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BY E-MAIL
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California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

RE: Southern California Gas Company's Comments on Aliso Canyon OII (I.17-02-002) Phase 2 Data and Results Workshop #3

Dear Commission Staff:

SoCalGas appreciates the opportunity to offer written comments on the California Public Utilities Commission Energy Division (Energy Division) July 28, 2020 Phase 2 Data and Results Workshop No. 3 (Workshop) for the Senate Bill 380 Aliso Canyon Order Instituting Investigation. SoCalGas thanks Commission staff and Los Alamos National Laboratory (LANL) staff for presenting at the Workshop, and appreciates LANL and Commission staff's continued work on the hydraulic modeling to promote proceeding transparency. SoCalGas offers comments on the presentations as well as certain comments, questions, and statements made in the Workshop.

1. Proceeding Objectives

As noted in Energy Division's presentation, the Commission opened I.17-02-002 pursuant to Senate Bill 380 (California Public Utilities Code Section 714 [Section 714]) to "determine the feasibility of minimizing or eliminating the use of the Aliso Canyon Natural Gas Storage Facility while maintaining energy and electric system reliability."[1]

Consistent with Section 714, the Assigned Commissioner identified two issues to be addressed: (1) "the impacts to system reliability and on electric and gas rates of reducing or eliminating the use of Aliso Canyon Natural Gas Storage Facility; and (2) based on those

[1] Intro and Production Cost Modeling Results Presentation at Slide 7, https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2020/PCM_july28_2020_PCM%20slide%20deck_final.pdf.

impacts, whether "the Commission [should] authorize the reduction or elimination of the use of the Aliso Canyon Natural Gas Storage Facility, and if so, under what timeframe and parameters."[2] Accordingly, the purpose of Phase 2 should be the development of accurate and reasonable analyses of the importance of Aliso Canyon to energy reliability and affordability, and adherence to a process that will support the continued reliability and affordability of the electric and gas systems in California.

With that scope noted, the analyses presented in Energy Division's workshops, appear to confirm that Aliso Canyon is needed for reliability and reduces energy costs, lowers core customer gas bills, and mitigates gas price volatility. The Implied Market Heat Rate Analysis presented at the June 20, 2019 workshop confirms that Aliso Canyon is an integral part of the SoCalGas system and the State's restrictions on the use of Aliso Canyon contributed to market volatility and increased energy prices.[3] Further, the Difference in Difference and Volatility Analysis presented at the November 13, 2019 workshop also confirms these conclusions and furthermore that Aliso Canyon lowers core customer gas bills.[4] Finally, the most recent workshop appears to confirm that imposing artificial constraints on thermal generation in southern California increases production costs and decreases reliability, and does so with only a minor decrease in in-state emissions caused by unmet demand,[5] and with uncalculated out-of-state emissions.[6]

2. Economic Impact

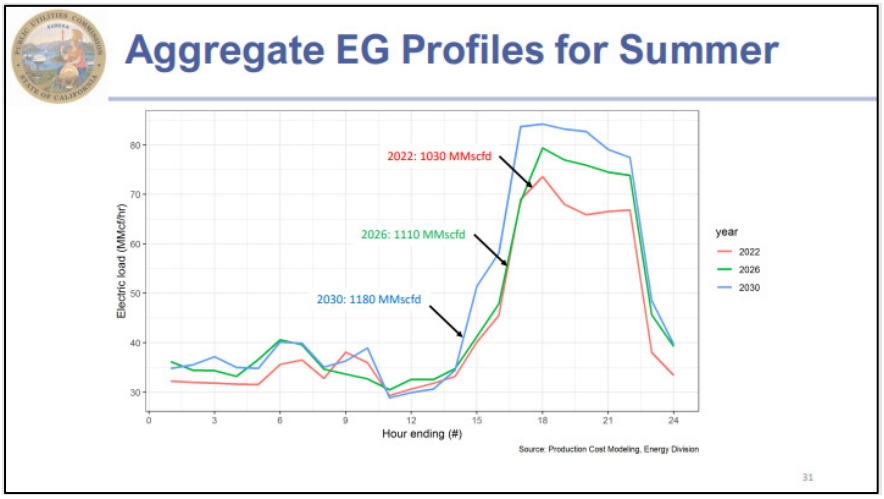
Energy Division's presentation at the Workshop provides that production costs for the Minimum Local Generation Scenario was $121MM higher than the Unconstrained Scenario in 2030. However, the analysis focuses on the production cost rather than the market price, which understates the economic impact. SoCalGas recommends Energy Division consider the market price impact since, generally, consumers' cost will be based on the market price (i.e., the price customers will pay to purchase electricity) rather than the production cost (i.e., the price to produce electricity). The market price better reflects the costs to consumers. SoCalGas also notes that Energy Division's analysis considers how much it would cost to generate electricity, but fails to consider any other potential costs that may arise. SoCalGas recommends the Commission consider these other costs to avoid understating the economic impact. As discussed

