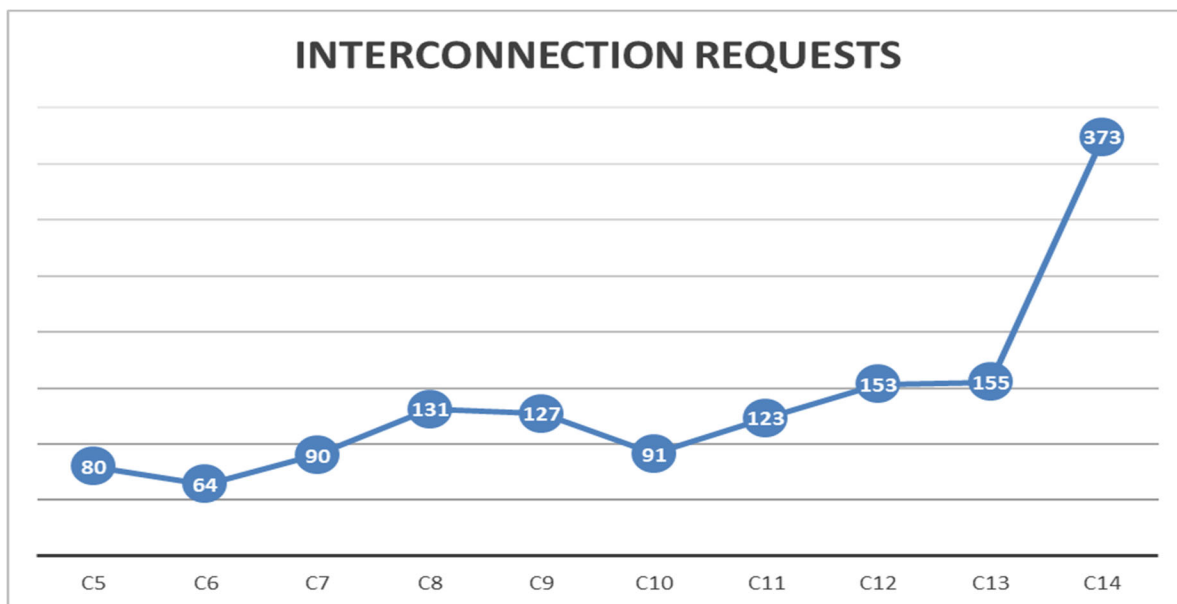
## **DISCUSSION AND ANALYSIS**

The current ISO generation interconnection process begins annually with an open application window in April and encompasses a two-year study process that includes a Phase I and a Phase II study with annual reassessments. The purpose of cluster studies is to identify the interconnection facilities and network upgrades necessary to integrate the new resource seeking interconnection to the transmission system, to estimate the costs of those upgrades, and to allocate those costs among interconnection customers sharing upgrades. The Phase I study results are typically issued in January following the open window and the Phase II study results are typically issued 10 months later in November. The lower of the network upgrade cost estimates identified in the Phase I or Phase II studies establish a firm cost cap that the interconnection customer will be required to finance. If costs ultimately exceed the cost cap, the transmission owners assume the costs. Upon achieving commercial operation, the transmission owner reimburses the customer for what it financed. However, if an interconnection customer withdraws from the queue after posting financial security, some of the financial security is non-refundable and is used to offset the costs of shared

network upgrades still needed by other interconnection customers or offset regional or local transmission revenue requirements. The cluster study approach has proven an effective way to manage a large number of simultaneous interconnection requests.

The ISO also allows fast track and independent study interconnection requests at any time, subject to the tariff requirements for those requests.

During the April 1 – 15, 2021, window for submitting new interconnection requests for study in the upcoming cluster 14 study process, the ISO received 373 requests, over three times the average in the previous nine cluster windows.



