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SoCalGas Comments on 2024 Summer Reliability Workshop

Additional submitted attachment is included below.

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June 12, 2024

Vice Chair Siva Gunda
California Energy Commission
Docket Unit, MS-4
Docket No. 21-ESR-01
715 P Street
Sacramento, CA 95814-5512

Subject: Comments on the CEC 2024 Summer Reliability Workshop

Dear Vice Chair Gunda,

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide comments to the California Energy Commission (CEC) on the 2024 Summer Reliability workshop held on May 29, 2024. SoCalGas commends the CEC for its efforts on energy system reliability, which is foundational to California's economic growth and vitality.

As the CEC acknowledged at the workshop, gas utilities and the gas system play a vital role in providing energy reliability to the electric sector.[1] California's gas system, inclusive of natural gas molecules, pipelines and storage, work together with electric generators to reliably deliver power to support its electric grid. The State's interconnected and interdependent gas system enables flexible and firm dispatchable capabilities, which support the electric grid to maximize and optimize the integration of intermittent renewable resources, thereby helping to decarbonize the electric grid while also maintaining reliable service. The gas system also provides critical short, long, and seasonal energy storage through both pipeline and storage assets.

[1] CEC, "Southern California Gas Company and PG&E Summer 2024 Reliability Assessment," May 29, 2024, pp. 85 - 92, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=256593.

SoCalGas' Summer 2024 Assessment, as presented at the workshop by CEC staff, identifies electric generation as a major component of summer gas demand.[2] In 2020, most peak hour gas deliveries from SoCalGas' system were called upon to meet the ramping needs of dispatchable electric generators and the electric system; far greater than peak hours to serve core customer thermal load over the same time period. For example, there were 77 hours in 2020 when SoCalGas deliveries exceeded 100,000 Dekatherms/hour (Dths/hr)[3] to either core customers or electric generators. Of that total, 62 hours were used to serve electric generators, while only 15 hours were used to serve core customers.[4]

SoCalGas comments focus on the following: 1) SoCalGas recommends the use of gas demand forecasts from the California Gas Report to help plan for electric reliability, 2) CAISO's multi-hour stack analysis should consider recent historical trends to more accurately plan for summer reliability, 3) California has experienced more extreme heat events in recent years and State energy planning would benefit from updating its modeling to better consider less probabilistic scenarios, and 4) the Electricity Supply Strategic Reliability Reserve Program (ESSRRP) should include more diverse resources, rather than an overreliance on aging once-through-cooling (OTC) plants.

1) **SoCalGas recommends the use of gas demand forecasts from the California Gas Report to help plan for electric reliability.**

Electric generation resources are closely integrated with gas infrastructure, and therefore SoCalGas would like to ensure the use of the best available gas demand forecasts to appropriately plan for electric system reliability. Forecasting the future comes with inherent uncertainty and may not capture actual conditions. For example, in the 2022 summer forecast, the California Gas Report (CGR) incorporated the CEC's 1-in-2 average summer peak summer demand forecast assumption,[5] however, the 2022 heat event turned out to be an 1-in-25 event.[6] The 2022 actual gas system sendout consistently exceeded the demand forecast in the 2022 CGR.[5] Nonetheless, the CGR has historically been the backbone of the State's gas system planning since the 1960s[7] and we believe it represents the best available information from the operators of the State's gas infrastructure. On July 1, SoCalGas will file the 2024 CGR with the California Public Utilities Commission (CPUC). We recommend the CEC use this gas demand forecast data for its 2024 Summer Reliability Assessment.

