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## Cal Advocates Comments on CEC Bulk Grid Interconnection Workshop_2023May04Cpuc0410!

*Additional submitted attachment is included below.*

May 31, 2023

**Comments on CEC IEPR Commissioner Workshop on Clean Energy Interconnection-Bulk Grid**

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) is the state-appointed independent consumer advocate at the California Public Utilities Commission (CPUC). Our goal is to ensure that all Californians have affordable, safe, and reliable utility services while advancing the state's environmental goals. Our advocacy efforts to protect California customers span the areas of energy, water, and communications regulation.[1]

Cal Advocates commends the California Energy Commission (CEC) for hosting a forum to address issues and propose reforms to generator interconnection procedures and agreements and improve how utilities and transmission providers integrate new generation projects into the existing transmission system. Given the need the state's need to maintain reliability and goal to transition the energy sector to zero-carbon resources, it is critical to carefully monitor generation interconnection activities, analyze resource interconnection bottlenecks, and identify improvements in interconnection process workflow.

With 187,886 megawatts (MW) currently in the California Independent System Operator (CAISO) Interconnection Queue and 541 new interconnection requests (representing 354,000 MWs) of generation and storage capacity that have been submitted during the recent application window,[2] California must make transformative improvements to the CAISO interconnection process.

Based on a Lawrence Berkeley National Laboratory (LBNL) report, much of the capacity in the CAISO interconnection queue is speculative and will not be built. LBNL found that only 13% of the projects that had entered the CAISO queue from 2000-2016 have reached commercial operation.[3] There should be screening approaches established to distinguish between "viable" and "speculative" projects.[4]

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[1] Public Utilities Code Section 309.5.

[2] *Interconnection Processes and Ongoing Improvements,* CAISO Presentation, Neil Millar @ CEC Commissioner-IEPR Workshop on Clean Energy Interconnection Bulk-Grid, May 4, 2023, page 4 https://efiling.energy.ca.gov/GetDocument.aspx?tn=249966&DocumentContentId=84696

[3] *"Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection as of the End of 2022,"* Lawrence Berkeley National Laboratory, April 2022, page 11. PowerPoint Presentation (lbl.gov)

[4] *2021 Interconnection Process Enhancements* – Gridwell Consulting Proposed Issues Presentation, Gridwell Consulting, October 19, 2021, slide 3. PowerPoint Presentation

Drivers of the problem of unviable interconnection requests clogging the CAISO interconnection queue include:[5]

- Increased resource planning procurement authorization.
- Low threshold for entry; it costs the same amount of effort for a project developer to request interconnection for 30 MW as it does for 1000 MW.
- Projects have limited financial motivation to drop out of the process.
- Limited Information available to developers on regional curtailments, known transmission constraints, and known deliverability availability.

CAISO acknowledges that previous refinements to the interconnection process have not sufficiently reduced the number or capacity of interconnection requests to a manageable level. CAISO also admits that the current strategy of introducing various incremental enhancements to the interconnection process, but excluding structural changes that would disrupt the current interconnection queue process and prioritization, is not sufficient to address the logjam.[6] Therefore, Cal Advocates recommends the following bulk grid interconnection reforms:

- Adopt a First-Ready, First-Served queue prioritization.
- Significantly raise the financial threshold for entry into the CAISO interconnection queue.
- Disincentivize developers from hedging their risk with superfluous interconnection requests that are not viable.
- Provide financial motivation for unviable projects to drop out of the queue process as early as possible.
- Provide sufficient data for developers to evaluate potential project interconnection sites.
- Adopt interconnection reform best practices of other regional transmission organizations (RTOs).

It is unwise to continue the previous strategy of limiting the scope of process changes in order to avoid getting too far ahead of the June 16, 2022, Federal Energy Regulatory Commission (FERC) Notice of Proposed Rulemaking (NOPR) on Improvements to Generator Interconnection Procedures and Agreements that was published.[7] To date, FERC has not published an order from this rulemaking. The issues surrounding the interconnection process are too urgent to continue to wait for federal guidance, and FERC orders are likely to be "lowest common denominator" reforms palatable to the entire country and not suitable for challenges CAISO faces. The CAISO can move ahead with reforms like some RTOs have done. The CAISO should file interconnection reforms at FERC now and that can help address CAISO's back log.

