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On the IEPR Joint Agency Workshop on Summer 2021 Electric and Natural Gas Reliability

Additional submitted attachment is included below.



**COMMENTS OF THE CALIFORNIA COMMUNITY CHOICE ASSOCIATION
TO THE CALIFORNIA ENERGY COMMISSION ON THE IEPR JOINT AGENCY
WORKSHOP ON SUMMER 2021 ELECTRIC AND NATURAL GAS RELIABILITY
Thursday and Friday, July 8 and 9, 2021**

**Docket Number 21-IEPR-04
Energy Reliability**

California Community Choice Association (CalCCA)¹ submits these comments to the California Energy Commission (Commission) in Docket 21-IEPR-04 on the *IEPR Joint Agency Workshop On Summer 2021 Electric And Natural Gas Reliability*, held Thursday and Friday, July 8 and 9, 2021.

I. INTRODUCTION

CalCCA appreciates the opportunity to participate in the Integrated Energy Policy Report (IEPR) Joint Agency Workshop on Summer 2021 Electric and Natural Gas Reliability and submit comments on the “Multi-Year Reliability: Scope, Inputs, and Assumptions” presentation made by Commission staff (Multi-Year Reliability Study). The Multi-Year Reliability Study seeks to identify if existing procurement orders of the California Public Utilities Commission (CPUC) meet reliability targets and if incremental gas capacity improves reliability compared to preferred resources with the same capacity value.

¹ California Community Choice Association represents the interests of 22 community choice electricity providers in California: Apple Valley Choice Energy, Baldwin Park Resident Owned Utility District, 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, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.

Commission staff requests stakeholder comments to inform the Commission’s Loss of Load Expectation (LOLE) modeling to determine whether incremental capacity is necessary to ensure reliability beyond the recent procurement orders by the CPUC in the Integrated Resource Planning (IRP) proceeding, Rulemaking (R.) 20-05-003.² In comments submitted in the IRP proceeding prior to the most recent sizeable procurement order of 11,500 MW, CalCCA urged the CPUC to conduct an expedited LOLE study with stakeholder participation due to the lack of substantial analysis informing the need for this amount of capacity.³ In adopting the “high need” scenario of 11,500 MW but withdrawing its order to include 1,000-1,500 MW of incremental natural gas resources, the CPUC noted its intent to coordinate its ongoing staff analysis with the Commission’s LOLE modeling to determine if additional capacity should be ordered.⁴

In answering the questions posed by Commission staff, CalCCA makes the following recommendations on the study scope, assumptions, and process:

- **Key Study Questions** - In addition to net qualifying capacity (NQC) value, the Commission should also evaluate emissions and cost in determining the types of resources specified in any future procurement order;
- **Demand Response (DR)** - DR availability and load increase assumptions should align with those in the Strategic Energy Risk Valuation Model (SERVM) and program-specific load impact protocols;
- **Imports** - The Commission should base import assumptions on historic resource adequacy (RA) import levels, and perform sensitives considering recent trends and expected changes in import availability across the western region;

² See Decision (D.) 19-11-016 (Nov. 7, 2019) (ordering 3,300 MW of incremental resources to be procured by all LSEs by 2023); D.21-02-028 (Feb. 11, 2021) (requiring IOUs to seek additional capacity to meet the emergency reliability capacity needs for the summer of 2021); D.21-06-035 (June 24, 2021) (ordering 11,500 MW of incremental capacity to be procured by all LSEs by 2026).

³ *Comments of California Community Choice Association on the Proposed Decision and Alternate Proposed Decision Requiring Procurement to Address Mid-Term Reliability (2023-2026)*, R.20-05-003 (June 10, 2021) at 5-6.

⁴ D.21-06-035 at 43.

- **Wind, Solar, and Hydro** - The Commission should consider hydro resource availability sensitivity cases;
- **Forced Outages** - Inputs regarding forced outages should consider generation and transmission outage and curtailment information published by the California Independent System Operator (CAISO) and consider how thermal derates correlate with high load periods;
- **Planned Resource Build** - The Commission should use the latest Load Serving Entity (LSE) Resource Data Templates and the CAISO Interconnection Queue to build its database of planned resources; and
- **Next Steps** - Commission staff should continue to involve stakeholders in its LOLE analysis and modeling, including an August workshop and stakeholder comments on a Draft Staff Report.

II. COMMENTS

A. **Key Study Questions – In Addition to NQC Value, the Commission Should Also Evaluate Emissions and Cost in Determining the Types of Resources Specified in Any Future Procurement Order**

The stated purpose of the Multi-Year Reliability Study, and the first of the “key study questions,” is whether additional capacity beyond current procurement orders is needed to meet the standard LOLE of 1 day with unserved energy every ten years, or 0.1 days/year. All the inputs to the model will impact the results of the study, and CalCCA provides its recommendations below regarding those inputs.

