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**Joint POU BAA Comments on the SB 100 Non-Energy Benefits,
Social Costs, and Reliability Workshop**

Additional submitted attachment is included below.

STATE OF CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:
SB 100 Joint Agency Report: Charting a Path to a
100% Clean Energy Future

Docket No. 19-SB-100

**COMMENTS OF THE
JOINT PUBLICLY OWNED BALANCING AUTHORITY AREAS
ON THE NOVEMBER 1, 2021 JOINT AGENCY WORKSHOP ON
PLANNING FOR SENATE BILL 100 ANALYSIS OF NON-ENERGY BENEFITS,
SOCIAL COSTS AND RELIABILITY**

I. INTRODUCTION

The Balancing Authority of Northern California, Imperial Irrigation District, Los Angeles Department of Water and Power (“LADWP”), and Turlock Irrigation District (each a Balancing Authority Area (“BAA”) and collectively the “Joint POU BAAs”) provide these brief written comments on the Joint Agency Workshop on Planning for Senate Bill 100 Analysis of Non-Energy Benefits, Social Costs and Reliability, held November 1, 2021 (“Workshop”). In these Comments, the Joint POU BAAs provide recommendations for improving reliability modeling and fostering stakeholder engagement.

II. COMMENTS

The Joint POU BAA comments are focused on the planned reliability assessment, to ensure that the assessment is conducted using best available tools and methodologies, and in a transparent and timely manner. Maintaining grid reliability is a difficult technical question with which we are all wrestling, and the combined efforts of the agencies, the California Independent System Operator (“CAISO), and the Joint POU BAAs will help ensure the best result possible.

A. An Understanding of Basic Reliability Metrics Should be the Starting Place for any Reliability Assessment Discussion.

All would benefit from a transparent discussion on what metrics will be used to determine whether future chosen resource portfolios and transmission grid networks will ensure reliable electric grid operation. To ensure reliable grid operation, the reliability studies must achieve at least two objectives. First, at the most basic level, the chosen portfolios of each BAA must enable that BAA to meet Reliability Standards as that term is used in regulations promulgated by the Federal Energy Regulatory Commission. Federal Reliability Standards may serve as a mandatory starting point, but BAAs may desire to operate their system pursuant to more rigorous requirements. Second, the chosen portfolios must ensure that each BAA has sufficient capacity and energy to meet customer demand to a loss of load probability level that is chosen by the BAA or applicable regulators. There are likely other metrics that may be considered. These two different and distinct metrics should be incorporated, and it is essential that any metrics be set forth at the onset of any reliability assessment so that we know what we are trying to accomplish.

B. A Discussion of the Roles of the Agencies, the CAISO, and the Joint POU BAAs is Warranted.

As the Joint POU BAAs have noted in prior comments¹, the unique characteristics of each BAA's system, as well as the accountability each BAA bears to ensure reliability, necessitate a BAA-by-BAA reliability assessment. It is also clear that the California Energy Commission ("CEC"), California Public Utilities Commission, and California Air Resources Board ("CARB") (together the "Joint Agencies") have a statutorily mandated task to Report to

¹ Comments of the Joint Publicly Owned Balancing Authority Areas on the June 2, 2021 Joint Agency Workshop on Next Steps to Plan for Senate Bill 100 Resource Build, June 23, 2021 at 3-4.

the Legislature on the progress toward meeting SB 100 goals, including decarbonization progress, affordability, and reliability. Further, the Joint POU BAAs are unclear how the tools and assumptions of SB 100 studies translate to other state activities. For example, we would benefit from understanding what process is in place to ensure the tools and methodologies used in the SB 100 process are compatible with other statewide analyses, such as the 2022 Scoping Plan developed by CARB.

The Joint POU BAAs believe, therefore, that more discussion is warranted on how the many moving parts that contribute to the overall reliability analysis will fit together.

C. In addition to Resource Adequacy Assessments, Resiliency Analysis Should be Conducted as Part of Reliability Modeling Efforts.

The Joint POU BAAs appreciate the tremendous amount of work and coordination between the Joint Agencies to develop a draft plan for SB 100 reliability modeling. In particular, the Joint POU BAAs appreciate the Joint Agencies' intent to expand SB 100 modeling efforts beyond the initial capacity expansion assessment to include production cost modeling and reliability modeling. Based on the Workshop presentation, the Joint POU BAAs understand that the Joint Agencies may utilize a resource adequacy tool to perform a loss of load probability analysis. The Joint POU BAAs support this step but urge further analysis.

Specifically, the Joint POU BAAs recommend that an analysis of the transmission grid using power flow modeling tools to test the ability of the system to deliver energy during certain modeled contingency events. The events of Summer 2021 and the outage of the California Oregon Intertie due to the Bootleg fire illustrate the ramifications of such events on overall reliability. A power flow-based resiliency assessment should also be included as a component of reliability modeling. Resiliency assessments will allow the Joint Agencies to analyze the power system under stressed conditions, which are becoming increasingly frequent in California. We

recognize that there are likely practical limitations to the number of scenarios that can be modeled, but firmly believe that failing to take into account transmission contingencies will result in an incomplete analysis.

