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 on February 9, 2017)

REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE ADMINISTRATIVE LAW JUDGE'S RULING ENTERING INTO THE RECORD ALISO CANYON INVESTIGATION 17-02-002, PHASE 3 REPORT, REQUESTING COMMENTS

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the California Energy Storage Alliance ("CESA") hereby submits these reply comments on the *Administrative Law Judge's Ruling Entering into the Record Aliso Canyon Investigation 17-02-002, Phase 3 Report, Requesting Comments* ("Ruling"), issued by Administrative Law Judge ("ALJ") Zhen Zhang on January 19, 2022.

I. INTRODUCTION.

CESA appreciates the opportunity to provide feedback and responses to the recommendations offered by parties to Investigation ("I.") 17-02-002 in opening comments submitted February 16, 2022. Similar to CESA, several parties noted that the Aliso Canyon Phase 3 Report ("Report") prepared by FTI Consulting and Gas Supply Consulting (jointly referred to herein as the "Consulting Team") offers directional insights on the merits of different portfolios; nevertheless, its methodological approach has certain shortcomings that limit its applicability. In this context, CESA's comments can be summarized as follows:

- Per the California Independent System Operator's ("CAISO") comments, the Commission must not consider Portfolio 4 as a viable alternative to Aliso Canyon.

- The Commission should consider Southern California Edison's ("SCE") comments regarding the impacts of Mid-Term Reliability ("MTR") procurement on the Report's estimated electric shortfall.
- Some revisions suggested by the Public Advocates Office ("Cal Advocates") do not merit consideration.
- The Report's cost assumptions regarding battery energy storage are unduly high and must be revised to reveal the true benefit-cost ratio ("BCR") of Portfolio 3.

II. PER CAISO'S COMMENTS, THE COMISSION MUST NOT CONSIDER PORTFOLIO 4 AS A VIABLE ALTERNATIVE TO ALISO CANYON.

In opening comments, California Resources Corporation, Chevron USA Inc., PBF Holding Company, Phillips 66 Company, and Tesoro Refining & Mining Company LLC (jointly, "Indicated Shippers") note that, while the Report is clearly the result of significant effort, it is premature to select a portfolio from the report to act as substitution for Aliso Canyon. Notwithstanding their reservations with the analyses included in the Report, the Indicated Shippers later assert that, if the Commission selects a portfolio, Portfolio 4 may be preferred as it could be aligned with the CAISO's recent transmission planning outlook, which addresses transmission planning over the long term.[1] CESA does not agree and points to the CAISO's comments highlighting the deficiencies of Portfolio 4 as a viable alternative.

The CAISO notes that the Report relies on incorrect assumptions about the feasibility of actions the CAISO could take, particularly regarding Portfolio 4.[2] Specifically, according to CAISO, the assumptions used in the Report to construct Portfolio 4b rely on an incorrect understanding of the Maximum Import Capability ("MIC") at each intertie, which is not simply an administrative limit that can be arbitrarily relaxed.[3] As such, the CAISO highlights that, contrary to what is stated in the Report, it is explicitly meaningful and feasible to identify specific transmission additions, something that is not undertaken in the Report. For these reasons, the Commission would be amiss in considering Portfolio 4 even as the starting point of

[1] Indicated Shippers Opening Comments at 24-25.
[2] CAISO Opening Comments at 3.
[3] *Ibid.*

a viable solution, since it does not represent accurately what is feasibly achievable with any level of rigor.

III. THE COMMISSION SHOULD CONSIDER SCE'S COMMENTS REGARDING THE IMPACTS OF MTR PROCUREMENT ON THE REPORT'S ESTIMATED ELECTRIC SHORTFALL.

SCE highlighted that the potential electric shortfall created by the potential closure of Aliso Canyon may be smaller than the Consulting Team expected. In particular, SCE found that mimicking actual dispatch operations from storage and additional headroom from imports minimizes or eliminates the 3,176 MW need identified by the Consulting Team by 2027.[4] This behavior is extrapolated from recent battery storage dispatch observed through February of 2022 in the CAISO footprint, as demonstrated in the figures shared by SCE in their opening comments.[5] Regarding this behavior, SCE explains that the modeling output of the Portfolio 3 study tapers off the generation supply of energy storage during hours 19 through 21 which are critical hours to serve the net peak loads. In contrast, comparing the same timeframe with the actual CAISO dispatch profile of this winter shows that battery storage actually operates in way that maximizes output during the aforementioned net peak period.[6] Essentially, the Consulting Team's presumed energy storage dispatch is inconsistent with observed behavior in CAISO, and it results in an undue discount of the contributions of storage during a period critical to assess the net electric shortfall.

