

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

Order Instituting Investigation pursuant to Senate Bill 380 to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility located in the County of Los Angeles while still maintaining energy and electric reliability for the region.

Investigation 17-02-002  
(Filed February 9, 2017)

**COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR  
CORPORATION ON THE NOVEMBER 3, 2021 WORKSHOP**

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**I. Introduction**

The California Independent System Operator Corporation (CAISO) provides these comments pursuant Administrative Law Judge Zhang’s *Email Ruling Setting November 3, 2021 Workshop* (Ruling), dated September 30, 2021. The CAISO responds to the analysis provided in FTI’s Presentation, “Aliso Canyon OII Phase 3 Research, Workshop #3: Portfolio 1-4 Modeling Approach, Inputs, and Results and Portfolio 5 Considerations (revised)” (FTI Presentation).

**II. Discussion**

The CAISO encourages the California Public Utilities Commission (the Commission) to direct further analysis of the transmission implications of the suggested investment portfolios, and in particular to focus on the local constraints that would be affected by the closure of the Aliso Canyon storage facility (Aliso Canyon). Without more detailed studies and, just as importantly, reliable inputs into those studies, any cost-benefit analysis of the various portfolios will be superficial, potentially underestimating costs or overstating benefits. When deciding which actions are required to reduce the use of, or close, Aliso Canyon, the Commission must thoughtfully consider the transmission impacts at the local level and ensure reliability is maintained under any investment portfolio. Also, the Commission must provide sufficient time to place any necessary upgrades in service.

**A. The CAISO can Conduct Necessary Transmission Studies Only if the Commission Provides Adequate Data.**

The CAISO is capable and willing to help frame and conduct the studies needed for the Aliso Canyon proceeding with regard to transmission considerations. In particular, local transmission considerations must be addressed. However, for the CAISO to do so the Commission must first provide clear policy direction, sufficient data, and reasonable coordination with its own competing requests, as further described below.

**1. Need for Clear Policy Direction**

To study the local transmission needs in the various portfolios efficiently and accurately, the CAISO requires that the Commission clearly articulate the goal for a transmission study. The CAISO can study the infrastructure necessary to maintain electric reliability in the event Aliso Canyon retires or, in the alternative, reliance on it is reduced. Commission policy direction is key because non-electric-generation needs are the primary drivers for Aliso Canyon usage. Electric generation needs are thus secondary and dependent on the determined outcome of the gas policy direction, necessitating a clearer policy objective prior to any study undertaking.

**2. Data Sufficiency**

Similarly, the Commission must provide sufficient data as inputs into any transmission study. Without the right level of detailed input, the CAISO's analysis will not be useful to inform and support the Commission decisions. For example, the hourly load forecasts from the California Energy Commission (CEC) are disaggregated to the local capacity areas, and several important load modifiers are further disaggregated to the busbar level. The CAISO needs equally granular information on the supply side, such as busbar mapping for new resources and specific generation retirements resulting from the closure or reduced use of Aliso Canyon. Furthermore, the CAISO has found that the Los Angeles (LA) Basin and San Diego<sup>1</sup> local capacity areas are electrically interconnected and are both affected by closure or reduced use of Aliso Canyon. The CAISO requests the Commission provide the necessary data as part of any requested study.

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<sup>1</sup> The LA Basin area refers specifically to the transmission constrained area in and around Los Angeles, as outlined in the CAISO's annual Local Capacity Technical Study. San Diego refers to the San Diego-Imperial Valley local capacity area, outlined in the same study.

### 3. Reasonable Coordination

Finally, coordination around any additional transmission studies must be sensitive to competing requirements and requests by the Commission. The CAISO is well positioned to conduct transmission power flow studies, but any requests to the CAISO must be balanced and coordinated with other Commission and state regulatory requests. For example, in the Integrated Resource Planning (IRP) framework, the CAISO regularly models a base case and several additional sensitivities.<sup>2</sup> In the past, the CAISO has also undertaken special studies at the request of both the Commission and the CEC.<sup>3</sup>

Given the CAISO's limited time and resources, the Commission should coordinate any Aliso Canyon study requests with other requests already being made. As noted above, it is critical the Commission provide the level of detail necessary to successfully conduct analyses prior to the start of any individual analysis. As such, the earliest the CAISO can reasonably conduct an Aliso Canyon-specific analysis is in the 2022-2023 transmission planning process.<sup>4</sup> The CAISO requests the Commission coordinate any requests promptly and provide sufficient data inputs.

#### **B. FTI's Analysis Must Consider Local Capacity Needs under All Portfolios.**

Phase 2 of this proceeding included a more robust discussion of local capacity needs pertinent to determining the impacts of reducing or eliminating Aliso Canyon. The local capacity analysis is similarly critical to the discussion in Phase 3—namely the potential impact of reducing or eliminating use of Aliso Canyon on the need for transmission investments to mitigate in-basin resource retirement. Based in part on the limited specificity about the portfolio analysis provided, the CAISO believes much more work is needed to understand local electric reliability constraints in both electric portfolios. Moreover, the CAISO needs to understand the specific expected reduction in the natural gas generation capability to conduct a reliability-based

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<sup>2</sup> See, for example Section 2.11.3 in the Final 2021-2022 Study Plan, available at: <http://www.caiso.com/InitiativeDocuments/Final2021-2022StudyPlan.pdf>

<sup>3</sup> See, for example: <https://www.caiso.com/Documents/FinalStudyScopeforTransfersbetweenPacificNorthwestandCalifornia.pdf>

<sup>4</sup> The CAISO is already engaged in its 2021-2022 Transmission Planning Process, having finalized the Final Study Plan in March of this year and preliminary results set to be published in November 2021.

transmission analysis on Aliso Canyon impacts.