RTOs, like PJM, are taking immediate action to make significant changes to its interconnection process. PJM was able to successfully reform its generation interconnection process with the submission and approval to FERC (FERC docket ER22-2110-000 and -001 on PJM Interconnection

[5] *Id.* Slide 11.
[6] CAISO 2023 Interconnection Process Enhancements, Issue Paper and Straw Proposal, Mar 6, 2023 (2023 IPE) CAISO InitiativeDocuments/Issue-Paper-and-Straw-Proposal-Interconnecton-Process-Enhancements-2023-Mar132023.pdf
[7] https://www.ferc.gov/media/rm22-14-000

Process Reform). The FERC Order acknowledges that "the filing constitutes a comprehensive reform of the PJM interconnection process designed to more efficiently and timely process New Service Requests by transitioning from a serial first-come, first-served queue process to a first-ready, first-served clustered cycle approach."[8] CAISO should adopt the PJM interconnection best practices that have already been approved by FERC. And since these reforms have already been approved by FERC for PJM, it follows that these reforms would likely be approved by FERC for CAISO. These reforms include:

- Interconnection Request (IR) Queue Priority Reform (First-Ready, First-Serve).
- Reduction of Excessive Interconnection Request Submissions.
- Elimination of Unviable IRs that Clog the Interconnection Queue.

**a. Reform IR Queue Process Priority (First-Ready, First-Served)**

Cal Advocates recommends that the CAISO adopt, as PJM has, a First-Ready, First-Served plus Cluster approach. Currently, all CAISO interconnection requests are lumped into a massive cluster (e.g., Cluster 14 with 205 Interconnection Requests (IRs)). As a result, it will take nearly three years for an interconnection customer to get a signed Generation Interconnection Agreement. With Cluster 15 submissions exceeding CAISO estimates (541 IRs) CAISO should adopt a first-ready, first-served interconnection queue priority approach, which would assign the interconnection customer an interconnection queue position according to when the interconnection customer executes a Phase I study, rather than when the interconnection customer entered queue. Interconnection customers should also be given the option to expedite an IR Agreement following a Phase 1 or Phase 2 study, if no or minimal local upgrades or minimal local system network upgrades are required.

**b. Reduce the Number of Excessive Interconnection Request Submissions**

The CAISO continues to express concern regarding the increased number of current submissions in Cluster 14 and the potential number of submissions in Cluster 15. According to the Gridwell study, one reason for the excessive number of IRs is the low cost for entering the CAISO queue. Cal Advocates recommends addressing this issue by implementing the PJM increased study deposits which were approved by FERC. Specifically:

**Increased Study Deposits for Proposed Project Capacity in the CAISO Interconnection Queue**

1) \$75k: 20 MW
2) \$200k: 20 MW to < 50 MW
3) \$250k: 50 MW to < 100 MW
4) \$300k: 100 MW to < 250 MW

[8] Federal Energy Regulatory Commission ORDER ACCEPTING TARIFF REVISIONS SUBJECT TO CONDITION, PJM Interconnection, L.L.C. Docket Nos. ER22-2110-000, ER22-2110-001, November 29, 2022.

5) $350k: 250 MW to 750 MW

6) $400k: > 750MW

**c. Elimination of Unviable IRs that Clog the Interconnection Queue**

The CAISO has numerous IRs that are clogging the interconnection queue. Only 13% per year of the projects that entered the CAISO queue from 2000-2016 have reached commercial operation.[9] Cal Advocates recommends the CAISO regularly reassess IRs for viability using the same methods adopted by PJM and approved by FERC. Specifically, IRs that are 6 months late for posting deposits and completing an IR agreement should be removed from the IR queue.

**FERC NOPR RM22-14-000**

In addition to adopting the interconnection queue reform best practices of other RTOs, California should also consider the reforms proposed in the FERC Notice of Proposed Rulemaking (NOPR) RM 22-14-000. Some of the issues discussed during the CEC workshop can be implemented in California's interconnection process to help ameliorate the backlog in the interconnection queue.

**1. Facilitating Interconnection Information Access**

The NOPR recognizes that the lack of information available to interconnection customers, prior to entering the interconnection queue, is a factor that leads to interconnection queue backlogs and interconnection study delays.[10] Cal Advocates supports the NOPR proposal to require transmission providers to publicly post available information pertaining to generator interconnection. Such a requirement could help inform project developer's decision-making prior to the submission of an interconnection request and reduce the number of speculative or non-viable interconnection requests[11] in the interconnection queue. Cal Advocates agrees with the NOPR that requiring transmission providers to post information regarding efficient points of interconnection (i.e., location and availability of capacity) could both reduce the incentive to submit multiple speculative interconnection requests and help developers assess the viability of proposed generation facilities. As the NOPR points out, the Midcontinent Independent System Operator (MISO) provides tools, such as an interactive congestion heatmap to guide potential points of interconnection with available interconnection capacity, for prospective interconnection customers.[12]

**2. Increased Financial Commitments and Readiness Requirements**

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[9] *"Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection as of the End of 2022,"* Lawrence Berkeley National Laboratory, April 2022, page 11. PowerPoint Presentation (lbl.gov)

[10] NOPR at 39 (all NOPR references refer to NOPR's page number.).

