



California ISO

2023 Interconnection Process  
Enhancements  
Track 1 Final Proposal

April 13, 2023

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## **1. Introduction**

With this paper, the California Independent System Operator (ISO) is providing its Track 1 final proposal for the 2023 Interconnection Process Enhancements (IPE) initiative. The 2023 IPE is focusing on making significant and transformative improvements regarding coordination of resource and transmission planning, interconnection queuing and power procurement to achieve state reliability and policy needs.

In recent years, given California's ambitious decarbonization goals and the large quantities of new clean resources it will take to meet them, the ISO has been receiving hundreds of interconnection requests a year from potential resource developers. Many of these requests are located in areas that are not a priority in the state's resource planning. With the ISO's interconnection application queue inundated with applications, current processes need to be re-imagined to ensure resource procurement and queuing are effectively shaped and informed to take advantage of transmission and interconnection capacity that exists or is already planned and under development, and to align with the transmission upgrades necessary for longer-term resource development.

The 2023 IPE initiative is part of a larger set of foundational framework improvements being coordinated between the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and the ISO. The overall strategic direction is set forth in a joint Memorandum of Understanding<sup>1</sup> (MOU) signed by the three parties in December 2022 to tighten linkages between power and transmission planning, interconnection queuing and resource procurement so California is better equipped to meet its reliability needs and clean-energy policy objectives required by Senate Bill 100. The ISO is now taking on additional reforms to the interconnection queuing process that will leverage the improved coordinated planning resulting from the MOU and help further break down barriers to efficient and timely resource development.

As set out in the MOU, the CPUC will continue to provide resource planning information to the ISO. Using this information, the ISO develops a transmission plan, initiates the transmission projects and communicates to the electricity industry specific geographic zones that are being targeted for transmission projects along with the capacity being made available in each of those zones. The ISO, as it has stated in recent months, is adopting this much more *proactive* approach to transmission planning as evidenced by the April 3 release of a draft of its 2022-2023 Transmission Plan. This more proactive approach is grounded in the policy and reliability needs of the state and will shape and inform queuing and procurement. Our strategic intent is for the revised interconnection

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<sup>1</sup> The MOU (<http://www.aiso.com/Documents/ISO-CEC-and-CPUC-Memorandum-of-Understanding-Dec-2022.pdf>) is an updated version of a 2010 MOU between the parties.

procedures to prioritize interconnection requests that are aligned with priority zones where transmission capacity exists or is being planned. This will in turn help shape the interconnection queue as the resource development community responds with proposed projects in those areas being enabled by transmission development. This will drive resource development with the operational characteristics and geographic locations consistent with resource planning conducted by the CEC and CPUC and the ISO's transmission planning. To achieve these goals, this initiative focuses on the specific changes necessary to the ISO's cluster study process, which can no longer effectively support the accelerated pace of resource development and project development interest without significant reform. As a result, it has become critical to refine the number and location of interconnection requests studied by the ISO and to shape and guide interconnection request interest.

The 2023 IPE initiative is utilizing two tracks:

- Track 1 focuses on immediate adjustments to the Cluster 15 study schedule with the final proposal for Track 1 discussed in detail in Sections 2 and 3 of this paper.
- Track 2 will focus on targeted modifications to the interconnection process. As set out in this Track 1 final proposal, the ISO expects the Track 2 modifications will be in place when the Cluster 15 studies resume, so that they can be applied to those studies.

This initiative proposes certain tariff amendments to enhance the process for studying and approving interconnection requests. ISO staff believes that these proposed tariff changes will go to the Board of Governors only and that the WEIM will have no role in the decision.

## **2. Track 1: Final proposal for immediate adjustments to the schedule for processing Cluster 15 interconnection requests**

- Background

The primary focus of Track 1 is on the immediate adjustments needed to the schedule for processing and studying Cluster 15 interconnection requests. The Cluster 15 schedule adjustments are needed to allow time for completing the Cluster 14 Phase II studies before beginning the heavy workload of the Cluster 15 interconnection request validation, scoping meeting and study processes. This will also provide time for the Track 2 portion of this stakeholder initiative to develop and put in place the longer-term solutions that will be applied to Cluster 15. The ISO considers completing the Cluster 14 phase II studies a high priority because it will provide load-serving entities with a large pool of projects for procurement. The

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modified cluster study process developed in Track 2 will need to be approved by the ISO Board and the Federal Energy Regulatory Commission (FERC), and any pre-study implementation procedures in place prior to studying Cluster 15 projects.

- Stakeholder Feedback

A total of 41 stakeholders provided comments on the IPE 2023 Issue Paper and Straw Proposal. The table below shows the general nature of the comments on the Track 1 straw proposal portion of the paper.

