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# Southern California Edison Companyâ€™s Comments on CEC Draft Preliminary 2022 Summer Supply Stack Analysis

*Additional submitted attachment is included below.*

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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August 20, 2021

California Energy Commission
Docket Office, MS-4
Re: Docket No. 19-SB-100
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.ca.gov

Re: Southern California Edison Company's Comments on the California Energy Commission's Draft Preliminary 2022 Summer Supply Stack Analysis (Draft 2022 Stack Analysis), Docket No. 21-ESR-01

Dear Commissioners:

On August 11, 2021, the California Energy Commission (CEC) provided an "Update on Short-term Reliability Activities" and solicited public comments on the results and assumptions used in its Draft 2022 Stack Analysis. Southern California Edison (SCE) appreciates the efforts of the CEC in undertaking this assessment and the opportunity to provide feedback on the inputs and assumptions.

SCE submits that the Draft 2022 Stack Analysis's finding of a capacity shortfall of up to 5,200 MW is driven by the conservative assumptions used in the analysis. The Draft 2022 Stack Analysis compares an assumed generation supply stack to "average" (15% Planning Reserve Margin (PRM) scenario that is based on a 1-in-2 weather event with 1.5% demand variability) and "extreme" (22.5% PRM scenario that is based on a 1-in-2 weather event with 9% demand variability, which is equivalent to a greater than 1-in-20 weather event)[1] demand scenarios. This combination of supply and extreme demand assumptions represents a very low probability event that, based on historical reliability policy, is overly conservative and should be viewed as an upper-bound sensitivity scenario.

The California Public Utilities Commission (CPUC) has indicated that it may rely on this analysis to evaluate 2022 electrical system reliability in Phase 2 of Rulemaking (R.) 20-11-003 (Emergency Reliability OIR).[2] While SCE agrees that climate change creates significant demand and supply uncertainties, SCE recommends, for purposes of a simple stack analysis to inform the Emergency Reliability OIR, using the CEC's "extreme weather" demand scenario without applying additional conservative assumptions on the generation supply stack.

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[1] The Draft 2022 Stack Analysis describes the 9% weather variability component of the 22.5% PRM as a "greater than 1-in-10 weather event." However, the 2022 1-in-10 forecast is only 6.6%, not 9%, higher than the 1-in-2 weather forecast, while the 1-in-20 forecast is 8.3% higher. As such, a 1-in-2 forecast with a 9% weather variability adder is directly comparable to a 1-in-20, not 1-in-10, weather event.

[2] Assigned Commissioner's Amended Scoping Memo and Ruling for Phase 2, dated August 10, 2021, in R.20-11-003.

Comparing a demand curve that is based on a 1-in-20 weather event to a conservative supply stack may overestimate the capacity shortfall and can lead to costly over-procurement in a tight market at a time when there is already upward pressure on customer rates. Accordingly, SCE proposes changes to the supply-side assumptions that would increase the supply stack by at least 2,579 MW.[3] If updated to reflect SCE's proposed assumption changes, the analysis would show the system to be reliable in all hours under the "average weather" scenario and trigger contingencies of up to 2,695 MW, not 5,200 MW, in September under the "extreme demand" scenario.

As a more general matter, a deterministic stack analysis provides a snapshot comparison of expected supply on a single forecast peak day to predetermined demand levels and is thus heavily dependent on the underlying assumptions. On the other hand, a stochastic Loss-of-Load Expectation (LOLE) analysis is able to comprehensively account for demand and supply uncertainties by considering hundreds of scenarios and identifying the MW needed to meet the current LOLE standard of 0.1 days/year. SCE urges the state to use an LOLE analysis as a check on the Draft 2022 Stack Analysis findings and inform potential supply- and demand-side actions to address emergency reliability needs in summer 2022.[4] An LOLE analysis will more accurately identify reliability needs and therefore will more appropriately balance reliability with affordability.

## Hydroelectric Drought Derate

The Draft 2022 Stack Analysis applies a 1,500 MW derate to California hydroelectric capacity to reflect continued drought conditions into 2022. SCE finds that this deration amount is unnecessary and inconsistent with other CEC assumptions. Qualifying capacity (QC) values for dispatchable hydroelectric resources already reflect their capacity availability during drought conditions.[5] Dispatchable hydroelectric resources can largely be optimized to "reserve" water for use during critical hours. While continuing drought conditions would likely reduce the expected energy output (*i.e.,* GWh production) of the resources in 2022, this ability to optimize reservoir levels ensures that hydroelectric resources can still provide most of their QC value during system peak conditions.[6] Additionally, as described in further detail below, the PRM already includes a 7.5% buffer for portfolio forced outages. Any hydroelectric drought-related derating would be considered "forced" outages and are thus already reflected in both the NQC and demand assumptions. For these reasons, it is unnecessary to further reduce the supply stack by 1,500 MW.

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[3] SCE's comments focus on the September 2022 stack analysis because it is the peak month with the highest trigger contingencies in the Draft 2022 Stack Analysis.

