

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

Order Instituting Rulemaking to Establish
Policies, Processes, and Rules to Ensure
Safe and Reliable Gas Systems in
California and perform Long-Term Gas
System Planning

Rulemaking 20-01-007
(Filed January 16, 2020)

**RESPONSES OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
TO QUESTIONS SET FORTH IN THE ADMINISTRATIVE LAW JUDGE'S
RULING SEEKING COMMENTS**

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I. Introduction

Pursuant to the *Assigned Administrative Law Judge’s Ruling Seeking Comment* (Ruling) the California Independent System Operator Corporation (CAISO) provides its responses to questions set forth in Attachment 1 of the Ruling. The CAISO appreciates the efforts of the Commission and Energy Division staff to obtain further clarification and information regarding Phase 1 (Track 1A and 1B) of this proceeding.

II. Discussion

In the discussion below, the CAISO provides responses to selected questions posed in the Ruling. The relevant questions are reproduced prior to each CAISO response.

Question 4: How does decreased snowpack impact the need for other baseload resources and/or gas-fired electric generation? (Track 1A, Scoping Memo Issue 2b)

Decreased snowpack would require the CAISO to rely more on in-state and out-of-state gas-fired generation for reliability, which would lead to corresponding electricity price increases. Though both snowpack and reservoir levels can influence near- and long-term reliability, snowpack tends to play a larger role in the summer season (*i.e.*, September and October) to meet morning and evening peaks due to California’s need for baseload and dispatchable generation. Snowpack serves as a natural “storage” facility for hydro needs later in the year.

Imports also play a critical role in the energy used in the CAISO's market and the resource adequacy program. Consequently, snow pack and reservoir levels for both in-state and out-of-state hydro resources are critical determinants for serving summer peak load.

The CAISO agrees with the California Energy Commission's assessment that spring snowpack is highly variable from year-to-year.¹ The CAISO has observed the same trend in its annual summer operational assessment. The CAISO's *2020 Summer Loads and Resources Assessment* observed increased risk of operating reserve shortfalls due to lower than normal hydro conditions and reduced energy from hydro resources.² Late summer poses the greatest operational risk for system capacity shortages, especially if low hydro availability occurs during peak hours with low solar production and low net imports.³ To fill this resource gap, the CAISO increases reliance on the gas and gas storage system, and potentially Aliso Canyon. The *2020 Summer Loads and Resource Assessment* presented an analysis of peak demand summer day under the base and worst-case gas balance scenarios. Although findings show that non-Aliso withdrawals would be sufficient to meet demand under both scenarios at the daily level, hourly demand and gas deliveries on a peak day may still trigger withdrawals from Aliso Canyon.⁴

Lastly, there is an inverse relationship between reliance on hydro resources and reliance on the gas fleet for ramping in low and high hydro years, as summarized in Table 1 below. In a low hydro year, gas usage is more stable throughout the day providing less hourly ramping due to hydro resource providing of the hourly ramping needs during morning and evening ramping hours. This may lead to less dependence on gas storage. In contrast, in a high hydro year, hydro resources tend to be less flexible because hydro systems are attempting to avoid spill conditions. Though gas usage is reduced throughout most of the day there may be significant ramping of the gas-fired fleet during the net load peak period (4pm – 9pm). This may mean greater dependence on gas storage for short ramping periods.

¹ R.20-01-007 Track 1A Workshop Slides, pg. 23.

² CAISO, *2020 Summer Loads and Resources Assessment*, pg. 13. Available at: <http://www.aiso.com/Documents/2020SummerLoadsandResourcesAssessment.pdf>

³ *Id.* at pg. 12.

⁴ *Id.* at pg. 13.

**Table 1: Inverse Relationship Between Hydro and Gas Resources
During Low and High Hydro Years**

	Low Hydro Year	High Hydro Year
Baseload Reliance on Hydro	Low	High
Baseload Reliance on Gas	High	Low
Ramping Reliance on Gas	Low	High

As snowpack decreases, the CAISO may face short-term and long-term operational challenges due to increased load from electrification and lack of resource diversity. After the Diablo Canyon Power Plant fully retires in 2026, resources left on the CAISO system to serve the evening net load peak and meet a minimum level of net load that is expected to exist as baseload will be dominated by gas-fired, hydro, and imported generation.⁵ Meeting the evening net load peak will be increasingly challenging as growing solar resources reduce the need for baseload in the middle of the day, especially in the shoulder months of Spring and Fall. Imports in turn are largely comprised of out-of-state gas-fired and hydro generation. Without more diversity in baseload generation or diversified flexible generation that can serve load day over day during the net load peak, there will likely be increased reliance on both in-state and out-of-state gas-fired generation. This could lead to corresponding electricity price increases as many systems compete for the same pool of resources across the west.

Question 6: Should the reliability standards be modified so that some noncore customers are reclassified as core customers and have access to firm storage rights?

The CAISO agrees with parties that reliability standards should be modified to reclassify some noncore customer needs as core customer needs. However, rather than determining a subset of gas-fired electric generation units as core or noncore, the CAISO believes it is more useful to designate a minimum volumetric flow of gas needed to support electric reliability. This ensures a minimum level of electric generation and better aligns electric needs with gas planning. The CAISO already coordinates and shares fuel burn information with the gas utilities, which can readily be used in gas system planning to manage pressure, line pack, storage withdrawals and potentially pricing.

⁵ Storage and other renewables such as geothermal currently play a limited role in the CAISO resource pool.

Question 11: Are there policy changes the CPUC should consider that would help manage the changing use of the gas infrastructure? (*Track 1B, Scoping Memo Issue 2*).

The CAISO requests the Commission investigate the impact of hourly gas withdrawal needs of the generation fleet on the natural gas delivery system.

Question 12: a. What are the benefits and costs of a renewable balancing tariff, as suggested by SoCalGas? b. What should such a tariff include or exclude?

The CAISO requests SoCalGas to provide more details of its renewable balancing tariff proposal.

Question 13: Should PG&E's Operational Flow Order (OFO) penalty structure be changed so that it aligns with SoCalGas' winter OFO penalty structure? Why or why not? (*Track 1B, Scoping Memo Issue 3*).

The CAISO supports OFO penalty structures that are effective and reinforce reliability. Consequently, the CAISO believes PG&E's OFO penalty structure and SoCalGas' winter OFO penalty structure do not need to match but should be aligned and result in effective management of the gas system. For example, the PG&E representative noted that increasing the number of PG&E's OFO stages may improve reliability and incidentally align better with SoCalGas' winter OFO penalty structure.⁶

⁶ R.20-01-007 Track 1B Staff Workshop Presentation, Slide 174.

III. Conclusion

The CAISO appreciates the opportunity to provide comments and looks forward to working with the Commission's Energy Division staff.

Respectfully submitted,

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