Oppose	Support	Support with Modification	No Comment / No Position
10	20	4	7

A majority of stakeholders, while stating that any delay in Cluster 15 is unfortunate, agree that a pause to allow for completion of the Cluster 14 study process is warranted. Nearly all stakeholders agree that if Cluster 15 is delayed, interconnection customers should be allowed to update their interconnection requests when the processing of Cluster 15 interconnection requests resumes in 2024.

A number of stakeholders requested that the Cluster 15 open window for submitting interconnection requests should be delayed beyond the scheduled April 2023 window. During the stakeholder call on March 13, 2023, the ISO discussed with stakeholders the potential for delaying the Cluster 15 open window beyond the scheduled April 2023 opening by some number of months. However, upon further consideration of the uncertainty for interconnection customers that would be created by pursuing this course of action, the ISO does not consider this to be a viable option. Accordingly, the ISO moved forward with accepting Cluster 15 interconnection requests during the normal April 3 through April 17 open window as originally scheduled.

A number of stakeholders who opposed or supported with modification requested some level of relief from ISO holding site exclusivity and study deposits until April 2024 without performing substantial work on the interconnection requests. Relief in the form of partial to full refund of either site exclusivity deposits or study deposits was suggested. The ISO holds these deposits in an interest-bearing account and believes that any refunding of study deposits would diminish the demonstration of commitment of projects to move forward. Any refunding of the site exclusivity deposits would give relief to those that provided site exclusivity deposits in-lieu of demonstrating site exclusivity, but such relief would not be available to those who committed funds to obtain site exclusivity. For these reasons the ISO is not

proposing any temporary refunding of study or site exclusivity deposits of projects that remain active in the interconnection queue. Alternatively, the proposal will allow for interconnection requests to be withdrawn from the queue and receive refunds of all deposits; however, the ISO does not propose to alter existing deposit refund provisions. Appendix DD already allows any project able to demonstrate that it has met site exclusivity requirements to be eligible for return of its in-lieu of site control deposits. Appendix DD also allows for withdrawal of an interconnection request on or before 30 calendar days following the scoping meeting, and to receive a refund of any portion of the interconnection customer's study deposit, including interest earned, that exceed costs that the ISO, Participating TOs, and third parties have incurred on the interconnection customer's behalf, and a full refund of any site exclusivity deposit, including interest earned.

- Proposal

The ISO proposes the following modifications to the standard interconnection request processing and for starting the study process for Cluster 15:

1. Accept Cluster 15 interconnection requests during the normal April 3 – April 17 open window. The Cluster 15 window is now open and will close in accordance with the standard cluster window schedule.
2. Perform the interconnection request completeness review of interconnection requests received during the open window. The ISO intends to conduct the completeness review as the tariff contemplates.
  - a. Consistent with Appendix DD Section 3.5.3, the ISO will review each modified interconnection request and notify the interconnection customer whether it is complete or contains omissions within five business days of submission.
  - b. Pursuant to Appendix DD Section 3.5.1, interconnection customers that submit their Interconnection Requests more than five business days before April 17 will receive a notification from the ISO regarding their interconnection request's completion, and will have an opportunity to provide any missing information by April 17. To the extent the ISO cannot meet the five business day response time for interconnection requests submitted or corrected more than five business days before April 17, the Interconnection Customer will receive a day-for-day extension on the April 17 completion deadline.
3. Postpone until April 1, 2024 commencement of the validation of Cluster 15 interconnection requests, the project scoping meetings and the cluster study processes.

This effectively means the ISO will postpone commencement of the Cluster 15 interconnection request validation and scoping meetings until the Cluster 14 phase II studies and results meetings have been completed. Both the validation and the scoping meeting processes take significant time and resources of the ISO and Participating Transmission Owners (PTOs), even for a typical sized cluster. Once the Cluster 14 phase II studies and results meetings are complete, the Cluster 15 interconnection request validation and scoping meeting processes can begin.

4. Target January 31, 2024 for publishing the Cluster 14 phase II interconnection study reports.

The current Cluster 14 Supercluster schedule for publishing the phase II interconnection studies is by November 24, 2023. There are 205 projects to be studied in the Cluster 14 phase II study process, 105 of which are seeking interconnection in PG&E's territory<sup>2</sup>. In discussions with PG&E the ISO determined that additional time is needed for PG&E to complete its phase II studies and for the ISO to publish the study reports. The proposed revised due date for publishing the phase II interconnection studies is therefore January 31, 2024 for all PTOs. The phase II study results meetings will be conducted in February and March 2024. Based on past experience with the Cluster 14 phase I study results meeting, the ISO is confident that the results meetings can be completed within this adjusted timeframe.

