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on the Staff Information Workshop about the Summer 2022 Stack Analysis

Additional submitted attachment is included below.

CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S COMMENTS ON THE STAFF INFORMATION WORKSHOP ABOUT THE SUMMER 2022 STACK ANALYSIS
Friday, January 14, 2022

Docket Number 21-ESR-01
Energy System Reliability

I. INTRODUCTION

California Community Choice Association (CalCCA)[1] appreciates the opportunity to participate in the Energy System Reliability Docket 21-ESR-01. CalCCA submits these comments on the *Staff Information Workshop About the Summer 2022 Stack Analysis* (Workshop), held Friday, January 14, 2022, along with the accompanying materials.

II. COMMENTS

A. The California Energy Commission (Commission) Should Clarify Details Regarding How and When the Results of the Stack Analysis Will be Implemented

The Commission states that "the 2022 Hourly Stack Analysis will be revised in the first and second quarters of 2022 as new information becomes available."[2] Specifically, the revision will incorporate an update on hydroelectric generation capacity derates "with the help of DWR [Department of Water Resources] in the second quarter of 2022."[3] A Q2 update may not give sufficient time before summer to procure needed contingency resources. Also unclear is how

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[1] California Community Choice Association represents the interests of 22 community choice electricity providers in California: Apple Valley Choice Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, East Bay Community Energy, Lancaster Choice Energy, Marin Clean Energy, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.

[2] Tanghetti, Angela, and Craig, Hannah. 2022. *2022 Summer Stack Analysis Update.* California Energy Commission. Publication Number: CEC-200-2021-006-UPDT (Staff Paper) at 2.

[3] *Id.* at 7.

such an update will be incorporated into the record of any reliability proceedings at the California Public Utilities Commission (CPUC). Therefore, the Commission should clarify procedural timelines and publish dates for when the final quantity of contingency resources needed will be released. As stated in its previous comments in the 21-IEPR-01 docket, any resultant need determination from this stack analysis should inform deployment of contingency resources but not be used to direct rushed new build.[4]

B. The Commission Should Provide More Information on the Set of Contingency Resources That Could be Available to Serve Load in Summer 2022, Including Megawatts by Type and Amount of Lead Time Needed to Deploy These Resources

The Commission states that there is a minimum of 2,000 megawatts (MW) of contingency resources available for summer 2022 and provides a list of these resources, which include extra imports, contract and generator modifications, CPUC demand response programs, and Flex Alerts.[5] While this aggregate figure is useful for approximating the total supply stack, stakeholders and regulators cannot meaningfully evaluate the contingency resource information unless two additional data points are made public. First, to validate the quantity of contingency resources, stakeholders need to know the approximate MW amount of each specific resource. Second, stakeholders need to know the "lead time" that the Commission estimates it would take to deploy each of these resources. Some lead times are likely to be longer than others—for example, the California Independent System Operator (CAISO) can call a Flex Alert a day or

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[4] *California Community Choice Association's Comments on the Draft 2021 Integrated Energy Policy Report (IEPR),* 21-IEPR-01 (Dec. 21, 21), at 2-3 ("First, emergency procurement orders for new-build resources in the short-term should be avoided. Any new-build system need beyond contingency resources (as identified in the [Summer Stack Analysis]) should only be identified in the [California Reliability Outlook], and LSEs should be given adequate time to procure the needed resources.").

[5] *Presentation - January 14, 2022 Summer Stack Analysis Update* (Stack Analysis Presentation), 21-ESR-01, at 12.

less before an anticipated high-load day,[6] but generators may require several months of notice to increase their output limits. To ensure that these contingency resources are available in time for summer, the Commission should specify lead time and available MW to inform any future decision-making. For example, the Commission could provide the information in the following table, filling in the blank cells where needed.

Action	Implementation Procedure	Lead Time	Estimated Contingency MW
Voluntary Customer Conservation	CAISO issues Flex Alerts (and further broadcast by Commission and CPUC)		
Other potential large customers (not otherwise participating in demand response) to reduce load (*e.g.*, DWR)	CAISO and Commission call on DWR to reduce load		
Other major end users to reduce load (large state govt. users, and large commercial, retail, and industrial customers)	Commission (in coordination with Governor's office) calls on customers to reduce load		
Emergency Load Reduction Program	CPUC pilot program; CAISO and Commission coordinate with IOUs to track potentially available load reductions during emergency		
Imports from other Balancing Authorities	CAISO and Commission coordinate with other balancing authorities (Commission prior to emergency, and CAISO during emergency)		
Additional thermal generation beyond permit limits/restrictions/beyond interconnection limitations	Temporary permit relief through a Governor's Emergency Order or through an Emergency Order from US Department of Energy. Commission and CAISO coordinate on identifying where actions such as an emergency order would enable additional generation.		
CAISO Capacity Procurement Mechanism	CAISO invokes backstop authority (pursuant to CAISO Federal Energy Regulatory Commission tariff)		
Contract and Resource Modifications (Combined Heat and Power call options and plant efficiency upgrades)			
DWR Temporary Generators			

[6] *See* California ISO website, "What is a Flex Alert?" located at: https://www.flexalert.org/what-is-flex-alert.