If after conducting its LOLE modeling, the Commission determines that additional capacity is necessary to ensure reliability, the second “key study question” asks whether new incremental gas capacity will improve reliability compared to a portfolio of new preferred resources with equivalent NQC values. While reliability should be a central component of any analysis regarding future procurement orders, the CEC should also clearly articulate the emissions and cost impacts of adding preferred resources or gas-fired resources to the grid. In particular, the modeling must assess the greenhouse gas emissions impacts of selecting fossil gas resources rather than preferred resources, because the Legislature has required the CPUC to

ensure that emissions do not increase as a result of planned replacement resources.⁵ The analysis should also consider if replacing older natural gas plants with new, lower emission and more flexible resources would increase reliability or reduce emissions or costs, in which case further orders should potentially move to retire more polluting plants in favor of more efficient renovated resources.

As an output of the modeling, Commission staff should provide a summary table (or tables) to show a side-by-side comparison of the LOLE, emissions, and cost of a grid with no new fossil gas resources, compared to a grid with fossil gas resources (or multiple grids with various levels of gas). The Commission should allow stakeholders to review the results of the modeling at an early enough stage to have meaningful input. In particular, prior to the Commission's issuance of a final report in September 2021, stakeholders should have an opportunity to review the modeling, participate in a workshop to discuss the modeling results, and provide comments on a draft Staff report.

B. Demand Response - DR Availability and Load Increase Assumptions Should Align With Those in SERVM and Program-Specific Load Impact Protocols

Commission staff poses several questions about how best to characterize DR in the model, including dispatch limitations and load patterns surrounding event hours. Regarding DR dispatch limitations, the Commission should align its assumptions with the SERVM DR input data.⁶ SERVM uses specific assumptions about DR program availability including:

- Hours per day (typically within the four to six hour range);
- Hours per year (vary from 75 to 8760 hours); and
- Months available, e.g., all months, summer months only, etc.

⁵ Pub. Util. Code § 712.7(b).

⁶ These data are posted here: ftp://ftp.cpuc.ca.gov/energy/modeling/SERVM_DR_20200203.xlsx

This approach will ensure consistency between assumptions about DR availability used in the Commission's study and those used in the IRP process.

Commission staff also asks if a DR event in peak hours should result in increased load during other hours surrounding the event. The answer to this question depends on the DR program and program's underlying load. For example, air conditioning cycling programs may experience higher than normal loads before and after the event if customers increase their air conditioning use prior to and following an event to maintain comfortable temperatures within their residence. Alternatively, industrial customers who respond to DR events by shutting down industrial processes will likely not experience higher than normal load before and after an event because production schedules will probably not be altered in response to a DR event. Therefore, the Commission should consult the load impact protocols to determine which programs have historically experienced increased load outside of event hours and at what magnitude.⁷

C. Imports - The Commission Should Base Import Assumptions on Historical RA Import Levels, and Perform Sensitivities Considering Recent Trends and Expected Changes in Import Availability Across the Western Region

Commission staff provides two options for import assumptions: historic RA showings or historic net economic imports into the CAISO. The Commission should use historic RA showings, because RA showings represent import capacity contractually obligated to serve CAISO load. Thus, they are the most likely imports to provide actual capacity when needed. Economic imports, in contrast, are not dedicated to the CAISO BA like RA imports. Under tightening west-wide supply conditions (including the retirement of thermal resources in the Pacific Northwest), the other BAs will likely need their resources to serve their own load, and it

⁷ Load Impact Protocol Final Reports: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/demand-response-workshops>

is no longer prudent to assume the CAISO BA can rely on those BAs selling their excess as economic imports to the CAISO.

The Commission should examine different sensitivity cases for RA imports, such as minimum, average, and maximum levels. Such sensitivities capture the uncertainty (which is driven in part by the thermal retirements mentioned above) in the amount of imports that will actually “show up” when needed. The Commission should focus primarily on conservative estimates of RA imports to understand the potential reliability impacts of resource retirements and tightening supply conditions throughout the west. Indeed, some of the data presented at the workshop indicates that the amount of imported RA made available to California has decreased over the last few years.⁸ Thus, minimum historic RA imports may most reasonably reflect current trends and conservative expectations future RA import availability.