[4] Slide 34 from the CEC's August 11, 2021 Business Meeting notes that it will perform "2022-2026 stochastic analysis to support [Integrated Resource Planning]."

[5] The CPUC recently adopted changes to the QC counting methodology for dispatchable hydroelectric resources in Decision 20-06-031. This new methodology, which is in place for 2022, generates monthly QC values based on the previous ten years of historical offered capacity and thus already incorporates the long-term impact of drought on the hydroelectric resources' overall capacity availability.

[6] As described in the Forced Outage Rates section below, the net qualifying capacity (NQC) for hydroelectric resources already accounts for forced outages—including forced outages related to drought.

## Import Assumptions

The Draft 2022 Stack Analysis uses historical average California Independent System Operator (CAISO) resource adequacy (RA) imports to estimate import levels in 2022. The CEC should consider modifying that assumption to include expected economic imports (*i.e.,* imports not under RA contract), which would increase the September import level by 1,079 MW.[7] A total of 7,000 MW of imports is consistent with import levels during the 2020 extreme heat events and reflects the reality that economic imports play a key role in meeting peak demand.[8,9]

Additionally, because RA imports have generally been used to fill load-serving entities' residual RA positions (*i.e.,* difference between the RA requirements, which are set using a 15% PRM, and in-state capacity), there will—by definition—be a significant difference between the extreme demand scenario (22.5% PRM) and a supply stack that only includes imports used to meet RA requirements. This comparison is internally inconsistent because it does not account for the economic imports that are necessary and available to meet demand when it exceeds the forecast that is the basis for the RA requirements. The Draft 2022 Stack Analysis underestimates the contribution of imports to meeting peak demand because average RA import levels are not representative of import availability during peak hours or consistent with historical experience. SCE urges the CEC to revise this assumption to include expected economic imports.

## Retirement Assumptions

The Draft 2022 Stack Analysis assumes 834 MW from Redondo Beach Generating Station Units 5, 6, and 8 (Redondo Beach) will retire at the end of 2021 and be unavailable in 2022. On October 19, 2021, the State Water Resources Control Board will consider a proposed amendment to its once-through cooling (OTC) policy extending Redondo Beach's OTC compliance date through December 31, 2023. The joint-agency Statewide Advisory Committee on Cooling Water Intake Structures, which includes representatives from the CEC, CPUC, and CAISO, has approved a report recommending that OTC compliance date extension for Redondo Beach. While it may be appropriate to consider whether Redondo Beach should be excluded from the supply stack given its pending status for 2022, the CEC and CPUC must update this assumption, including when considering any policy actions in the Emergency Reliability OIR where a proposed decision is expected in October, to reflect the final outcome of the State Water Resources Control Board hearing.

## Forced Outage Rate

The Draft 2022 Stack Analysis incorporates 7.5% for forced outages in both the average and extreme weather demand PRMs and then compares those scenarios against a generation

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[7] The average 2015-2020 CAISO RA showing for September is 5,921 MW. *See* Table 13 in CAISO's 2021 Summer Loads and Resources Assessment published on May 12, 2021.

[8] To that end, the CAISO recently approved market enhancements that improve incentives for economic imports during tight system conditions. *See* CAISO's Market Enhancements for Summer 2021 Readiness.

[9] Limiting assumed imports to average RA imports is a sensitivity, not a base, scenario in the CAISO's 2021 Summer Loads and Resources Assessment. *See* CAISO's 2021 Summer Loads and Resources Assessment, published on May 12, 2021, pp. 33-35.

supply stack that is developed using resources' net qualifying capacity (NQC), which results in over-counting some forced outage types. Forced outage rates are typically calculated based on deviations from installed capacity. At the same time, NQCs for some important resource types such as hydroelectric and geothermal, already account for historical forced outages. This results in NQCs for these resources that are less than installed capacity. The impact is that NQC, in the aggregate, is lower than the sum of resources' nameplates. Comparing a PRM that incorporates forced outage rates calculated using nameplate capacity against an NQC stack is thus inconsistent. While SCE does not recommend any specific changes to the accounting of forced outages in the Draft 2022 Stack Analysis, SCE notes that these assumptions will lead to more conservative outcomes than intended.

## Base Demand

The Draft 2022 Stack Analysis states that the base demand upon which PRM is applied is based on the "2020 CEC IEPR Update Mid Demand Case." It is unclear to SCE whether this refers to the "Baseline Net Load," which does not include any Additional Achievable Energy Efficiency, or the "Managed Net Load," which is the basis for RA requirements. To be consistent with RA requirements, the analysis should use the "Managed Net Load" because using "Baseline Net Load" would overstate the September 7pm-8pm demand by approximately 700 MW.

SCE thanks the CEC for consideration of the above comments. Please do not hesitate to contact me at (415) 929-5518 with any questions or concerns you may have. I am available to discuss these matters further at your convenience.

Very truly yours,

/s/

Dawn Anaiscourt