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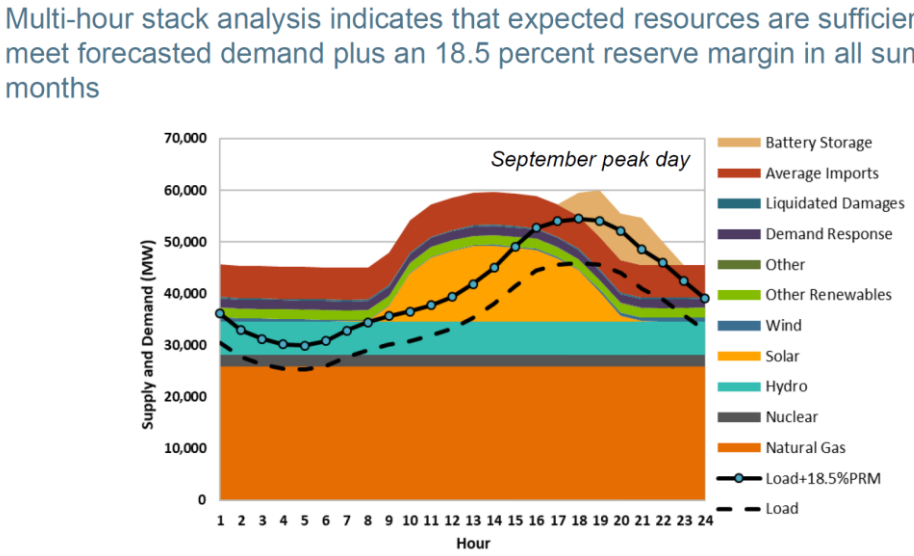
[2] CEC, "Southern California Gas Company and PG&E Summer 2024 Reliability Assessment," May 29, 2024, pp. 85 - 92, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=256593.
[3] Equivalent to approximately 2.4 billion cubic feet/day (bcf/d) of capacity.
[4] SoCalGas analysis of operational data from SoCalGas' July 23, 2021, Comment Letter on Summer 2021 Reliability, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=238984&DocumentContentId=72404.
[5] SoCalGas, "2023 California Gas Report Supplement," available at: https://www.socalgas.com/sites/default/files/Joint_Biennial_California_Gas_Report_2023_Supplement.pdf.
[6] CAISO, "September 2022 Summer Market Performance Report," November 2, 2022, available at: https://www.caiso.com/Documents/SummerMarketPerformanceReportforSeptember2022.pdf.
[7] CPUC, Rulemaking 13-11-005, CPUC, March 7, 2022, p. 10, available at: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M456/K594/456594216.pdf.

SoCalGas produces gas demand forecasts in proceedings such as the Cost Allocation Proceeding (CAP) and every two years in the CGR, in conjunction with the State's other gas utilities. SoCalGas incorporates one of the Additional Achievable Fuel Substitution (AAFS) scenarios from the CEC's Integrated Energy Policy Report (IEPR) into its CAP and CGR gas demand forecasts. During the IEPR process, SoCalGas provides input and feedback to the CEC about the key assumptions included in the AAFS and other scenarios. In preparing the CGR, SoCalGas engages with key stakeholders, including the CEC, to provide transparency into how it derives assumptions such as fuel substitution and others in its gas demand forecast. We agree that improvements to the energy planning process should be explored, especially to incorporate more holistic, risk-managed transition scenarios, and we believe that the California Gas Report represents the best source of data for the State's energy system planning purposes.

2) CAISO's multi-hour stack analysis should consider recent historical trends to more accurately plan for summer reliability.

SoCalGas commends the State agencies' efforts to monitor and plan for California's summer reliability. We believe that historical trend analysis that more heavily weighs recent events may result in a more accurate outlook in planning for summer reliability. In CAISO's presentation at the workshop, the September peak day multi-hour stack analysis data shows that approximately 5,000 MW of imports and 7,500 MW of hydroelectric generation are expected throughout the day (see Figure 1).

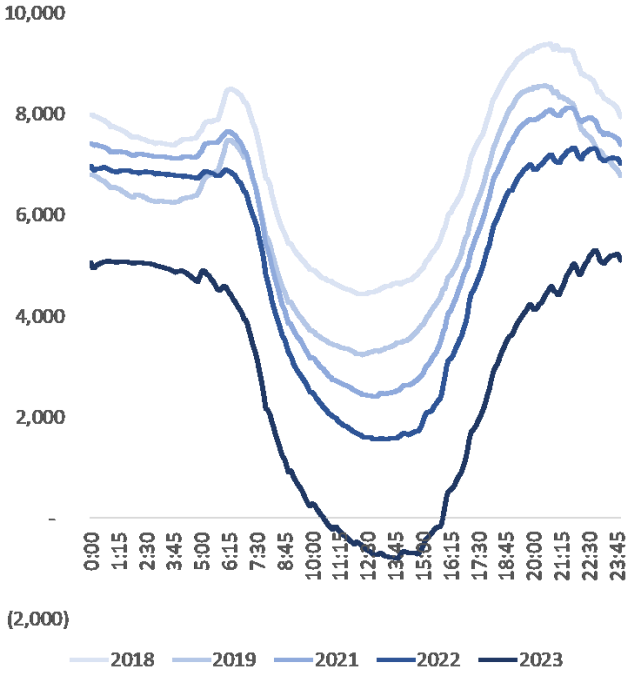
Figure 1: CAISO Multi-hour Stack Analysis for September Peak Day[8]