**One-time opportunities for Cluster 15 interconnection customers whose interconnection requests were determined to be complete during the current ongoing interconnection request window for Cluster 15.**

The ISO also proposes that Cluster 15 interconnection customers that withdraw prior to April 1, 2024 will receive a refund of any portion of the interconnection customer's study deposit, including interest earned, that exceed costs that the ISO, Participating TOs, and third parties have incurred on the interconnection customer's behalf (which the ISO assumes would be minimal), and a full refund of any site exclusivity deposit, including interest earned.<sup>3</sup>

Additionally, the ISO proposes that when the ISO resumes processing Cluster 15 interconnection requests, interconnection customers that submitted complete requests will have an opportunity to revise their interconnection request by making modifications without submitting material modification assessment

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<sup>2</sup> The 105 projects in the phase II studies for the PG&E system is more than three times greater than PG&E's previous largest phase II study amount.

<sup>3</sup> Refer to Appendix DD, Sections 3.5.1.1 and 3.5.1.3.

requests. Any modifications made to an interconnection request must be received between May 1, 2024 and September 26, 2024<sup>4</sup> and must be determined to be complete based on all required information being supplied specific to the interconnection request prior to any validation work or scoping meeting for the project.

Modifications allowed will be limited to:

1. Changing the technology of any generator technology listed in the original interconnection request. No increase in the MW capacity requested at the point of interconnection (*i.e.*, the Interconnection Service Capacity) will be allowed.
2. Changing the MW capacity amounts of the various generator technologies of the original interconnection request. Any individual generator technologies capacity may be increased or decreased so long as the original Interconnection Service Capacity does not increase.
3. Adding or increasing storage components to the original interconnection request, even if no storage was included in the original interconnection request. Again, the Interconnection Service Capacity of the aggregate generating facility may not increase.
4. Changing the point of interconnection and project site, within the limitations provided in the tariff, namely, within the same study area.
5. A change to any characteristic of an interconnection customer's request also must be accompanied by an updated interconnection request package to accurately represent the resource's changed characteristics.

Because these changes generally are already possible before phase I studies commence, there is no immediate need to specify a policy for changes and revise the tariff. As such, stakeholders may comment on this issue in the Track 2 stakeholder discussions as well.

### **3. Track 1: Final proposal for special consideration for out-of-state wind resources**

- Background

State policies and CPUC planning activities have identified the requirement for significant amounts of offshore and out-of-state wind resources and transmission

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<sup>4</sup> The proposed date for requiring all Cluster 15 interconnection request deficiencies cured and the interconnection request fully valid.



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planning needs to address this issue. Both types of resources have long lead times and large scale that create challenges in obtaining timely power purchase agreements with resource procurement responsibilities spread over 40 load-serving entities in the ISO footprint. While the ISO is supporting the various state agency efforts to address these issues, these timeline challenges are unique in relation to the more quickly sited and constructed solar and storage projects that make up the bulk of interconnection requests.

Due to these challenges, the ISO was initially concerned that the delayed Cluster 15 schedule could impair the development of these unique resources and delay California's policy objectives for supply diversity and reliability from these types of wind projects. The ISO wants to ensure it does not negatively affect federal and state processes for specific resource development and explored if additional consideration should be given to these projects.

Offshore wind in northern California will likely not be impacted by the Cluster 15 schedule delay because it needs policy-driven transmission projects approved through the ISO's Transmission Planning Process (TPP) before GIDAP studies can produce meaningful results. The policy-driven transmission projects designed to support the northern offshore wind projects will not be completed in the TPP and approved by the ISO Board until March 2024 at the earliest. Central coast offshore wind projects in Clusters 13 and 14 combine for over 4,000 MW that will not be impacted by the delayed Cluster 15 schedule. For these reasons, the ISO is not proposing to include offshore wind projects in any special consideration for studying outside of the modified Cluster 15 study schedule.

Regarding out-of-state wind, the in-state network transmission for out-of-state imports is being developed as state policy-driven projects in the transmission planning process through CPUC resource plans transmitted to the ISO. An additional point of emphasis calls for the intra-state transmission capacity to be above and beyond unused existing and planned capacity that has already been allocated to other projects earlier in the queue that would rely on the same transmission paths.<sup>5</sup> Further, the ISO has been working to develop a "subscriber participating transmission owner" model to connect significant amounts of out-of-state wind to the ISO. This model will provide important operational benefits to streamline development without driving up transmission revenue requirements inside the ISO footprint.