Action	Implementation Procedure	Lead Time	Estimated Contingency MW
CPUC – New programs and expansion of existing programs (*e.g.*, smart thermostat programs and additional energy efficiency)			

C. The Commission Should Ensure That Resource-Specific Thermal Derates are Used in the Stack Analysis

Unclear from the existing updated Stack Analysis materials is how the Commission incorporates thermal derates, a phenomenon in which gas-fired generators experience reduced output during high temperatures. Given the possibility of thermal derates during an extreme summer weather event, the Commission should clarify how thermal derates are treated in the Stack Analysis. First, the Commission should publish an approximate MW of thermal derates (*i.e.*, the amount of capacity "lost" due to extreme heat) relative to the total nameplate capacity of the CAISO thermal fleet, broken out by combined cycle, combustion turbine, cogeneration, and internal combustion engine. This information will allow stakeholders to understand the magnitude of the effects of thermal derates while shielding confidential generator-specific information.

Second, the Commission should clarify whether the unplanned outage figures of 5 percent (for a 15 percent Planning Reserve Margin (PRM)) and 7.5 percent (for a 22.5 percent PRM)[7] included in the analysis incorporate thermal derates.

Third, the Commission should work with the CAISO to use the most accurate resource-specific data on what the likely available capacity of gas-fired generators will be during the hot weather events that could lead to a grid emergency (*i.e.*, incorporating thermal derates), and use

[7] *See* Stack Analysis Presentation at 9.

that capacity instead of net qualifying capacity (NQC). NQC as it stands does not necessarily capture thermal derates – while some generators choose to represent these thermal derates in their NQC, others reflect derates through outages submitted to the CAISO.[8] By incorporating data regarding thermal derates in the updated Stack Analysis, stakeholders can better anticipate the impact of thermal derates during extreme weather events, and the resulting magnitude of necessary contingencies.

D. The Commission Should Validate its Assumptions on Import Availability Versus Historical Data

To estimate the availability of imports, the Commission proposes to use the average Resource Adequacy (RA) and publicly owned utility (POU) liquidated damages (LD) contracts from 2016-2021, resulting in a range of 6,010 MW to 6,560 MW.[9] As these figures are based on RA contracts, they do not include economic imports or reflect actual historical flows over the interties. Indeed, even during the extreme emergency conditions of summer 2020, flows over the interties exceeded that amount. For example, the CAISO declared a Stage 3 emergency at 6:38 PM on August 14, 2020, which was then followed by two phases of load shed of 500 MW each. The CAISO then began to restore the shed load at 7:40 PM on the same day.[10] The CAISO data show that even under these emergency conditions, unspecified imports[11] alone were always at

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[8] The CAISO publishes a daily planned and unplanned outage information on its website, located at: http://www.caiso.com/market/Pages/OutageManagement/CurtailedandNonOperationalGenerators.aspx.

[9] Stack Analysis Presentation at 6.

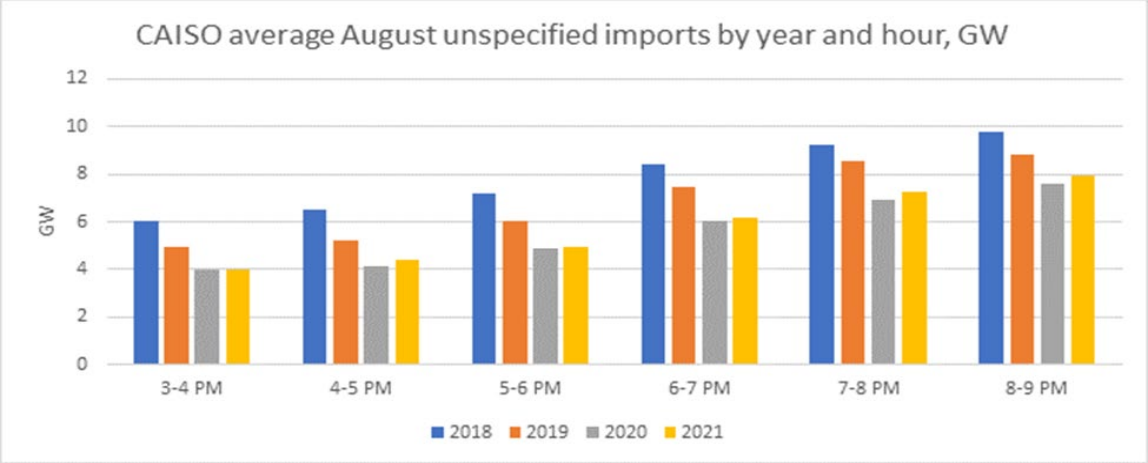
[10] *Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave,* prepared by CAISO, CPUC and the CEC (Jan. 13, 2021), at 28 and 29.