[8] CAISO, "CAISO 2024 Summer Loads and Resources Assessment," May 29, 2024, pp. 93 – 98, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=256593.

However, recent historical CAISO supply data shows different trends for both imports and hydroelectric generation. Figure 2 below shows a steady decline in the average hourly imports into CAISO between 2018 and 2023. The flat average estimate used in the stack analysis does not capture this recent Western region historical trend. As Branden Sudduth from Western Electricity Coordinating Council (WECC) stated during his presentation on Westwide Reliability, "We saw about 5,000 MW worth of generation retirements being delayed from 2024 and 2025 to 2026 and 2027. So, it looks like a lot of states in the West are very focused on making sure that they have adequate energy and resources over the next couple of years."[9]

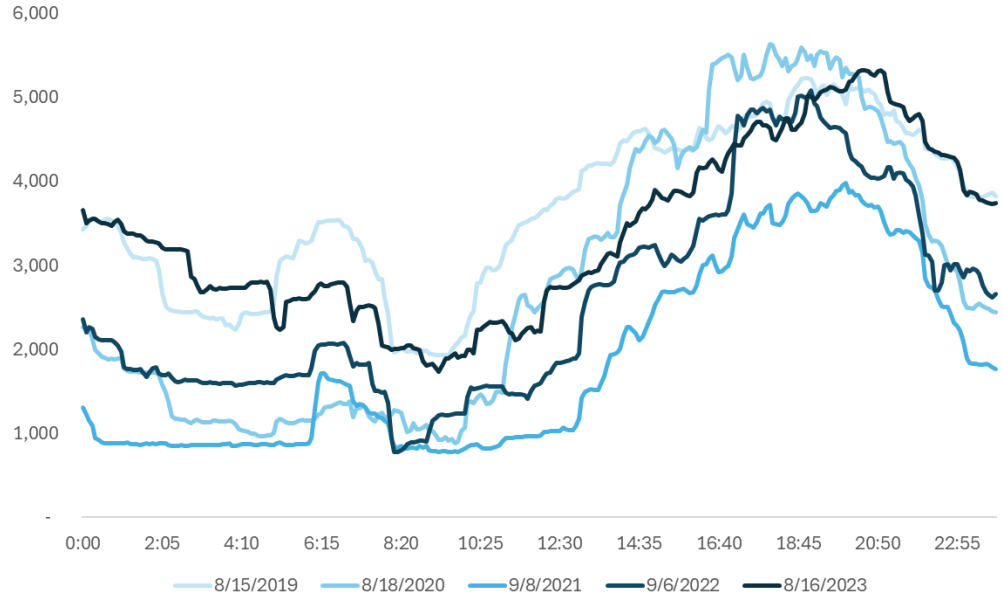
Figure 2: Historical Imports into CAISO (MW)[10]



Additionally, Figure 3 below shows that during past summer peak days, hydroelectric generation in CAISO rarely reaches 6,000 MW and often dips to below 2,000 MW. In contrast, in the CAISO September peak day multi-hour stack analysis, a steady amount of about 7,500 MW of hydroelectric generation is expected throughout the day. Thus, SoCalGas believes the CAISO multi-hour stack analysis needs to reflect the recent decline of the State's imports and the dynamic nature of hydroelectric resources.

[9] Western Electricity Coordinating Council, "2024 Summer Reliability Outlook for the Western Interconnection," May 29, 2024, recording available at: https://energy.zoom.us/rec/share/sCpZe4LPf-sxRJ7kgZ1_jEbp6F-Vi_PWl2zgcpL2x6YGBtyPOwE3N4YtzvwDXhvs.S18ygil7UNbMZZiN?startTime=1717000659000.
[10] CAISO, Hourly Supply Data, accessed on June 6, 2024, available at: https://www.caiso.com/todays-outlook/supply.