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<sup>5</sup> Letter to Elliot Mainzer ISO President and Chief Executive Officer from CPUC President Reynolds, CPUC Commissioner Rechtschaffen, and CEC Vice Chair Gunda, July 1, 2022 "Transmittal Letter to ISO for 2022-23 TPP High Electrification Portfolio" <http://www.caiso.com/InitiativeDocuments/2022-2023TransmissionPlanningProcess-PortfolioTransmittalLetter.pdf>

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The ISO began the Subscriber Participating TO Model stakeholder initiative on August 8, 2022 to develop a model that will facilitate delivery of needed resources to the ISO by accommodating FERC's subscriber-funded transmission approach. Using the Subscriber Participating TO model, transmission projects can deliver renewable generation from out-of-state resource developers to California subject to getting commercial interest in the resources and without increasing the transmission revenue requirement of the Transmission Access Charge ("TAC").<sup>6</sup> Developers of such projects would place their facilities under ISO operational control through a decision pathway other than the TPP process.

The TransWest Express LLC ("TransWest") Project is the first project that the ISO anticipates using the Subscriber Participating TO Model, originating in Wyoming and interconnecting to the ISO. TransWest filed a Participating TO application in accordance with Section 4.3.1.1 of the ISO tariff and Section 2.2.1 of the Transmission Control Agreement ("TCA").

The ISO received Board approval in December 2022 to allow TransWest to become a Participating TO in the ISO BAA contingent upon obtaining subscribers for the transmission line and FERC approval of a TO tariff. On March 15, 2023 FERC accepted an Applicant Participating Transmission Owner Agreement ("APTOA") between the ISO and TransWest. The timing of Board approval of TransWest as a new Participating TO was to allow the ISO to include the Project in the transmission planning process and enable the wind generation to be studied in cluster 15 so TransWest's subscribers will know the full costs of its Project in a timely manner, thereby facilitating California policy objectives for procuring out-of-state wind.<sup>7</sup>

After not being chosen in the TPP process for a number of years because the CPUC portfolios at the time did not support out-of-state resources, TransWest began working with the ISO in January 2022 to determine a path forward for a transmission line in the ISO BAA that would be paid for by subscribers. The TransWest Project is currently engaged in transmission interconnection studies with SCE, LS Power, NVE, PAC and LADWP. The current status of those studies is:

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<sup>6</sup> The only potential for a Subscriber Participating TO to have a transmission revenue requirement in the TAC would be 1) for subsequent generator interconnections beyond the original project, the Subscriber Participating TO will be allowed to recover those incremental costs due to the subsequent generator interconnection by creating a transmission revenue requirement consistent with the ISO tariff; or 2) if the Subscriber Participating TO's project became eligible for competitive solicitation, the Subscriber Participating TO bid in the solicitation and if they win the competitive solicitation. In both instances, consistent with the tariff, the Subscriber Participating TO would be considered a Participating TO and allowed only cost of service rate recovery for the transmission facilities.

<sup>7</sup> At the time of the Board approval of TransWest as a new Participating TO, it was anticipated that the line would be included in the TPP and that Cluster 15 Phase I results would be available January 2024, with Phase II results in December 2024.

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- WECC Path Rating for north to south is completed;
  - System Impact Studies have been completed by SCE, LS Power, NV Energy, Intermountain Power Agency/LADWP;
  - System Impact Studies is underway with PacifiCorp;
  - WECC Path Rating and EMT/SSI Special Studies are underway; and
  - Facilities Studies are underway with LS Power and NV Energy. PacifiCorp has determined that a Facilities Study is not required.
- Stakeholder Feedback

This issue did not receive stakeholder support for any unique consideration for off shore or out-of-state resources, but a number of opposing commenters requested more information to make an informed decision. The table below shows the general nature of the comments on this Track 1 portion of the paper.

Oppose	Support	Support with Modification	No Comment / No Position
19	3	6	13

The IPE 2023 Issue Paper and Straw Proposal released on May 6, 2023 requested stakeholder input on several types of resources facing unique challenges that may warrant additional consideration, such as offshore and out-of-state wind. A significant number of commenters suggest the proposal is discriminatory and unduly preferential and that it would set a precedent for establishing separate study for future innovative generation types.

Some commenters were concerned that this process would potentially cause further study delays for in-state projects and would contribute to the network upgrades needed for the delayed projects in Cluster 15, or that the process could potentially slow down the Cluster 14 phase II schedule. Between the studies performed in the TPP and those performed by the utilities in the transmission interconnections studies, TransWest has or is in the process of being studied for deliverability, reliability and interconnection facilities therefore the ISO has determined that additional study process for out-of-state wind are not needed at this time.