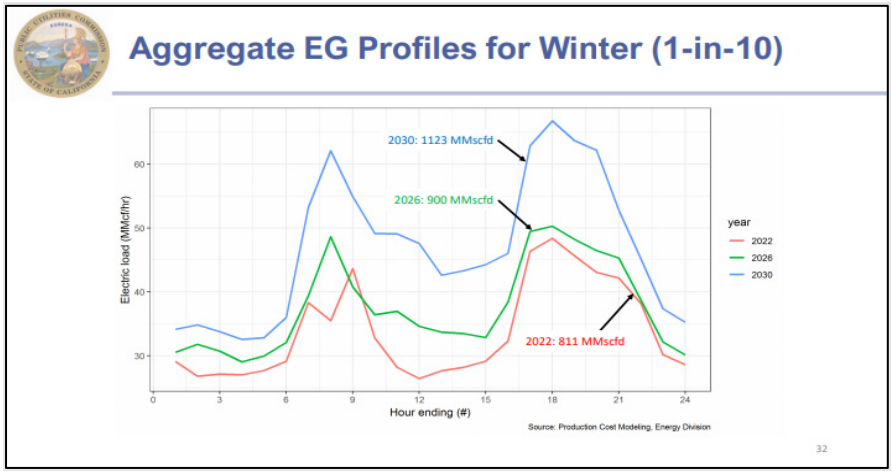
[2] Assigned Commissioner's Phase 2 Scoping Memo and Ruling at 2.
[3] IMHR and Surplus Cost Analysis Presentation at Slide 11, https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/IMHR%20and%20Surplus%20Cost%20analysis%206-17-2019%20-%20v2%20.pdf.
[4] Volatility and Difference in Differences Analyses Presentation at Slides 12, 22, https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/I1702002%20-%20Econometric%20Modeling%20-%2011-13-2019_Final.pdf.
[5] Intro and Production Cost Modeling Results Presentation, *supra* note 1, at Slide 11.
[6] As a result, it is unclear whether total emissions would, in fact, be lower at all since emissions associated with imports from out-of-state generation were not taken into consideration.

in more detail below, recent analysis has indicated that total economic impact can be orders of magnitude larger than the cost of the unserved load.[7]

3. Electric Generation Demand

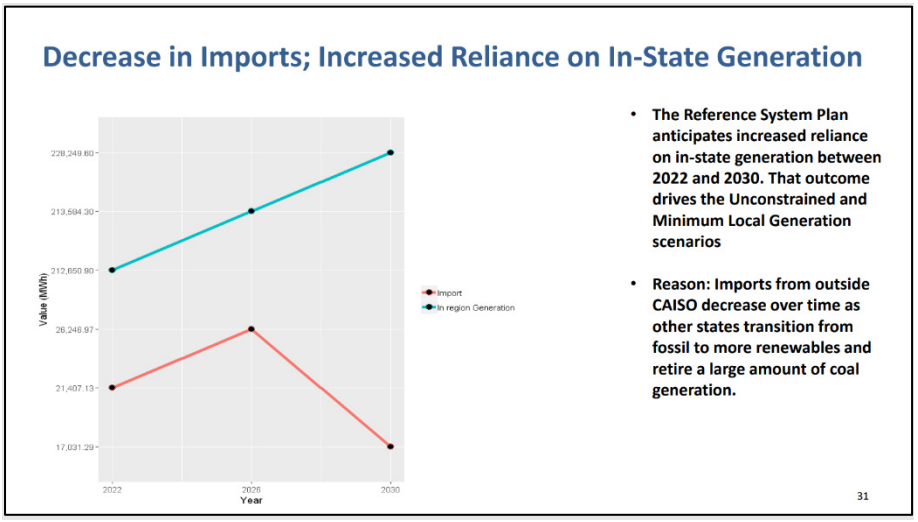
Energy Division forecasts that electric generation will become increasingly reliant on flexible sources of supply as forecasted electric generation consumption profiles indicate increasing demand and ramping needs in both the winter and summer.