D. Wind, Solar, and Hydro - The Commission Should Consider Hydro Resource Availability Sensitivity Cases

The Commission’s methodology for wind, solar, and hydro using up to 2,160 variable draws of six different profiles for each technology type will generally provide adequate data to evaluate those resources. Given the importance of hydro conditions on electric reliability, however, the Commission should also evaluate different hydro availability sensitivity cases to inform reliability impacts of varying hydro conditions. The CEC could use publicly available data on hydro production they already compile to do this analysis.⁹ This summer’s drought

⁸ See Import Trends from the Grid Operator Perspective presentation, July 8, 2021: <https://efiling.energy.ca.gov/getdocument.aspx?tn=238733> .

⁹ Available at: https://ww2.energy.ca.gov/almanac/renewables_data/hydro/index_cms.php.

conditions highlight the importance of understanding how low hydro conditions impact reliability and should be considered should these conditions continue.¹⁰

E. Forced Outages - Inputs Regarding Forced Outages Should Consider Generation and Transmission Outage and Curtailment Information Published by CAISO and Consider How Thermal Derates Correlate with High Load Periods

Commission staff requests information regarding forced outages, and the assumptions that should be applied regarding technology types, standard size of unit, and average outage duration. To inform the analysis regarding forced outages, Commission staff should consult with the CAISO which maintains generator and transmission forced outage information.¹¹ The Multi-Year Reliability Study should consider that thermal derates of fossil gas resources occur during times of high heat, at precisely the same time loads are highest. This consideration is critical in evaluating fossil gas resource availability. In addition, the recent impacts of the Bootleg Fire in Oregon on availability of imports suggests the Commission should consider transmission outages, especially for import RA, when analyzing how forced outages impact reliability. The CAISO publishes transmission outage information on its Open Access Same-Time Information System (OASIS).¹²

¹⁰ “Joint Statement from the CPUC President Marybel Batjer, CEC Chair David Hochschild, and California ISO CEO Elliot Mainzer on decision to procure additional energy resources for summer” cite drought conditions as contributing factor in the decision to procure additional capacity through the CAISO’s Capacity Procurement Mechanism:

<http://www.caiso.com/Documents/CapacityProcurementMechanismSignificantEvent-JointStatementandLetter.pdf>

¹¹ The CAISO’s published information includes both a same day “snapshot” report of the curtailment and non-operational generation units (reports range from 2015 to 2021), as well as outage information regarding the prior trade date (publication began June 18, 2021).

<https://www.caiso.com/market/Pages/OutageManagement/CurtailedandNonOperationalGenerators.aspx>.

¹² See “Transmission Outages” report on OASIS: <http://oasis.caiso.com/mrioasis/logon.do>.

F. Planned Resource Build - The Commission Should Use the Latest LSE Resource Data Templates and the CAISO Interconnection Queue to Build Its Database of Planned Resources

Commission staff question the resource mix they should use when adding capacity to meet procurement orders. Staff’s presentation includes a straw proposal for new wind and solar resource build that assumes all new wind and solar is paired with energy storage on a 1:1 power capacity basis. This assumption likely overstates the amount of four-hour storage paired with renewables, particularly under hybrid or co-located resource configurations, given the intermittent nature of the renewable resource and investment tax credit restrictions on grid charging.

Therefore, instead of making these assumptions, the Commission should rely on real data submitted by LSEs to construct the portfolio. To determine planned resource build, the Commission should consult LSEs’ most recent Resource Data Templates in the IRP process (also known as “RDTv2”, which is an updated version of the RDTs originally submitted in September 2020 to the CPUC)¹³, as well as the CAISO Interconnection Queue.¹⁴ These two data sources will give a clear picture of what resources LSEs are planning to build, along with when and whether they are likely to come online.

G. Next Steps - Commission Staff Should Continue to Involve Stakeholders in Its LOLE Analysis and Modeling, Including an August Workshop and Comments on a Draft Staff Report

Commission staff expects to publish their final analysis in September 2021. Stakeholder inputs and experiences provide a unique and necessary “real world” perspective to the

¹³ More details available under the “2021 IRP Data Request” section at this link: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/more-information-on-authorizing-procurement/irp-procurement-track>.

¹⁴ The CAISO’s Interconnection Queue can be accessed at: <http://www.caiso.com/planning/Pages/GeneratorInterconnection/Default.aspx>.

Commission’s work. As such, prior to the issuance of the final report, the Commission staff should continue to involve stakeholders in its LOLE analysis and modeling at an early enough stage to have meaningful input, through an August workshop and by inviting comments on a draft Staff Report.

III. CONCLUSION

CalCCA appreciates Commission staff’s efforts in its Multi-Year Reliability Study and looks forward to further collaboration on this topic.

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