Some stakeholders asked for clarification of the proposal, especially with regard to how intra-state and offshore wind transmission capacity will impact existing capacity allocations. The CPUC portfolios inform the amount and general location for policy-driven deliverability network upgrades for out-of-state wind. While TransWest will not have exclusive rights to this added deliverability capacity, the transmission capacity

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needed to make TransWest deliverable, up to the level of the portfolio for Wyoming wind, is already being planned in the TPP.

One stakeholder was concerned that this process might incentivize load-serving entities to procure solely from offshore and out-of-state wind, rather than solar or energy storage, based on the earlier study timeline. There is currently an abundance of all types of resource technologies in the queue that are well ahead of the wind projects associated with TransWest to provide load-serving entities with an abundance of choices in their procurement processes.

A number of supporting comments requested that the technologies included in any special consideration be expanded to include pumped storage hydro, geothermal and green hydrogen resources. The ISO does not believe other technologies warrant special consideration at this time, but the ISO may revisit this issue based on future public policy and procurement.

A number of stakeholders made suggestions related to the TPP and the deliverability methodology. These comments will be forwarded to that TPP deliverability initiative.

CPUC staff support advancing Cluster 15 interconnection requests for specific long lead-time resources on a separate expedited timeline. This would help to support transmission planning for these resources due to the complex timeline challenges that are unique to these resources compared to the majority of interconnection requests. CPUC staff support a separate expedited timeline for long lead-time resource types to ensure development of these resources are in sync with transmission planning and development.

- **Proposal**

The ISO appreciates the concerns expressed by stakeholders regarding separate and unique study processes, and is not proposing a separate study process at this time.

The ISO recognizes that particular resources may have benefited from the Cluster 15 study process on a conventional timeline. Principally, TransWest Express, to transition from the transmission interconnection process, is in unique circumstances where the reliability, delivery network upgrades, and interconnection facilities are being studied through transmission processes. Due to the specific consideration of the out-of-state resources requested by the CPUC in providing input into the ISO's transmission planning process, these requirements would not negatively impact resources applying for interconnection in Cluster 15. Accordingly, the ISO will

explore addressing TransWest Express's transition from a transmission planning process project as needed, but without a separate GIDAP process at this time.

## **4. EIM Governing Body Role**

This initiative proposes certain tariff amendments to enhance the process for studying and approving interconnection requests. ISO staff believes that these proposed tariff changes will go to the Board of Governors only and that the WEIM will have no role in the decision.

The Board and the WEIM Governing Body have joint authority over any

proposal to change or establish any CAISO tariff rule(s) applicable to the EIM Entity balancing authority areas, EIM Entities, or other market participants within the EIM Entity balancing authority areas, in their capacity as participants in EIM. This scope excludes from joint authority, without limitation, any proposals to change or establish tariff rule(s) applicable only to the CAISO balancing authority area or to the CAISO-controlled grid.

Charter for EIM Governance § 2.2.1. The tariff changes proposed here would not be “applicable to EIM Entity balancing authority areas, EIM Entities, or other market participants within EIM Entity balancing authority areas, in their capacity as participants in EIM.” Rather, they would not be applicable “only to ... the CAISO-controlled grid.” Accordingly, these proposed changes to implement these enhancements would not fall outside the scope of joint authority.

The WEIM Governing Body also has an advisory role that extends to any proposal to change or establish tariff rules that would apply to the real-time market but are not within the scope of joint authority. This initiative, however, does not propose changes to real-time market rules.

Stakeholders are encouraged to submit a response in their written comments to the proposed classification as described above, particularly if they have concerns or questions.

## **5. Stakeholder engagement**

The schedule for stakeholder engagement is provided below. The ISO will present its proposal for Track 1 to the Board of Governors in May 2023.

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<b>Date</b>	<b>Event</b>
<b>Track 1</b>	
<del>3/6/2023</del>	<del>Issue paper and straw proposal published</del>
<del>3/13/2023</del>	<del>Stakeholder conference call on issue paper and straw proposal</del>
<del>3/27/2023</del>	<del>Stakeholder comments due</del>
4/13/2023	Publish draft final proposal
4/24/2023	Stakeholder comments due on final proposal
5/1/2023	Stakeholder conference call on final proposal
5/17/2023	Board of Governors meeting

The schedule for Track 2 will be developed following the publication of this paper. It is anticipated that to meet the proposed schedule for implementing process changes ahead of commencing Cluster 15 phase I studies, Track 2 would need to be presented to the Board of Governors in December 2023.