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**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
ALISO CANYON OII PHASE 3 – WORKSHOP #2**

The California Independent System Operator Corporation (CAISO) provides these comments pursuant to Administrative Law Judge Zhang's March 29, 2021 Email Ruling Regarding March 30, 2021 Phase 3 Workshop and Request for Comments (Ruling). These informal comments respond to questions posed in FTI Consulting presentation included as Attachment 2 to the Ruling (FTI Presentation).¹

In the subsections below, the CAISO reproduces the questions posed in the FTI Presentation followed by CAISO responses, as applicable.

A. Demand Reduction Portfolio

1. How can we scale existing EE programs to the required levels to meet the peak-day gap?

- **Is it appropriate to scale programs pro rata or should we attempt to differentiate based on cost-effectiveness of specific program elements?**
- **Other than the utilities annual filings, what data should be considered?**

CAISO Response: The CAISO is concerned with the simple approach of scaling the EE to offset 2,900 to 4,800 MW of electric generation need. *If the EE is meant for gas energy efficiency program*, the CAISO has concerns this offset for gas demand will

¹ Aliso Canyon OII Phase 3 Research, Workshop #2 Approach: Portfolios Framework and Research Methods (<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M374/K606/374606796.PDF>).

translate to an increase in the electric load as FTI has mentioned in the presentation. See also response to Question A2.

2. Do you agree with the conclusion that building electrification should not be part of the portfolio?

- **If not, how can electrification help facilitate Aliso's retirement?**

CAISO Response: Building electrification should be included in the study assumptions. The Commission should, at a minimum, use analysis available from the California Energy Commission to assess building electrification. For example, a 2019 exploratory report on the electric load impacts of building electrification estimated the 2030 CAISO load increases would peak at 12,374 MW in winter and 3,554 MW in summer, if AB 3232 is followed.² These load increases are anticipated to be greatest in evening hours when there will be little to no solar generation. The California Energy Commission continues to conduct analysis on this topic. Additional analysis is also needed to understand the locational impacts of building electrification and fuel substitution (including transportation electrification) to be able to evaluate an Aliso retirement scenario.

B. IRP Mix Portfolio

CAISO Comments:

The CAISO provides general comments regarding the non-gas resource additions provided on slide 25 of the FTI Presentation. In this IRP resource mix, FTI assumes the system-wide resources will be scaled to cover the identified gap. This simplistic assumption will not ensure there are sufficient resources to meet local capacity requirements (LCR) in the LA Basin. To ensure the LA Basin LCR are met, the Commission must provide more detailed information including: (a) resource location; (b) whether these resources can effectively mitigate potential reliability concerns in the LCR areas; and (c) whether the addition of the battery energy storage exceed the maximum energy storage charging capability in the LCR areas and subareas. The

² *Fuel Substitution: An Exploratory Assessment of Electric Load Impacts*, California Energy Commission, November 2019. Available at: Docket number 19-IEPR-03. *Also see:* Building Decarbonization: AB 3232 – Fuel Substitution Scenario Analysis Tool Workshop, California Energy Commission, June 9, 2020. Available at: <https://www.energy.ca.gov/event/webinar/2020-06/building-decarbonization-ab-3232-fuel-substitution-scenario-analysis-tool>.

Commission's integrated resource plan (IRP) proceeding is currently grappling with some of these resource location and procurement issues.³ The CAISO has published LCR studies that will be useful in evaluating the concerns listed above.⁴

C. Gas Transmission Portfolio

1. Should the 85% RPU assumption be retained for the portfolios other than gas transmission for consistency with Phase 2 analyses?

- **If not, what assumption should be made instead? Please provide a basis for recommended alternatives.**

CAISO Response: The CAISO concurs that the 85% Receipt Point Utilization (RPU) should be retained for the portfolios other than gas transmission portfolio for consistency with the CPUC Phase 2 analyses.

2. Is the 95% RPU assumption for the gas transmission analysis reasonable?

- **If not, what assumption should be made instead? Please provide a basis for recommended alternatives.**
- **Is it reasonable to have an RPU assumption for this portfolio that is different from the one used to analyze other portfolios? Why or why not?**

CAISO Response: In the FTI presentation, FTI provided rationale for recommending 95% RPU assumptions for the gas transmission analysis to account for forecasting error and protection against SoCalGas system pipeline transmission outage. The residual 10% is to offset potential upstream capacity or supply disruptions. The rationale is that transmission upgrades for SoCalGas system would not offset potential upstream capacity or supply disruptions. If the gas transmission portfolio only includes potential transmission upgrades to the SoCalGas system only, the CAISO finds this rationale reasonable. However, the CAISO urges the CPUC to consider evaluating the potential impact due to upstream gas supply disruptions

³ *Administrative Law Judge's Ruling Seeking Feedback on Mid-Term Reliability Analysis and Proposed Procurement Requirements*, R.20-05-003, February 22, 2021. Available at: [367037415.PDF \(ca.gov\)](#).

⁴ See study results for 2021 and 2025 in: *Final 2021 Local Capacity Technical Report* and *Final 2025 Long-Term Local Capacity Technical Report*, California ISO, May 1, 2020. Available at: [Final 2021 Local Capacity Technical Report](#) and [Final 2025 Long-Term Local Capacity Technical Report](#).

without Aliso Canyon gas storage in light of the recent gas supply disruption that affected the Permian gas basin in February 2021.