As the Joint POU BAAs have discussed in prior comments on the 2021 SB 100 Joint Agency Report, several Joint POU BAAs have adopted plans that either accelerate or provide more specificity on how SB 100 goals may be accomplished by their own publicly owned utilities. As such, these entities can contribute valuable insight into best practices for the SB 100 modeling efforts. For example, in March 2021, LADWP completed a multi-year study in partnership with the National Renewable Energy Laboratory (“NREL”) on how to achieve a reliable, 100% renewable energy supply for the City of Los Angeles by 2045 (“LA100 Study”)². NREL’s modeling framework was similar to the coordinated set of models that CEC staff presented at the Workshop (*i.e.*, identifying policy scenarios and sensitivities, capacity expansion, production modeling, and reliability modeling). However, as part of reliability modeling, NREL also conducted a resource adequacy analysis and power flow analysis. As a lesson learned from this experience, the Joint POU BAAs strongly recommend including resiliency as a component in the SB 100 Joint Agency Report.

To access high energy production sites and economies of scale, a significant amount of renewable energy will likely be deployed further from the load centers. As a result, there must be sufficient available transmission capacity to import the energy. In this scenario, electric utilities will have an increased dependency on major transmission lines to import renewables and energy storage, especially with anticipated retirements of thermal capacity, such as once-through

² See LADWP, *LA100 – The Los Angeles 100% Renewable Energy Study* (March 2021), available at: <https://maps.nrel.gov/la100/report>.

cooling and economic retirements, close to load centers. Additionally, the move to clean energy policies in other regions of the West will likely increase interdependence of transfers among regions to take advantage of resource and load diversity.

As peak load continues to grow under aggressive decarbonization strategies for other economic sectors, maintaining a resilient resource mix will be challenging yet critical. Therefore, it is important that we evaluate the reliability of the power system under both normal *and* stressed conditions, such as loss of major transmission lines or wildfires. In the LA100 Study, NREL performed this additional analysis. NREL removed major transmission lines for one year in the production cost model to assess the power system's ability to serve load under stressed conditions. NREL then added resources until the future system was adequate. The overall result was that a minimum amount of firm capacity near the load center was required to maintain reliability, even though that capacity was primarily utilized as backup. While it is true that NREL's modeling framework in analyzing LADWP's system was similar to the coordinated set of models that CEC staff presented at the Workshop, NREL's approach in modeling LADWP's system was much more robust and superior in computational capabilities and scenario optimization to provide a pathway for LADWP to reach 100% renewable energy by 2045. The Joint POU BAAs recommend that the Joint Agencies consider a similar analysis in SB 100 modeling efforts.

The Joint Agencies modeling should also take into consideration enacted policies among states neighboring California with respect to Renewable Portfolio Standards, Clean Energy Standards, and greenhouse gas reduction efforts to better understand how such state policies could adversely impact California's ability to meet its energy import capability and renewable portfolio standard. In addition, the Joint Agencies modeling should consider the impact of

climate change on the performance and resiliency of the electric grid within the state and the surrounding region as California undergoes a significant resource portfolio shift.

D. The Joint Agencies Should Collaborate with the BAs to Determine Individual Modeling Responsibilities and Establish a Timetable for Mutually Dependent Deliverables.

Overall, the Joint POU BAAs anticipate that reliability and other technical assessments will require continuous input from the Balancing Authorities (“BAs”) and other stakeholders to inform the study process. In addition, due to the distinct makeup of each BAA in terms of geography and transmission available for imports, each BA must individually evaluate how resource conditions may affect its ability to fulfill its reliability obligations. A statewide evaluation will likely not provide an accurate assessment of each individual BAA’s unique situation. CEC staff expressed a similar opinion during the Workshop, sharing that staff plans to thoroughly examine reliability uncertainties at both the statewide and BA level.

The Joint POU BAAs are concerned that the anticipated timeframe and cadence of reliability assessments will either cause delayed reports to the Legislature or truncated timeframes to complete the complex analyses. For example, and working back from January 1, 2025 as the deadline for the required report, the current schedule that commences discussion of reliability modeling in Q3/Q4 of 2022 will constrain the work and the number of sensitivities that will be able to be accomplished by the time the report is due. If it is assumed that assessment of the modeling landscape and development of the necessary tools will take one year, this would leave as little as one additional year to do the actual assessment and reduce that result into the written report to the Legislature. We are concerned that this schedule will not allow the necessary vetting that will be required due to the important and complex nature of the reliability issue. Given that the statute requires collaboration between the Joint Agencies and BAs, the

Joint POU BAAs therefore urge immediate discussions on how best to perform reliability modeling in earnest and in advance of the anticipated workshops in Q3/Q4 2022.

The Joint POU BAAs look forward to working with the Joint Agencies, other BAs, and stakeholders to ensure a reliable system representative of actual system operations.

III. CONCLUSION

The Joint POU BAAs appreciate the opportunity to provide these comments and look forward to continuing to work with the Joint Agencies in this proceeding.

Dated: November 23, 2021

Respectfully submitted,

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