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Accelerating Bulk Grid Connection

Additional submitted attachment is included below.

**BEFORE THE CALIFORNIA ENERGY COMMISSION
DIVISION OF THE CALIFORNIA NATURAL RESOURCES AGENCY**

In the Matter of the 2023 Integrated Energy
Policy Report

Docket No, 23-IEPR-01

**COMMENTS OF AES CLEAN ENERGY DEVELOPMENT, LLC
(US) ON COMMISSIONER WORKSHOP ON THE CLEAN ENERGY
INTERCONNECTION – BULK GRID**

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**BEFORE THE CALIFORNIA ENERGY COMMISSION
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I. INTRODUCTION

AES Clean Energy appreciates the opportunity to submit comments on the Commissioner Workshop on the Clean Energy Interconnection for the Bulk Grid held on May 4, 2023 (Workshop). AES Clean Energy is one of the top renewable energy growth platforms in the country. AES Clean Energy is focused on accelerating the safe, reliable transition to clean energy solutions such as wind, solar, and energy storage in the U.S. Through its affiliates and subsidiaries, AES Clean Energy maintains an operating portfolio of over five gigawatts and a development pipeline of fifty-one gigawatts.

AES Clean Energy applauds the California Energy Commission for focusing the 2023 Integrated Energy Policy Report (IEPR) on identifying barriers and solutions to accelerating the connection of clean energy technologies to the grid.¹ In light of the Memorandum of Understanding signed in December 2022², AES Clean Energy supports efforts across the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and

¹California Energy Commission, Scoping Order for the 2023 Integrated Energy Policy Report, March 29, 2023.

² Memorandum of Understanding Between The California Public Utilities Commission And The California Energy Commission and The California Independent System Operator Regarding Transmission and Resource Planning and Implementation, December 2022.

California Independent System Operator (CAISO) in creating a more effective planning process, thereby supporting more timely, efficient, and appropriately funded interconnection of clean energy resources to meet the state's clean energy goals. AES Clean Energy provides comments addressing the challenges associated with interconnection, highlighting their impacts, and presenting recommendations to overcome these obstacles.

II. Limited Transmission Capacity is the Foundational Barrier to Decarbonization

The lack of available transmission capacity is the major contributor leading to today's interconnection issues. Proper infrastructure planning has a direct impact on interconnection. Without proactive planning that aims to connect suitable locations for renewable energy production to expected load centers, CAISO's Transmission Planning Process will continue to burden the interconnection process to build out necessary transmission and respond to updated CPUC procurement guidelines. Effective planning will allow developers to properly identify renewable projects and request interconnection that supports decarbonization and growing load needs based on the results of the transmission plan. This will reduce costs to ratepayers through more efficient siting of projects.

Until the 2022-2023 Transmission Planning Process (TPP), the CAISO has minimally approved transmission projects under its policy assessment. Therefore, transmission capacity has been very limited for developers. This has resulted in costly network upgrades for interconnection and lack of deliverability. However, AES Clean Energy applauds the CAISO for approving its 2022-2023 Transmission Plan which includes a \$9.3 billion total infrastructure investment, recognizing the quantity of transmission needed to meet Senate Bill 100 goals.³ AES Clean Energy

³ CAISO's May 18, 2023 Board of Governors Meeting

also recognizes the importance of the next TPP cycles to meet state goals given new transmission's long lead time. To minimize delays of new transmission buildout, AES Clean Energy concurs with the CAISO and CEERT that a streamlined permitting process is critical for transmission project execution.⁴

AES Clean Energy supports an “all of the above” approach to enabling transmission capacity because new transmission may take up to ten years to build. New transmission build and upgrade will be required. However, in many cases, grid enhancing technologies (GETs), including dynamic line rating, storage as transmission, and reconductoring can be deployed quickly to maximize capacity on the existing transmission grid. AES Clean Energy agrees with GridWise's presentation discussing the benefits of GETs to the existing grid. The benefits include unlocking additional capacity on existing transmission and alleviating congestion, improving cost to the end-consumer to protect affordability, quick installation timelines, and the potential to reduce the overall amount of new transmission build.⁵ However, barriers exist in deploying GETs, including the lack of performance-based incentives and consideration in regulatory/ISO planning. In addition, transmission owners may be hesitant to adopt GETs due to performance uncertainty as compared to status quo assets. To remove barriers for GETs deployment, AES Clean Energy recommends regulators to create incentives for GETs deployment and require the consideration of GETs in transmission planning and interconnection. To increase confidence in GETs performance, AES Clean Energy regulators host workshops educating the industry on the benefits of GETs backed by real-time experiences.