[11] NOPR at 43-44.

[12] NOPR at 37.

Cal Advocates supports the NOPR's goal to limit interconnection queues to applications for generating facilities that will likely be built.[13] Under the current process, interconnection customers do not have enough *skin in the game,* which leads to bloated interconnection queues filled with potentially numerous speculative projects. The queues should include only applications for projects that have a high chance of reaching commercial viability either by demonstrating that the developer owns all the land needed to develop the generating facility or that it has a signed customer agreement to procure the energy from the generating facility. Cal Advocates agrees with the NOPR, requiring the developer to demonstrate greater financial commitment and operational control of the proposed project would likely reduce submissions of multiple speculative interconnection requests that can result in application withdrawals and trigger rounds of re-studies.[14] This would also enable viable requests to progress more quickly through a less-congested queue.

FERC acknowledges that there are no provisions in the pro forma Large Generator Interconnection Procedure (LGIP) that require transmission providers to share network upgrade costs between earlier-in-time and later-in-time interconnection customers (e.g., customers studied in separate clusters).[15] The lack of such provisions could unfairly impact customers who interconnected earlier and already funded network upgrade costs. Cal Advocates recommends that the CAISO require transmission providers to allocate the costs for network upgrades, in a manner that is roughly commensurate with the benefits received, between interconnection customers in an earlier cluster study and interconnection customers in a subsequent cluster study that benefit from the same network upgrade.[16] This reform follows cost causation principles since all customers, pre- and post- need for network upgrades, benefit from and pay for the upgrade and should be implemented in California.

FERC further acknowledges, and Cal Advocates agrees, that the current pro forma LGIP allows an interconnection customer to proceed through the generator interconnection process without demonstrating meaningful progress toward achieving commercial viability (e.g., a power purchase agreement or site control). Cal Advocates agrees with FERC's concern that without requiring this type of evidence, interconnection customers will continue to submit multiple speculative interconnection requests and later withdraw those requests, triggering rounds of re-studies.

The NOPR tackles this issue by requiring higher financial commitments. Cal Advocates supports the NOPR tiered approach with larger study deposit fees collected at each stage of the cluster study process. Cal Advocates also recommends that larger generating facilities be required to provide higher deposits due to their increased size. These necessary reforms should help to curb interconnection customers' submitting multiple speculative interconnection requests and later withdraw those requests, triggering rounds of re-studies.[17]

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[13] FERC RM22-14-000, *Improvements to Generator Interconnection Procedures*, June 16, 2022 (NOPR), https://www.ferc.gov/media/rm22-14-000

[14] FERC RM22-14-000, *Improvements to Generator Interconnection Procedures*, June 16, 2022 (NOPR), https://www.ferc.gov/media/rm22-14-000

[15] NOPR at 73.

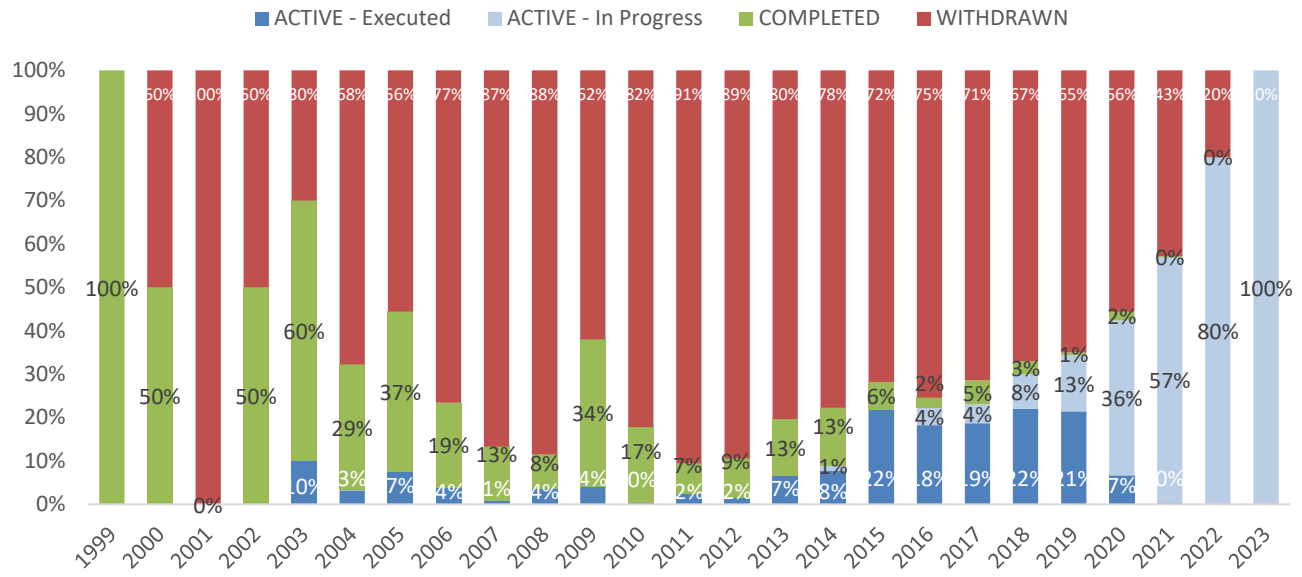
[16] NOPR at 77.