Figure 3: Summer Peak Hydroelectric Generation in CAISO (MW)[11]

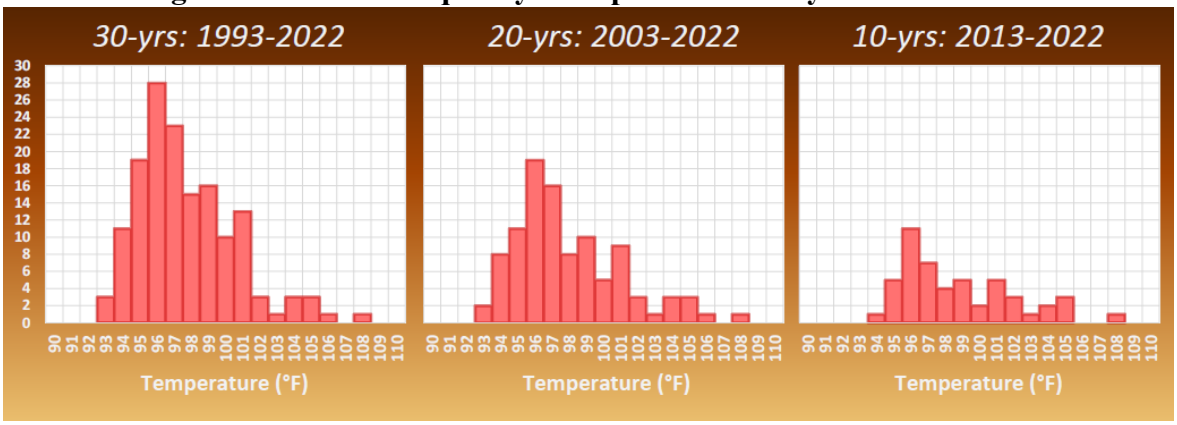


3) California has experienced more extreme heat events in recent years and State energy planning would benefit from updating its modeling to better consider less probabilistic scenarios.

On June 6, 2024, triple-digit temperatures and record-breaking heat have hit several areas of California.[12] While these temperatures may have been less probable in the past, given the increased frequency of extreme weather events, they are becoming increasingly more probable. In fact, data shows more extreme heat events have occurred in California in recent years. During the December 19, 2023, CEC Electricity and Gas Demand Forecast II workshop, presenters from Lumen Energy Strategies presented the following graphic shown in Figure 4, which shows the frequency of the top five hottest days of the year for the past thirty, twenty, and ten years. Figure 4 shows there has been a trend of increased number of days with triple-digit temperature days over the past thirty years. In fact, the percentage of days with triple-digit temperatures was 23 percent over the past thirty years, compared to 34 percent over the past ten years.

[11] CAISO, Hourly Supply Data, accessed on June 6, 2024, available at: https://www.caiso.com/todays-outlook/supply.
[12] Axios, "Heat wave menacing Southwest to break records in more cities before easing," June 7, 2024, available at: https://www.axios.com/2024/06/07/southwest-us-heat-wave-california-vegas-phoenix-record.

Figure 4: CAISO Frequency of Top 5 Hottest Days of Year[13]



Relatedly, during the Senate Bill (SB) 100 Kickoff workshop on August 22, 2023, California Air Resources Board (CARB) Chair Randolph posed questions on the importance of electric system reliability such as whether historical planning efforts are sufficient for the levels of electrification the State seeks.[14] She also highlighted the need for more energy infrastructure than is planned today, especially for vulnerable communities, due to impacts of climate change. SoCalGas continues to share Chair Randolph's concerns regarding the sufficiency of historical planning efforts to maintain reliability and support our vulnerable communities as climate change impacts the State's overall energy system moving forward. We therefore believe that it is in the public's interest for State energy planning to evaluate whether including analysis of less probable scenarios, like 1-in-20 or 1-in-35-year historical events, may improve planning for electric system reliability.[15]

4) The ESSRRP should include more diverse resources, rather than an overreliance on aging OTC plants.