[7] R.20-01-007 Track 1B Workshop Presentation at Slide 13 (a presentation on the Wood Mackenzie 2018 Western Interconnection Gas-Electric Study analyzed a scenario where an Aliso Canyon outage/retirement resulted in unserved energy and unmet spinning reserves and approximately $1 billion risked impact across Southwest / CA, but noting that "[t]he actual event would effectively be around a 30-billion-dollar economic-impact event" and that "Aliso Canyon at 30% of capacity fully mitigated the unserved energy and 75% of the unmet spinning reserve.").

Energy Division also forecasts that, going forward, there will be increased reliance on in-state generation due to a decrease in imports as other states transition to more renewables.[8]



Energy Division's implicit conclusions about the need for flexible in-state generation was supported by discussions and statements in a recent workshop in the Commission's Gas System Planning OIR (R.20-01-007). There, the California Council on Science and Technology's (CCST) presentation provided that expected electric demand in 2030 is higher than what can be provided by current solar and wind output, and that natural gas generation would be needed in order to support reliability.[9]

Separately, a presenter from E3 opined that although we may see average daily throughput reductions, it doesn't necessarily mean that peak use of natural gas for electric generation is going to decrease, and that we might actually see increased gas use during wintertime peak.[10]

Put plainly, decreased imports and increased renewable deployment and electrification require a more, not less, capable gas grid for supporting reliability during peak days and hours. Aliso Canyon has and is an integral part of the SoCalGas system, and the analysis shows that limitations on Aliso Canyon reduce the capabilities of the gas system and, in turn, reduce reliability and affordability and hamper the State's ongoing efforts to decarbonize the integrated energy system.

[8] Intro and Production Cost Modeling Results Presentation, *supra* note 1, at Slide 31.
[9] R.20-01-007 Track 1B Workshop Presentation at Slides 94-95.
[10] R.20-01-007 Track 1B Workshop Recording, https://cpuc.webex.com/cpuc/lsr.php?RCID=3dec7e93c5d54cebb697f5dfd1d796c5.

4. Minimum Local Generation Scenario

With respect to the Minimum Local Generation Scenario, Energy Division's presentation provided that the scenario resulted in increased costs, operational unreliability, and significant unserved load. SoCalGas understands that the minimum generation scenario is based off CAISO's and LADWP's power flow model, intended to determine what is minimally needed for transmission reliability in transmission-constrained areas.

During the Workshop, Energy Division commented that, when it attempted to operationalize this minimum generation scenario in a 24/7/365 production cost model, it did not meet the 1-in-10 year standard, and resulted in a "whole lot" of expected unserved energy – i.e., brownouts or blackouts. As such, in order to keep every load online and to avoid blackouts or brownouts, the calculated minimum generation would need to be higher. SoCalGas agrees with Energy Division's comments that this number should be revisited and increased.

5. Multi-Day Events

From a prudent planning standpoint, the Commission should plan conservatively to protect California and SoCalGas customers from supply shortages. The assumption that 90% of non-Aliso inventory is available for withdrawal during a peak event is extremely optimistic and does not reflect observed storage levels during recent winters when access to Aliso was limited. SoCalGas notes that projected non-Aliso inventory levels in the Commission Staff's Winter 2019-20 Southern California Reliability Assessment, under different scenarios ranging from best to worst case, were all below 90% full by December month-end.[11] SoCalGas' storage withdrawal capacity is a function of the inventory in storage at that point in time; as inventory is depleted, the withdrawal capacity decreases. Therefore, the assumed withdrawal capacity used on one day will not be fully available for a future day. Energy Division, in discussing what would occur on a day following the modeled high demand day, correctly noted "the capacity wouldn't be available as it was in day one."[12] As explained by Michael Bednorz of DNV GL on behalf of Indicated Shippers, "even though you're getting 100 percent or 90 percent right now, this isn't realistic because you can't keep going like this on multiple days."[13] SoCalGas agrees.