[17] NOPR at 82.

In addition to the NOPR proposal to increase study deposits, Cal Advocates agrees with the NOPR's proposed requirement that interconnection customers demonstrate site control and a contract for the sale of electricity, or face higher study deposits. These reforms help demonstrate that the generator interconnecting is commercially viable.

Cal Advocates also agrees with the NOPR proposal to require transmission providers to assess withdrawal penalties to interconnection customers in certain circumstances.[18] The prospect of significant penalties for withdrawing a project during the interconnection process has the potential to decrease the number of late-stage project withdrawals and mitigate harm to others in the queue. As mentioned above, interconnection queues are plagued by numerous withdrawals. Figure 1 shows the percentage of interconnection queue applications withdrawn per year in California.

Figure 1 – Percentage Interconnection Requests in California by Year and Application Status




Source: Cal Advocates analysis of the CAISO interconnection queue.

Withdrawals represent a significant problem for the remaining projects in the queue when the withdrawal necessitates re-studies and has a ripple effect that shifts network upgrade costs to lower queued projects. New cost estimates, in turn, can alter a proposed facility's commercial viability and create further re-studies and result in withdrawals of even more projects.[19] Cal Advocates recognizes that withdrawals can occur for a myriad of reasons, therefore recommends that the penalty process

[18] NOPR at 104.
[19] NOPR at 27.

should include exceptions if the withdrawal would not harm others in the queue or is due circumstances beyond the control of the interconnection customer.

### 3. Reforms to Increase the Speed of Interconnection Queue Processing

Cal Advocates supports the NOPR proposal to impose firm deadlines and establish penalties if transmission providers fail to complete interconnection studies on time. Currently, transmission providers are only held to "reasonable efforts" to complete the interconnection process, but there are no financial consequences if a transmission provider fails to meet those deadlines.[20] With transmission providers routinely missing interconnection study deadlines, Cal Advocates supports the NOPR proposal to eliminate the reasonable efforts standard and instead impose firm deadlines and establish financial penalties that would apply when transmission providers fail to meet these deadlines.[21] Ideally, any financial penalties should be paid by the transmission provider and not by its ratepayers. This approach would incentivize transmission providers to appropriately staff this functional area and improve the efficiency and transparency of the interconnection study process for the interconnection customers.

## CONCLUSION

Backlogs in the interconnection queue and long processing times for interconnecting to the grid have prevented needed generation (mostly renewable) and storage from reaching commercial operation. The current interconnection process encourages speculative projects, that may never be constructed, to clog highly valuable queue positions. Meager deposit requirements and first-come, first-served queue priorities provide an incentive for non-viable projects to overwhelm the queues and transmission provider's interconnection study staff. With the Cal Advocates recommendations and the implementation of the NOPR reforms discussed herein, the interconnection process would be streamlined to ensure that new clean technologies can connect to the transmission system and reach commercial operation in a timely fashion for the benefit of resource developers, Load Serving Entities (LSEs), and ratepayers.

[20] The current pro forma LGIP require transmission providers to use reasonable efforts to complete feasibility studies within 45 days, system impact studies within 90 days, and facilities studies within 90 or 180 days. The current pro forma LGIP does not include any penalties or financial consequences if a transmission provider fails to meet these deadlines.

[21] NOPR at 123-125.