

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)
And Related Matters.	Application 15-07-002 Application 15-07-003 Application 15-07-006

**(NOT CONSOLIDATED)**

In the Matter of the Application of PacifiCorp (U901E) Setting Forth its Distribution Resource Plan Pursuant to Public Utilities Code Section 769.	Application 15-07-005 (Filed July 1, 2015)
And Related Matters.	Application 15-07-007 Application 15-07-008

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**REPLY COMMENTS OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation (CAISO) hereby provides comments in response to discussions that occurred at the July 19, 2019 Energy Division workshop. The CAISO notes that Administrative Law Judge Mason extended the due date for these reply comments by e-mail dated July 24, 2019.

**I. Introduction**

In these comments, the CAISO addresses the Solar Energy Industry Association’s (SEIA) proposals to calculate avoided CAISO transmission costs. The CAISO believes that SEIA’s proposals are based on an inaccurate understanding of the CAISO’s transmission planning process and its recent separate and standalone re-evaluation of a backlog of CAISO-approved projects in the Pacific Gas & Electric (PG&E) footprint. To clarify the record on these points, the CAISO provides additional detail regarding its (1) review of a backlog of previously approved transmission infrastructure upgrades in the PG&E footprint in the annual transmission planning process and (2) a more nuanced discussion about the impacts of distributed energy

resources and how the transmission planning process considers non-wires solutions. As a result of these clarifications, the CAISO continues to express concerns regarding the efficacy of any attempt to calculate a generic avoided transmission cost for distributed energy resources on a system-wide basis.

## II. Discussion

At the Workshop and in Opening Comments, SEIA proposed avoided transmission cost calculations based on the assumption that:

the CAISO reviews its plans every year, so if a project remains in the plan for several years, it is *justified* by the subsequent load forecasts in those succeeding plans. It is the change in the load forecast *in the year when the project is finally cancelled or downsized* that is decisive for the action taken to cancel or re-scope the project.<sup>1</sup> (emphasis added)

SEIA presumes that canceling or downsizing a project is due to changes only occurring since the last year, enabling a straightforward attribution of the specific cause of the change. This is overly simplistic, and SEIA misunderstands CAISO's transmission planning process as well as the past review of the previously-approved projects in the PG&E territory.

First, and more generally, the CAISO's transmission planning process does not test and validate the need for each and every previously approved transmission project in each planning cycle. Each successive transmission plan builds upon the last<sup>2</sup>, and the CAISO only re-evaluates the need for previously approved projects on a case-by-case basis, when the CAISO or other stakeholders identify circumstances that suggest a review is warranted.<sup>3</sup>

Starting in the 2015-2016 transmission planning process, the CAISO undertook a separate and standalone three-year comprehensive re-evaluation of backlogged CAISO-approved upgrades in the PG&E footprint.<sup>4</sup> The review focused on the large number of local area low

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<sup>1</sup> Solar Energy Industries Association, *Post Workshop Reply Comments on Avoided Transmission and Distribution Costs*, August 8, 2019, p. 6 (SEIA Reply Comments).

<sup>2</sup> 2019-2020 Transmission Planning Process Unified Planning Assumptions and Study Plan, April 3, 2019, p.10. Available at: <http://www.caiso.com/Documents/Final2019-2020StudyPlan.pdf>

<sup>3</sup> Example of typical clarification provided by the CAISO to stakeholders proposing an annual review of all previously approved project in each planning cycle "*The ISO will continue to review the scope of projects on a case by case basis based on material changes in circumstances identified by the ISO or stakeholders.*", Responses to Stakeholder Comments, 2018-2019 Transmission Planning Process Stakeholder Meeting, February 28, 2019, p.2. Available at: <http://www.caiso.com/Documents/ISOResponsestoComments-2018-2019-DraftStudyPlan.pdf>