Although the ISO could rely on its tariff authority to issue market notices to extend study deadlines, doing so would result in an ad-hoc process lacking transparency and consistency. Moreover, the ISO’s transmission planning process, the participating transmission owners’ wholesale distribution access tariff interconnection processes, and many load-serving entity procurement processes depend in part on the consistency—or at least the predictability—of the ISO’s study timelines. Management believes its proposal allows interconnection customers to receive their study results as soon as possible while preserving the intent of the interconnection rules the ISO has worked with stakeholders to develop over the years. To accommodate this queue supercluster and ensure meaningful study results, the ISO must expand its study timelines and alter its study processes. To that end, Management seeks Board approval of the following enhancements:

**1. Extend the overall study process by approximately 1 year.**

The ISO, in consultation with the participating transmission owners, considered preserving all current interconnection rules and procedures; however, doing so would have required more than 30 months to complete interconnection studies, thereby

delaying the next opportunity for a queue cluster window indefinitely. A delay this long is not tenable.

Exacerbating the issue, neither the ISO nor the transmission owners are able to increase staffing levels to mitigate the supercluster impact. After clusters 12 and 13, the participating transmission owners already hired additional staff and consultants for cluster 14 in the expectation that cluster 14 would be somewhat consistent with previous large clusters. Additionally, developers themselves retained remaining available consultants to prepare this many interconnection requests for cluster 14. In any case, the very nature of the cluster study process requires the cluster to be studied together *en masse*. It is not possible to split up the interconnection requests and outsource their studies such that the ISO could maintain current interconnection study timelines.

Management proposes the following deadlines to extend current interconnection study deadlines in order to accommodate the supercluster.

<b>Deadline</b>	<b>Supercluster Proposal</b>	<b>Typical Cluster</b>
Phase I Study Results Published	September 15, 2022	January 11, 2022
Initial IFS Due	January 13, 2023	April 25, 2022
Cluster 15 Request Window	April 15, 2023	April 15, 2022
Phase II Study Results Published	November 24, 2023	November 20, 2022
TPD Affidavits Due	December 8, 2023	December 1, 2022
TPD Results Published	March 23, 2024	March 14, 2023
Second IFS Due	May 4, 2024	May 19, 2023
Reassessment	August 20, 2024	August 1, 2023

The second column shows the proposed supercluster deadlines. For comparison, the third column shows what would be the deadlines if the ISO did not exercise its existing tariff authority to expand study deadlines it cannot accommodate. Other related processes will be extended consistent with these major deadlines. Management notes that these are firm deadlines, and the ISO will not have flexibility to publish study results beyond these deadlines; however, the ISO may publish study results earlier if available.

## **2. The Phase II studies will set interconnection customer cost caps**

The unprecedented volume of generation in Cluster 14 has raised particular concerns that the ISO’s existing study approach will not produce realistic and meaningful results in Phase I interconnection studies, and that there will be little, if any, corresponding relationship between the methods of service set forth in the Phase I study results and those in the Phase II study results.

Management proposes to modify how the ISO and participating transmission owners conduct the Phase I interconnection studies. Under this proposal, the ISO, in coordination

with the participating transmission owners, will establish reasonable study scenarios and dispatch assumptions for the steady state (thermal and voltage) analysis. Total generation inside the study area will be limited to produce meaningful study results. The system conditions and generation dispatch are not expected to produce any system-level stability issues and drive reliability network upgrades. Therefore, the stability assessment will not be performed in the Phase I interconnection studies. The ISO and participating transmission owners will also modify the short circuit duty study methodology. The total online capacity in the evaluation will be limited to produce meaningful study results.

Currently, the ISO tariff provides that the lower of Phase I and Phase II allocated costs sets the interconnection customer's maximum cost responsibility, which provides the interconnection customer with a level of cost certainty. As such, if an interconnection customer's costs go up in Phase II, the interconnection customer can only assume cost responsibility up to the Phase I study results, leaving the interconnecting participating transmission owner with any actual costs above the maximum cost responsibility.

Interconnection customers' projected cost estimates provided in Phase I generally go down in Phase II due to the large amount of interconnection request withdrawals that typical occur between Phase I and Phase II. However, because under this proposal the ISO and participating transmission owners will use a revised methodology in Phase I interconnection studies, the ISO and participating transmission owners are concerned that Phase I results could produce anomalous results that lead to a higher rate (though still rare) of cost increases in Phase II.

Because of the supercluster's revised Phase I study methodology, Management proposes that those results do not impact the ultimate maximum cost responsibility. Instead, only the Phase II study will set the maximum cost responsibility above which the participating transmission owner would bear any costs for financing network upgrades.