The ESSRRP program was created to "act as [an] insurance policy and safeguard the statewide electrical grid during extreme and combined events driven by climate change (e.g., heat events, wildfires, and drought)."[16] Of the 3,150 MW of resources set aside by this program for 2024

[13] Lumen Energy Strategies, "Key findings in climate data analyses for demand forecast integration," December 19, 2023, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253658&DocumentContentId=88909.
[14] CEC, "Senate Bill 100 Kickoff Workshop," August 22, 2023, recording available at: https://energy.zoom.us/rec/play/iKrBEjgYfZJWh84uJ9uKOJOVyigcordKNWkKm8sXYzfUI5pXeJOGiSdymtKTkdgvWCrzEjtQhMeGb9aQ.3Q5GOj6QCknu1hnm?canPlayFromShare=true&from=share_recording_detail&startTime=1692720270000&componentName=rec-play&originRequestUrl=https%3A%2F%2Fenergy.zoom.us%2Frec%2Fshare%2FW59URzE6HxC6B853zz5LWSebdyhxh1DVzEtr90TRJuc1KMW0MZW1Shr5Z9uD5HAG.zcNocSHI3BEYwoER%3FstartTime%3D1692720270000.
[15] North American Electric Reliability Corporation, "2024 Summer Reliability Assessment," accessed on June 11, 2024, available at: https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2024.pdf
[16] California Department of Water Resources (DWR), "Update on the Electricity Supply Strategic Reliability Reserve Program," May 29, 2024, pp. 133 – 136, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=256593.

summer reliability, 2,859 MW rely on OTC plants that were originally set to retire on December 31, 2020.[1718] Figure 4 below shows the capacity and age of these plants. As the State is impacted by more frequent extreme weather events, the State could benefit by expanding the emergency and temporary natural gas resources for extreme events like the CEC's Demand Side Grid Support (DSGS) and Distributed Electricity Backup Assets (DEBA) programs. For instance, the CEC DEBA program funds low-emissions and zero-emissions distributed energy resources (DERs) and distributed generation technologies such as fuel cells and linear generators, which can help to reduce and shift electric load on the grid. These technologies have the added benefit of being able to run on multiple different fuels including natural gas, renewable natural gas, and renewable hydrogen. The fuel flexibility allows these resources to be built today for reliability and once clean fuels become more abundant, these resources will be able to provide clean, dispatchable firm power.

Figure 4: Capacity and Age of Once-Through-Cooling Plants[19]

Unit Name	Capacity (MW)	Commercial Operation Year	Approx. Age (Years)
Alamitos Units 3, 4, and 5	1,141	1961	63
Huntington Beach Unit 2	227	1958	66
Ormond Beach Units 1 and 2	1,491	1971 and 1973	53 and 51
TOTAL	**2,859**		

[17] DWR, "Electricity Supply Reliability Reserve Fund," January 31, 2023, p. 9, available at https://resources.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Electricity-Supply-and-Strategic-Reserve-Office/DWR-JLBC-Progress-Report-Jan-2023.pdf.

[18] State Water Resources Control Board and California Environmental Protection Agency, "Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling- Final Substitute Environmental Document," accessed on June 10, 2024, available at: https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/otc_sed2010.pdf

[19] U.S. Energy Information Administration, "Preliminary Monthly Electric Generator Inventory," accessed on June 6, 2024, available at: https://www.eia.gov/electricity/data/eia860m/.

Conclusion

SoCalGas appreciates the opportunity to provide feedback to this crucial planning process as we head into the 2024 summer season. Demand forecast is an important tool in reliability planning and we believe the CGR provides the most robust set of forecasts to help assure electric system reliability. In addition, historical data shows recent declines in imports and dynamic hourly hydroelectric outputs that should more accurately be included in the CAISO's multi-hour stack analysis to improve the accuracy of this assessment. Finally, based on the increased frequency and length of extreme heat events in California[20], it is in the public's interest that the State's energy planning analysis includes less probable weather events like a 1-in-20 or 1-in-35-year historical events. SoCalGas looks forward to participating in these efforts to plan for a reliable energy system for California. We thank the Energy Commission for its leadership on this critical initiative and for consideration of our comments.

Respectfully,

/s/ Kevin Barker

Kevin Barker
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Energy and Environmental Policy

[20] U.S. Global Change Research Program, "Heat Waves," accessed on June 11, 2024, available at: https://www.globalchange.gov/indicators/heat-waves