3. Should the 90% storage inventory assumption be retained for consistency with Phase 2 analyses?

- **If not, what assumption should be made instead? Please provide a basis for recommended alternatives.**
- **Does the balancing analysis provide a basis to adjust the inventory assumption? In other words, should the 2027/28 and 2035/36 assumptions be set based on the balancing analysis?**

CAISO Response: The CAISO agrees with retaining the 90% storage inventory assumption for consistency with the Phase 2 analyses.

D. Electric Transmission Portfolio

1. Is there a preference between Concept 1 (Ten West) and Concept 2 (Silverado)? Please explain rationale.

CAISO response: Neither of these transmission projects directly relieve transmission constraints into or within the LA Basin. The CAISO will need to conduct further analysis to determine the need for additional transmission upgrades to address the capacity shortfall⁵ identified by FTI Consulting in Workstream 1 of this proceeding. The results of these studies will depend on assumptions about the specific resources providing generation in order to determine potential reliability impacts to the LA Basin LCR area with this estimated amount of unavailability of gas-fired generation in both the CAISO and LADWP's transmission systems in the LA Basin.

For background, the CAISO notes it submitted testimony supporting the Concept 1 options (the Ten West project) in the Commission's currently active proceeding reviewing whether to grant a certificate of public convenience and necessity.⁶ The Ten West project provides capacity and energy benefits to CAISO ratepayers by allowing

⁵ FTI Consulting identified a capacity shortfall of 2,866 to 4,768 MW of electric generation on slide 6 of the FTI Consulting presentation at *Aliso Canyon Oil Phase 3 Research, Workshop #2 Approach: Portfolios Framework and Research Methods* (<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M374/K606/374606796.PDF>.)

⁶ *Testimony of Neil Millar on Behalf of the California Independent System Operator Corporation*, Application 16-10-012, December 20, 2019. Available at: http://www.caiso.com/Documents/Dec20-2019_TestimonyNeilMillar-DCR-Transmission-TenWestLinkProject-CPCN-A1610012.pdf.

access low cost resources in Arizona. The CAISO originally identified these economic benefits in its 2013-2014 transmission plan. The CAISO Board of Governors approved the Ten West project in that transmission planning process. Since the 2013-2014 transmission planning cycle, the CAISO's transmission studies have assumed the Ten West project will be built according to its construction schedule. If the Ten West project fails to receive permitting approval, the CAISO would need to reassess this assumption to determine its impact on the CAISO-controlled southern California transmission system.

The Concept 2 option (Silverado Renewables Transmission Project) was submitted to the CAISO as an economic study request at the CAISO 2021-2022 transmission planning process.⁷ The CAISO will study the need for the Silverado Renewables Transmission Project in the 2021-2022 transmission planning process, but at this time the CAISO does not have information regarding how it may impact LCR in the LA Basin.

2. How can the project team develop a reasonable estimate of how the addition of lines, whose notional capacity is known, will affect the following:

- **Transmission flow limits between the regional balancing authorities**
- **The maximum import capacity into CAISO from the rest of WECC**

CAISO response:

- To determine the transmission flow limits between regional balancing authorities within the Western Interconnection, the WECC members follow the WECC Path Rating Process to determine Accepted Path Rating for proposed transmission lines between regional balancing authorities and between transmission owners. The WECC Path Rating Process⁸ is required for transmission owners to establish ratings for WECC Paths that are accepted by the transmission owners within the Western Interconnection. The Path Rating Process includes a three-phase path rating study process, which can last several

⁷ See project description in item #2 starting on page 5 of GridLiance study request at: <http://www.caiso.com/InitiativeDocuments/GLWEconomicStudyRequest-2021-2022TransmissionPlanningProcess-Feb252021StakeholderCall.pdf>.

⁸ See: <https://www.wecc.org/Reliability/Project%20Coordination,%20Path%20Rating,%20and%20Progress%20Report.pdf>.

years to complete depending on the complexity and potential impacts to the WECC members.

- To determine maximum import capacity into CAISO BAA, the CAISO calculates the total Available Import Capability using 13-step process per the CAISO Tariff Section 40.4.6.2.1⁹ and CAISO Business Practice Manual.¹⁰ This is an annual process, with the CAISO establishing the Maximum Import Capability on the Interties into the CAISO BAA.

3. Are there better approaches to developing the Transmission portfolio ones we have presented today? Please recommend specific alternatives.

CAISO response: As mentioned in the response to Question #1, the potential impact to the CAISO LCR area (*i.e.*, LA Basin) will need to be evaluated and determined with the specific gas-fired generation unavailability modeled in the LCR study. Further transmission upgrades in the LCR areas will need to be identified with the retirement or unavailability of gas-fired generation in the LCR area. The transmission upgrades for the LCR area will be incremental to the transmission upgrades needed for bringing imports into the CAISO BAA.

Respectfully submitted,

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⁹ See the CAISO Tariff Section 40.4.6.2.1. Available at: <http://www.caiso.com/Documents/PendingTariffLanguage-Tariff-Amendment-MaximumImportCapability-ER21-1469-40-A.pdf#search=import%20allocation%20process>.

¹⁰ See the CAISO Business Practice Manual. Available at: <http://www.caiso.com/InitiativeDocuments/RevisedDraftBusinessPracticeManualLanguage-MaximumImportCapabilityStabilization-Multi-YearAllocation.docx#search=import%20allocation%20process%20business%20practice%20manual>.