Importantly, SCE posits that, since it is expected that the MTR procurement included in the Portfolio 3 study is realized on the system by 2027 and that similar battery storage operating strategies will be followed across the CAISO to ensure storage is available and storage generation maximized during the aforementioned critical peak hours, the need for additional resources will be further reduced or eliminated when battery storage from MTR resources is added to the existing CAISO resources and is operational and properly dispatched.[7] Thus, CESA urges the Commission to consider the arguments posed by SCE in opening comments when

[4] SCE Opening Comments at 6.
[5] *Ibid* at 7.
[6] *Ibid* at 6.
[7] *Ibid.*

evaluating the validity of the electric shortfall estimated by the Report and assessing a feasible timeline to minimize or even eliminate reliance on Aliso Canyon.

IV. SOME REVISIONS SUGGESTED BY CALADVOCATES DO NOT MERIT CONSIDERATION.

In opening comments, Cal Advocates argues for a number of modifications that should be considered to better assess the cost effectiveness and reliability implications of Portfolio 3. First, Cal Advocates argues that the Report errs by assuming that energy storage resources provide capacity contributions at 100% of nameplate.[8] Cal Advocates suggests that this analysis should employ effective load carrying capability ("ELCC") to measure the contributions of storage resources, as it does for solar and wind resources. Cal Advocates argues the use of ELCC is warranted as this metric is utilized in the Integrated Resource Planning ("IRP") proceeding and the most recent ELCC values shared in said proceeding highlight a declining trend for storage resources.[9] CESA disagrees. This argument fails to understand that the analyses included in the Report are more akin to a deterministic RA "stack study" than the long-term planning undertaken by the Commission in the IRP. ELCC is a measure of contribution to electrical reliability that captures the impact of a MW of intermittent capacity on the loss of load expectation ("LOLE") of a system relative to the impact of a MW of "perfect" capacity. As such, ELCC does not describe the impact of an asset in a particular hour, but across all hours with loss of load probability ("LOLP"). The Report does not seek to assess this, in fact, the Report focuses on specific hours in which the gas system's peaking needs would not be met by Aliso Canyon, not on the electric system's LOLE.[10] Moreover, ELCC is not an estimator of a resource's output, it is only an estimator of the effect said output would have on the LOLE. Since the Report only seeks to estimate the output of assets in a period, the use of ELCC for storage is unwarranted.

Second, Cal Advocates argues that the combination of higher future loads and lower solar production profiles in the winter makes it unreasonable to assume that existing and planned solar

[8] Cal Advocates Opening Comments, at 12.

[9] *Ibid.*

[10] It should also be noted that the hours with the highest LOLP correlate with hot weather, while the hours with the greatest gas need correlate with cold weather.

resources will provide energy sufficiency for storage charging and losses.[11] However, CESA believes that the arguments made by SCE regarding storage output optimization counter these concerns. For more on this, refer to Section III of these reply comments above.

Finally, Cal Advocates argues that the Report errs by assuming that imports will be available up to the CAISO's MIC at 11,600 MW. Instead. Cal Advocates argues that the Report should utilize a MIC assumption of 4-5 GW, consistent with IRP materials.[12] A similar argument is made by Southern California Gas Company ("SoCalGas") in their own opening comments.[13] In CESA's view, these arguments are incorrect as the MIC limits imposed in the IRP proceeding relate to summer, not winter, conditions. Overall, Cal Advocates seems to confound long-term electric planning with gas planning. This is an important distinction as the peak needs of each system occur in different seasons. Since the period of greater gas needs does not correlate with the electric peak, it would be overly conservative to apply IRP MIC assumptions within the Report.

V. THE REPORT'S COST ASSUMPTIONS REGARDING BATTERY ENERGY STORAGE ARE UNDULY HIGH AND MUST BE REVISED TO REVEAL THE TRUE BCR OF PORTFOLIO 3.

Protect Our Communities Foundation ("PCF") underscored that the Consulting Team inaccurately calculated Portfolio 3 costs. Specifically, PCF notes that the Consulting Team assumed 4-hour battery capital cost of $1,092/kW, aligned with the National Renewable Energy Laboratory's ("NREL") Annual Technology Baseline ("ATB") high-cost case for 2027.[14] PCF argues that this assumption is unduly high as the Commission has adopted lower battery cost assumptions than the most aggressive price listed by NREL as the mid-case for RESOLVE for 2026. As such, PCF recommends the Report should use the $657/kW estimate for battery costs rather than the NREL assumption.[15] PCF also explains that, unlike the CAISO MIC, the battery price assumption is not affected by winter versus summer conditions. CESA fully supports this modification. The Commission must align cost assumptions across planning venues as having

[11] CalAdvocates Opening Comments, at 13.
[12] CalAdvocates Opening Comments, at 14.
[13] SoCalGas Opening Comments, at 14.
[14] PCF Opening Comments, at 16.
[15] *Ibid.*

consistent cost estimates will enable the Commission to better understand the actual BCR of Portfolio 3.

VI. CONCLUSION.

CESA appreciates the opportunity to submit these reply comments to the Ruling and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,

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