⁴ CAISO, Interconnection Process and Ongoing Improvements Presentation, May 4, 2023, p. 5; CEERT and GridLab, Accelerating Clean Energy to the Grid, p.10.

⁵ GridWise, Unlocking the Capacity of Existing Transmission: Grid Enhancing Technologies, May 4, 2023, p. 7.

III. Without Effective Planning, the Interconnection Process is Burdened by Uncertainty and Network Upgrades

AES Clean Energy supports many panelists' sentiment that interconnection is a major roadblock to meeting state climate targets. As stated by Neil Millar, CAISO's Vice President of Transmission Planning and Infrastructure Development, California needs to annually interconnect 7,000 MW of clean energy to meet the trajectory of the state's clean energy goals.⁶ While the CAISO was able to interconnect up to 7,648 MW in 2023 and 4,642 MW in 2022, the CAISO has recognized that its current interconnection process may no longer support the number of interconnection requests in the queue without significant delays. The CAISO's Cluster 15 received approximately 540 interconnection requests. The number of interconnection requests in future cluster cycles is expected to remain the same or increase as higher quantities of clean energy resources are needed to replace fossil fuel-based resources. This has led to the need to reimagine California's interconnection process, currently under discussion at the CAISO's 2023 Interconnection Process Enhancements stakeholder initiative. AES Clean Energy is a committed party to the CAISO's initiative and looks forward to engaging in the CAISO's policy formation process.

Overheated interconnection queues across the country, including the CAISO's, are a symptom of a bigger issue, lack of proper planning. The lack of synchronization across the various regulatory/ISO planning processes has led to increased uncertainty for interconnection. Developers rely on public information, such as the CPUC's Integrated Resource Plan (IRP) resource portfolios, CEC's IEPR busbar maps, and CAISO's Transmission Plan to make informative decisions prior to submitting interconnection requests. However, given the lack of data transparency providing developers with most optimal interconnection locations, capacity

⁶ CAISO, Interconnection Process and Ongoing Improvements Presentation, May 4, 2023, p. 3.

heatmaps, and accurate transmission buildout information, developers are left to make their best educated guess when submitting interconnection requests. At worst, some developers may also use the interconnection queue as a consulting service to identify which point of interconnection (POI) might be the most viable for their project. As status quo today, developers are unable to obtain certainty on project viability until further interconnection studies are completed.

The uncertainty in the interconnection process has led to notion that developers submit many “speculative projects,” putting strain on resources and leading to numerous restudies. For example, the CAISO’s commissioned Resolving Interconnection Queue Logjams Final Report states, “[t]he challenges to the current CAISO queue is the number of independent parties participating... Projects have an incentive to stay in the queue to see if they win a contract in procurement. To be taken seriously, projects must have completed phases I and II of the interconnection process. As a general matter it is common for there to be 10 times more proposed projects than there is demand.”⁷ In other words, increased parties in the queue have led to ten times more projects in the queue than projected load, and projects remain in the queue to potentially win a procurement contract or withdrawal. With this understanding, CAISO’s interconnection reforms have solely focused on increasing entry and milestone requirements on developers, such as increasing financial commitments and site exclusivity requirements. While AES Clean Energy has been generally been supportive of proposals to increase the readiness criteria of projects to enter the interconnection queue, these are incremental solutions to the overheated queue. The long-term solution is to increase certainty for developers through effective, transparent planning, allowing developers to make informed decisions prior to entering the interconnection queue. This requires partnership with participating transmission operators (PTOs) and the CAISO to ensure proper

⁷ Grid Strategies, Analysis for CAISO, Resolving Interconnection Queue Logjams, October 2021, p. 13. Available at: <http://www.caiso.com/InitiativeDocuments/ResolvingInterconnectionQueueLogjamsFinalReport.pdf>

infrastructure to support interconnection, to make available public information to inform developers prior to entering the queue, to conduct timely interconnection studies, and to expedite buildout of network upgrades needed for interconnection.