Conservative planning also recognizes that southern California can experience multiple cold days in a row with significant cloud cover, decreasing the available solar energy resources, or several hot days in a row that impact the capability to replenish battery reserves. This was recognized by the CCST, in their Technical Report on the Long-Term Viability of Underground Natural Gas Storage in California (CCST Study) where they examined alternate sources of energy in lieu of underground storage (UGS): "However, there would still be a need for fast-

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[11] CPUC Staff, Winter 2019-20 Southern California Reliability Assessment (2019), https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/Winter2019-20ReliabilityAssessment_Final.pdf.
[12] I.17-02-002 July 28, 2020 Modeling Workshop #3 Recording, at 02:49:56-02:50:29, https://cpuc.webex.com/cpuc/lsr.php?RCID=d289edf9e30a478d9a9d7459f317e4b1.
[13] *Id*.

ramping dispatchable generation, both to deal with demand spikes (in either electricity or direct use of gas) or load balancing of any intermittent renewables in the electricity system, as well as wildfires or climate change-related impacts, which could occur quickly **and last over multiple days**. UGS could serve this purpose."[14] Further, as recognized in the CCST Study: "[n]early every winter has a month with average daily demand that exceeds, or nearly exceeds, pipeline take-away capacity."[15] As such, prudent planning to determine the need for and capacity of a major asset of the transmission system should consider multiple cold days in the winter and multiple warm days in the summer, and it should be incorporated into the Energy Division's analyses.

6. Impacts Beyond California

Energy Division's analyses only includes impacts to California and should consider impacts to the entire western United States. A Commission decision to reduce or eliminate Aliso Canyon will have far-reaching and significant effects on regional energy and reliability costs. Weather and market events outside of California will impact the price and availability of California's natural gas supply, and the loss of storage in California will impact prices and reliability in neighboring states. For example, the June 2018 Western Interconnection Gas – Electric Interface Study found limitations on Aliso Canyon had heightened region-wide reliability risks to the Western Interconnection (a wide area synchronous grid stretching from Western Canada south to Baja California in Mexico, reaching eastward over the Rockies to the Great Plains).[16]

Recently, in the Gas System Planning OIR (R.20-01-007), a presentation on this study highlighted "the impact of an Aliso Canyon outage/retirement and its ripple effects into neighboring regions," including, for example, "significant unserved energy and unmet spinning reserves resulting in [approximately $1 billion] risked impact across Southwest / CA."[17] Notably, during the workshop, the authors of the study indicated that "[t]he actual event would effectively be around a 30-billion-dollar economic-impact event, so quite significant." Finally, the study noted that "Aliso Canyon at 30% of capacity fully mitigated the unserved energy and 75% of the unmet spinning reserve."[18]

Energy Division's analyses should include impacts to the western United States. Aliso Canyon is an important component of energy reliability in California and beyond into the western United States.

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[14] California Council on Science and Technology, Long-Term Viability of Underground Natural Gas Storage in California at 659 (2018) (emphasis added), https://ccst.us/wp-content/uploads/Full-Technical-Report-v2_max.pdf.
[15] *Id*. at 496.
[16] Wood Mackenzie, Western Interconnection Gas – Electric Interface Study (2018), https://www.wecc.org/Reliability/Western%20Interconnection%20Gas-Electric%20Interface%20Study%20Public%20Report.pdf.
[17] R.20-01-007 Track 1B Workshop Presentation at Slide 13.
[18] *Id*.

7. Hydraulic Modeling

With regard to Simulation 05 (S05), Energy Division requested SoCalGas minimize the use of Aliso Canyon – i.e., use Aliso Canyon as an "asset of last resort." However, this input is vague and fails to produce a complete assessment of the minimum amount needed from Aliso Canyon. There are various ways to interpret this input. For instance, a determination has to be made as to whether to minimize the volume, the withdrawal rate, or the time needed to use the field. As such, to state that "S05 allowed the use of Aliso to determine a minimum amount required"[19] is not accurate and fails to fully consider the issue. SoCalGas cautions that a more complete assessment is required to determine the minimum amount required from Aliso Canyon.

SoCalGas also notes that this one passing simulation is an overly optimistic best-conditions case, assuming: no transmission facility outages; supplies equal to full receipt capacity at every receipt point (including 50 MMcfd of supply delivered at Otay Mesa); and high storage inventory levels (and therefore high withdrawal rates) that are unlikely to be available in the middle of the winter season.

8. Conclusion

SoCalGas appreciates the opportunity to submit comments and participate in this ongoing and important Commission effort to promote system reliability and affordable energy rates.

Sincerely,

/s/ Setareh Mortazavi
Setareh Mortazavi
Counsel

SOUTHERN CALIFORNIA GAS COMPANY

[19] 1-in-10 Winter Peak and Summer Hydraulic Modeling Results Presentation at Slide 31, https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2020/Session%203%20SB380July28workshop_LANL_slide%20deck-final.pdf.