The CAISO conducts local capacity studies in the one-, five-, and 10-year forward timeframes. In Phase 2, the CAISO provided detailed power flow analyses on the LA Basin and San Diego local capacity needs with minimum generation requirements.<sup>5</sup> It is unclear whether the minimum generation requirements were incorporated into the Phase 3 analyses. The CAISO encourages the Commission and FTI to consider the CAISO’s analysis in this Phase 3, and to engage with the additional specificity needed, as detailed below.

### **1. Seasonal Assessments**

First, the CAISO recommends conducting both a local winter assessment and a local summer assessment to capture different seasonal usage patterns. The FTI Presentation notes that in its Base Case for the Transmission Addition portfolio, its analysis “shows the CAISO interface limit to be binding on the winter [peak] day”,<sup>6</sup> presumably assuming the winter peak to be most critical. However, the CAISO notes that with summer reliability issues increasing due to extreme weather events, a local summer assessment is also necessary.

### **2. IRP Mix Portfolio Concerns**

In the IRP investment portfolio, the FTI Presentation assumed a particular allocation of the IRP resources, but it lacked sufficient geographic granularity to assess outcomes appropriately. The FTI Presentation shows a capacity value for generator additions as a modeling input, but it only disaggregates the capacity down by technology and not by location.<sup>7</sup> As commenters noted,<sup>8</sup> it is unclear if the new generation will be sited in locations to allow gas-fired generation to retire due to Aliso Canyon closure or reduced use. The CAISO underscores this acute point that physical location matters significantly.

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<sup>5</sup> See Staff of the California Public Utilities Commission, *Aliso Canyon I.17-02-002 Phase 2: Modeling Report* (Jan. 26, 2021). To determine which electric generation curtailment to simulate, staff used power flow modeling results gathered from the CAISO and Los Angeles Department of Water and Power (LADWP) to constrain electric generators needed to fulfill NERC Minimum Reliability Standards.

<sup>6</sup> FTI Presentation, slide 66.

<sup>7</sup> *Id.* at slide 63. FTI also notes that “Geographic dispersion of generating resources is based on the 11.5 GW procurement order load-serving entity requirements.” *Id.* at slide 61. However, this is insufficient as the LA Basin is a discrete area that does not align directly with load-serving entity geographic areas.

<sup>8</sup> Oral comments by LADWP and similarly supportive comments made at the November 3, 2021 workshop.

For example, the CAISO's local capacity technical studies found that only 1,020 MW of four-hour duration storage could be fully utilized in the LA Basin.<sup>9</sup> For needs beyond that capacity amount, the CAISO's studies show battery duration needs increase, from four to 11 hours. Even under those scenarios with high replacement capacity and increased battery duration, the modeling demonstrates that some of the existing gas-fired generation stays online to charge the new batteries, or to maintain system reliability.<sup>10</sup> The FTI Presentation shows an addition of 1,968 MW of four hour battery storage in the 2027 scenario and another addition of 1,781 MW of four hour battery storage in the 2035 scenario;<sup>11</sup> but it is unclear how much of this capacity will be in the LA Basin and whether these inputs align with the constraints in the CAISO's findings, including that some gas generation stays online. The CAISO has related concerns about the location of other generation inputs.

### **3. Electric Transmission Portfolio Concerns**

Similarly, in the fourth portfolio, Electric Transmission, the analysis does not consider the local capacity constraints into the LA Basin. System level studies, such as imports into the CAISO balancing authority are unlikely to address the specific needs of the LA Basin or the impact of reduced use or closure of Aliso Canyon.

The CAISO has conducted a series of analyses in its transmission planning process focused on local capacity area reduction options that the Commission may wish to consider.<sup>12</sup> These analyses consider different options to increase the transfer capability into areas such as the LA Basin, which provides more electric and gas flexibility. The Commission is better positioned to consider the costs and benefits of such transmission expansion, including not only addressing the Aliso Canyon discussion in this proceeding, but also SB 100 goals, generation interconnection issues, disadvantaged community concerns, and the interplay of these topics.

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<sup>9</sup> CAISO, *2022 Local Capacity Technical Study: Final Report and Study Results* (April 30, 2021), at p. 28.

<sup>10</sup> *Id.* at pg. 24-25.

<sup>11</sup> FTI Presentation at slide 63.

<sup>12</sup> See Sections 4.8 through 4.10 and Appendix G of the CAISO's 2020-2021 Transmission Plan, available at: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=1D00AA6A-77A7-4215-B23E-4CDE17E6D6E5>

### III. Conclusion

The CAISO appreciates the opportunity to provide these comments and urges the Commission to consider these discrete local capacity issues in its analysis.

Respectfully submitted,

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