<sup>4</sup> This three-year standalone re-evaluation concluded with the 2017-2018 CAISO Transmission Plan. See CAISO Board Approved 2017-2018 Transmission Plan, p. 6. Available at: [http://www.caiso.com/Documents/BoardApproved-2017-2018\\_Transmission\\_Plan.pdf](http://www.caiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf)

voltage transmission projects in the PG&E service territory that were predominantly load forecast driven and whose approvals dated back a number of years<sup>5</sup>—some of which predated the 2008 economic recession. This re-evaluation required extensive coordination with other processes, including the generation interconnection process, to ensure changing plans did not impact generation moving forward. In this comprehensive re-evaluation, the CAISO considered canceling projects if changing circumstances no longer supported the need for the project and re-scoping projects if needs still existed but changing circumstances allowed for more effective and economic solutions.<sup>6</sup> This review reflected circumstances changing over a number of years, and did not reflect only recently-occurring changes.<sup>7</sup> The review effectively concluded with the 2017-2018 transmission planning cycle; however, in the 2018-2019 transmission planning process, the CAISO continued to refine and downsize a handful of previously approved projects that required further analysis.<sup>8</sup> SEIA seems to have conflated these two targeted and specific reviews with the typical transmission planning process.

Although the review focused on projects that were *primarily* load driven, SEIA erroneously attributes project cancellations only to recent decreases in load forecasts, which it in turn erroneously assumes to be solely driven by growth in DERs.<sup>9</sup> However, the impact of DERs is more nuanced, and the transmission project cancellations were driven by a number of factors. For example, the growth in DERs, particularly behind-the-meter solar, have a pronounced impact on the transmission grid as flow patterns change from traditional patterns and frequency throughout each day.<sup>10</sup> In other words, the effects of solar behind-the-meter generation tend to have a one-time effect of pushing demand down in the middle of the afternoon and moving the

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<sup>4</sup> See [http://www.aiso.com/Documents/Jan8\\_2018\\_Comments\\_ProposedDecision-Development\\_DistributionResourcePlans\\_R14-08-013.pdf](http://www.aiso.com/Documents/Jan8_2018_Comments_ProposedDecision-Development_DistributionResourcePlans_R14-08-013.pdf)

<sup>5</sup> 2015-2016 ISO Transmission Plan, March 28, 2016, p. 93. Available at: <http://www.aiso.com/Documents/Board-Approved2015-2016TransmissionPlan.pdf>

<sup>6</sup> CAISO, ISO Board Approved 2017-2018 Transmission Plan, p. 6. Available at: [http://www.aiso.com/Documents/BoardApproved-2017-2018\\_Transmission\\_Plan.pdf](http://www.aiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf)

<sup>7</sup> The CAISO also shifted its approach in approving new transmission projects to avoid creating this type of backlog in the future. The updated practice is to now only seek CAISO Board of Governor approval for a transmission upgrade shortly before development activities would reasonably be expected to commence, rather than when a need is first identified at the extreme reaches of the CAISO's 10-year planning horizon. This further mitigates the possibility of transmission upgrade cancellations based on changing conditions.

<sup>8</sup> CAISO, ISO Board Approved 2018-2019 Transmission Plan, p. 3. Available at: [http://www.aiso.com/Documents/ISO\\_BoardApproved-2018-2019\\_Transmission\\_Plan.pdf](http://www.aiso.com/Documents/ISO_BoardApproved-2018-2019_Transmission_Plan.pdf)

<sup>9</sup> SEIA Reply Comments, p. 6.

<sup>10</sup> CAISO, ISO Board Approved 2017-2018 Transmission Plan, p. 13. Available at: [http://www.aiso.com/Documents/BoardApproved-2017-2018\\_Transmission\\_Plan.pdf](http://www.aiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf)

daily peak load to later in the day, when additional solar generation no longer reduces demand. Further, although some of the changes in flow patterns led to declining gross peak loads, loads remain high after sunset and the increasing load variability results in more widely varying voltage profiles. This causes an increased need for reactive control devices to maintain acceptable system voltages.<sup>11</sup> Other reasons for project cancellation include Commission siting decisions<sup>12</sup> and the availability of more effective and economic solutions.<sup>13</sup> Lastly, as the CAISO noted in previous comments, energy efficiency and load-modifying DERs are already embedded in the California Energy Commission forecast which the CAISO uses in the transmission planning process.<sup>14</sup>