### **3. Eligibility for 100% refund of initial financial security posting**

The Phase I study results will still provide a current cost responsibility used to establish the initial interconnection financial security posting requirement. This financial security posting is a critical milestone in the ISO generation interconnection process. Because a portion of the initial financial security becomes non-refundable (typically 50%) when a customer withdraws, this helps ensure that only those projects that are financially viable continue. Additionally, the non-refundable portion of the interconnection financial security postings helps offset the financing costs for shared network upgrades still needed for other customers that the participating transmission owners would otherwise inherit. Nevertheless, the ISO recognizes that facing higher costs in Phase II can be just as disruptive to interconnection customers, especially if the Phase II study alone sets the cost cap.

Management proposes that interconnection customers whose maximum cost responsibility goes up by 25 percent or more between Phase I and Phase II would be eligible for a 100 percent refund of their initial interconnection financial security posting if they withdraw before their second interconnection financial security posting is due. Additionally, the

interconnection customer would be eligible for the same refund if the Phase II study extends the longest-duration reliability network upgrade by one year or more. Other ISO/RTOs use similar rules today, and Management believes they are sensible in the supercluster context given the other proposed changes.

Under Management's proposal, interconnection study deposits would still be refunded based on current procedures.

Management believes these changes reflect the risk cluster 14 faces between Phase I and Phase II, and carefully balance the need for customers, participating transmission owners, and load-serving entities to have meaningful results with the need for their financial protection from unexpected cost increases.

## **POSITIONS OF THE PARTIES**

The ISO received 20 sets of comments from stakeholders on May 28<sup>th</sup> following the issuance of the initial proposal. Throughout this initiative, stakeholders understood the situation and have been generally supportive of the need to adjust timelines and study methodologies as Management proposed above. Surprisingly, many stakeholders proposed that the ISO apply additional, stricter criteria to enter or continue in the study process. Suggestions included requiring site control, power purchase agreements, select resource types, or other indicators of high readiness levels. In the final proposal, the ISO agreed to vet these proposals and others in a more extensive interconnection process enhancement initiative later this year, which may apply additional criteria to cluster 14 later in the interconnection process.

The ISO received only two sets of comments on June 28<sup>th</sup> following the issuance of the final proposal. Comments were generally supportive of the proposal but requested some refinements.

The California Energy Storage Alliance provided overall support for the proposal but requested certain modifications. One modification is that independent study process projects that were submitted prior to cluster 14, yet are included in cluster 14 for deliverability studies as per the current tariff requirements, not be subject to the extended timelines in this proposal. Management does not believe it is appropriate or necessary to provide a separate study path for these independent study process projects. Under the recent FERC approved tariff changes from the summer 2021 readiness initiative, these projects are eligible for interim deliverability if available until the cluster 14 study process is completed. Another modification California Energy Storage Alliance suggested is that projects with power purchase agreements be exempt from Management's proposed timelines above. Management does not support this at this time for cluster 14 as the very nature of the cluster process requires all projects to be studied together, and having two separate study paths would only further delay the process. Management notes that adding a future requirement for projects to have a power purchase agreement to enter or move forward in the study process can be discussed in the upcoming interconnection process enhancement initiative.

The Large-Scale Solar Association and Solar Energy Industries Association submitted joint comments providing general support for Management's proposal, but requested modifications that focused on the two criteria for the interconnection financial security refund eligibility. One request is to include cost increases in the maximum cost responsibility due to the conversion of contingent assigned network upgrades to assigned network upgrades against the 25% threshold. Another is to include the duration of deliverability network upgrades as part of the longest-duration threshold. Management believes these modification requests require more stakeholder discussion and can be further vetted in the upcoming interconnection process enhancement initiative.

## **CONCLUSION**

Management recommends that the Board approve the cluster 14 interconnection procedures proposed in this memorandum. These changes are generally supported by stakeholders and were refined to address their comments and concerns throughout the stakeholder process. The proposed modifications allow the ISO to accommodate this queue cluster 14 "supercluster" under our current tariff framework and ensure meaningful study results. It provides interconnection customers with certainty for cluster 14 study timelines and processes and an exit ramp if cost increases meet a defined threshold. It also enables further modifications to be considered in the upcoming more extensive interconnection process enhancement initiative.