Below, AES Clean Energy elaborates further on the key interconnection issues faced in California as a result of the lack of proper planning.

A. Network Upgrade Costs

From AES Clean Energy's experience, deliverability network upgrade (DNU) costs are a huge contributor to project withdrawals due to economic infeasibility. Many DNUs are often reidentified in cluster cycles as developers are unable to bear the high costs for upgrades. AES Clean Energy believes this issue is a result of the lack of proactive transmission planning as discussed above. AES Clean Energy recommends regulators and the CAISO to identify a method to study and potentially approve the build out the repeatedly identified transmission upgrades that cost shares with load. For example, FERC's Notice of Proposed Rulemaking (NOPR) on Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection addresses the issue of repeatedly identified transmission upgrades. Within the NOPR, FERC proposes to require transmission providers to address interconnection-related needs in its regional transmission planning process if the interconnection-related network upgrades have been identified in at least two interconnection queue cycles during the preceding five years, beginning at the time of first underlying interconnection request's withdrawal request.⁸ Building out repeatedly identified transmission projects can enable accelerated interconnection by creating more available transmission capacity in high demand areas.

⁸ FERC, Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection Notice of Proposed Rulemaking, April 21, 2022, Docket No. RM21-17-000, pp. 141-143

B. PTO Transmission Buildout Delays, Transparency, and Communication

AES Clean Energy believes transparent communication from PTOs regarding the status of transmission projects is critical to ensure coordination across developers and the CAISO on interconnection timelines. Transmission projects and network upgrades are often delayed by at least six months and developers are provided with vague reasons behind the delays. AES Clean Energy recognizes that the CAISO hosts a quarterly Transmission Development Forum allowing PTOs to provide status updates for transmission projects and interconnection network upgrades. However, the forum does not provide details on the cause of construction delays, inhibiting the ability for the state or developers to provide assistance. AES Clean Energy recommends regulators, in coordination with the PTOs, to identify the root cause of transmission built out delays and identify mitigation measures. Policy options should be also considered to facilitate transmission built out, such as: (1) expanding opportunities for developers or other merchant transmission companies to build out upgrades identified in the interconnection process, (2) requiring consideration of GETs as an interim solution while transmission buildout progress, and (3) developing an incentive program to reward or penalize the PTOs for building projects on time (*i.e.* an additional 0.5-1.0% rate of return or a penalty program that charges the PTO a \$/day penalty on project delayed past a certain grace period).

C. Interconnection Time and Staffing Shortage

Staffing shortages across the CAISO and the PTOs have contributed to increased interconnection times for projects. From AES Clean Energy's experience, interconnection can take up to nine years due to study delays, restudies, and network upgrade buildouts. Prior to Cluster 14,

the CAISO has received an average of 113 interconnection request per cluster cycle. Therefore, staffing resources across the CAISO and PTOs focused on interconnection sufficed. However, with updated CPUC procurement goals and the accelerated timeline to meet the state's clean energy goals, the CAISO has received unprecedented amount of interconnection requests (373 in Cluster 14 and approximately 540 in Cluster 15). The current CAISO staff cannot uphold the studies in a timely manner and PTOs are unable to build out network upgrades on schedule. The inability to study and execute projects impedes the state from meeting its clean energy goals. To help with the workload, AES Clean Energy concurs with NextEra's and CESA's recommendation that an automation system should be considered to expedite the administrative processing of interconnection applications.⁹ In addition, AES agrees with CESA recommendation to allow 3rd party engineers to help intake some of the interconnection work.¹⁰

IV. CONCLUSION

AES Clean Energy appreciates the opportunity to submit comments on the Commissioner Workshop. As noted, all interconnection issues faced by California today are interrelated and would benefit from additional inter-agency coordination. AES Clean Energy appreciates the existing efforts and discussions to address the interconnection queue backlog in a coordinated manner. AES Clean Energy looks forward to further discussion.

Respectfully submitted,

⁹ Panel Discussion, Developer Perspective on Interconnection

¹⁰ Panel Discussion, Developer Perspective on Interconnection

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