SEIA's attempts to establish a direct correlation between DER development and transmission requirements highlight a key concern with the approach of establishing a generic or system-wide transmission avoided cost. Specifically, developing an avoided transmission cost on a generic dollar per megawatt basis is unlikely to lead to informative or accurate results because, compared to distribution system reinforcements, transmission upgrades tend to (1) be few in number, (2) create a relatively significant increase in capacity when they occur, and (3) have a higher cost and development and permitting timeline. Transmission upgrades in a given area can easily be spaced 20 to 30 years apart or longer, and the nature and cost of the upgrades can vary widely. Given this backdrop, the CAISO is skeptical of any attempt to develop a generic value for transmission cost avoidance that is meaningful in producing consumer savings when applied on a system-wide basis.

For the above reasons, the CAISO believes developing a generic or system-wide transmission avoided cost is not feasible. However, the CAISO agrees that a specific DER portfolio could avoid the need for new transmission and avoided costs ought to be considered on a case-by-case basis. The transmission planning process routinely explores whether DERs might serve alternatives to transmission solutions. By meeting specific reliability or economic needs, a

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<sup>11</sup> CAISO, ISO Board Approved 2017-2018 Transmission Plan, p. 17. Available at:

[http://www.caiso.com/Documents/BoardApproved-2017-2018\\_Transmission\\_Plan.pdf](http://www.caiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf)

<sup>12</sup> CAISO, ISO Board Approved 2017-2018 Transmission Plan, p. 3. Available at:

[http://www.caiso.com/Documents/BoardApproved-2017-2018\\_Transmission\\_Plan.pdf](http://www.caiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf)

<sup>13</sup> See for example the 2018-2019 Transmission Plan the CAISO cancelled the Atlantic-Placer 115 kV Project because it identified three more effective alternatives to address the relevant contingencies. CAISO, ISO Board Approved 2018-2019 Transmission Plan, p. 109. Available at:

[http://www.caiso.com/Documents/ISO\\_BoardApproved-2018-2019\\_Transmission\\_Plan.pdf](http://www.caiso.com/Documents/ISO_BoardApproved-2018-2019_Transmission_Plan.pdf)

<sup>14</sup> See [http://www.caiso.com/Documents/Jan8\\_2018\\_Comments\\_ProposedDecision-Development\\_DistributionResourcePlans\\_R14-08-013.pdf](http://www.caiso.com/Documents/Jan8_2018_Comments_ProposedDecision-Development_DistributionResourcePlans_R14-08-013.pdf)

tailored portfolio of DERs can provide value in eliminating the need for specific transmission projects on a case-by-case basis. The CAISO conducts a detailed evaluation of proposed DER portfolios to ensure they have the resource output or load reduction necessary to meet the identified reliability or economic objectives and meet all applicable reliability criteria, including power quality and transfer considerations such as capacity deliverability, reactive power, and voltage support. Simple energy production (*i.e.*, MWh) is not the sole determinant for transmission need or investment. Recently the CAISO worked with market participants to consider both transmission and non-transmission alternatives using preferred resources and storage to address needs in the LA Basin, Oakland, and Moorpark sub-area.<sup>15</sup> Therefore, any avoided transmission costs from DERs are inherently project, location, and need specific.

### III. Conclusion

The CAISO appreciates this opportunity to provide reply comments.

Respectfully submitted,

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<sup>15</sup> CAISO, ISO Board Approved 2018-2019 Transmission Plan, Section 8.3, pp. 478-479. Available at: [http://www.caiso.com/Documents/ISO\\_BoardApproved-2018-2019\\_Transmission\\_Plan.pdf](http://www.caiso.com/Documents/ISO_BoardApproved-2018-2019_Transmission_Plan.pdf)