[11] Unspecified imports are imports from other balancing authorities that cannot be traced to a specific generator. This is in contrast to specified imports, which correspond to specific resources that deliver to the CAISO (such as Hoover, Intermountain, and Palo Verde).

least 6,923 MW from 6:35 PM to 7:40 PM[12]—a figure that is higher than the maximum of the Commission's range (6,560 MW).

To estimate the appropriate values to use for unspecified imports, CalCCA aggregated and analyzed unspecified imports data from the CAISO[13]. These data are available as far back as 2018. Below is a table summarizing the findings for the month of August, from 2018 through 2021, followed by the same data in bar chart format.

	3-4 PM	4-5 PM	5-6 PM	6-7 PM	7-8 PM	8-9 PM
2018	6.1	6.5	7.2	8.4	9.3	9.8
2019	5.0	5.2	6.0	7.5	8.5	8.9
2020	4.0	4.1	4.9	6.0	6.9	7.6
2021	4.0	4.4	5.0	6.2	7.3	7.9



The data show two key results. First, unspecified import flows dropped substantially in both 2020 and 2021 relative to previous years (gray and yellow bars, compared to the blue and

[12] Based on CAISO imports data for August 14, 2020, downloaded from http://www.caiso.com/todaysoutlook/pages/supply.html. The 6,923 MW value is the minimum value between 6:35 PM and 7:40 PM. It occurred at 7:05 PM.

[13] http://www.caiso.com/TodaysOutlook/Pages/supply.html.

orange bars). This is likely due to the "tight" market for supply and drought conditions, where hot weather, low hydro, and a lack of excess capacity in neighboring balancing authorities led to lower imports. Second, unspecified import flows vary substantially depending on the hour of the day, tending to increase from 3 PM to 9 PM. This result held for all years from 2018-2021. In 2020 and 2021, actual unspecified import flows were larger than the Commission's original RA-based assumptions during 7-9 PM (these flows were at least 6.9 GW from the data, compared to 6.6 GW at the upper end of the Commission's proposed RA import range), and smaller during 3-7 PM (these flows were at most 6.2 GW from the data, near the lower end of the Commission's 6 to 6.6 GW range).

These results show that 2020 and 2021 are the appropriate years to use for a conservative estimate of imports in a stack analysis (which focuses on extreme weather), as they correspond to the "tight" conditions mentioned above. They also show that that using RA import data, as currently proposed, does not capture the hourly variation in imports that occurs in the real operation of the grid.

For these reasons, the Stack Analysis should use actual 2020 and 2021 CAISO unspecified imports data to estimate import availability in 2022, incorporating results by month (for July, August, and September) and hour (from 3 PM to 9 PM), such as the ones shown for August in the table above. This is the dataset that best captures the hourly variation of unspecified imports supply in a "tight" market. When assessing the *total* amount of imports available to serve CAISO load, the Commission should take care to distinguish the unspecified imports figures shown above from specified imports such as Hoover, Intermountain, and Palo Verde (which have CAISO Resource IDs, and thus should have an NQC value) and ensure that no double-counting or undercounting of these specified imports occurs in the analysis.

E. The Commission Should Clarify if it is Incorporating all Project Status Data Gathered by the CPUC Into its Resource Stack

The Staff Report states that "[a]ssumptions about demand and available resources in 2022 are based on the best available data."[14] In addition, CPUC Staff has provided updates on new resources and procurement expected online before summer 2022 (incremental to the CAISO's October 2021 NQC list), outlined in Table 3 of the Staff Report.[15] The Commission should clarify if the updates provided by CPUC Staff include information provided pursuant to the CPUC's recurring monthly data requests regarding the project status of new build resources. The first such request was issued on January 3 and will be updated every month. These data include the most up-to-date picture of project status for new build resources, and thus are an important "check" on the set of resources expected to be online in 2022. The Commission should collaborate with the CPUC to the extent possible to ensure that these updated data is being used in the Stack Analyses.

III. CONCLUSION

CalCCA appreciates Commission staff's efforts in Docket Number ESR-21-01 and looks forward to further collaboration on this topic.

Date: January 21, 2022

(*Original signed by*)

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[14] Staff Report at 6.
[15] *Id.* at 7, and Table 3 at 9.