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**BANC Comments on SB 100 Modeling Inputs and Assumptions  
Workshop**

*Additional submitted attachment is included below.*

STATE OF CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of:  
SB 100 Modeling Inputs and Assumptions Workshop  
RE: SB 100 Joint-Agency Report

Docket No. 19-SB-100

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**COMMENTS OF THE  
BALANCING AUTHORITY OF NORTHERN CALIFORNIA  
ON THE SENATE BILL 100 MODELING INPUTS AND ASSUMPTIONS WORKSHOP**

**I. INTRODUCTION**

The Balancing Authority of Northern California (“BANC”) appreciates the opportunity to provide comments on the *SB 100 Modeling Inputs and Assumptions Workshop* (“Workshop”) held on February 24, 2020.

At the Workshop, the BANC General Manager served on a panel discussing reliability considerations for modeling from the Balancing Authority (“BA”) perspective. BANC values the opportunity to engage in these important discussions surrounding the study process, as was contemplated in Senate Bill (“SB”) 100.<sup>1</sup> BANC remains committed to this process.

**II. COMMENTS**

BANC is a joint powers authority (“JPA”) established pursuant to Section 6500 *et seq.* of the California Government Code. BANC operates as a public agency and is governed by the BANC Commission, currently made up of an executive representative from each of its members. BANC’s members include the Cities of Redding, Roseville, and Shasta Lake, the Modesto Irrigation District, the Sacramento Municipal Utility District, and the Trinity Public Utilities

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<sup>1</sup> SB 100 mandates that the Joint Agencies develop the report “[i]n consultation with all California balancing authorities.” Cal. Pub. Util. Code § 454.53(d)(2).

District.<sup>2</sup> BANC is a registered Balancing Authority and Planning Coordinator with the North American Electric Reliability Corporation and operates as a neighboring BA to the California Independent System Operator (“CAISO”) BA.

BANC is a strong supporter of the goals reflected in SB 100, and offers several recommendations on how best to achieve those goals. First, California must develop a well-thought-out and flexible transition plan. In the near term, BANC believes California should take a net-zero carbon approach. Before existing resources are abandoned, new technologies must be proven capable of delivering grid operational capabilities such as frequency, inertia, and voltage support. The plan needs to allow for early demonstration testing of technologies. Not all new technologies will be successful, and California may need to change course during its transition. In addition, carbon reduction efforts must be balanced with the equally important goals of safety, reliability, and affordability.

In terms of reliability, existing thermal combustion and large hydro resources are expected to play a major role in meeting the grid’s operational and reliability needs over the next 20 years, although there will be decreasing reliance on thermal combustion units. This is especially true given the State’s increasing need to manage real-time fluctuations of intermittent resources and morning and evening ramps. One major issue in managing grid reliability will be finding alternative resources to thermal combustion units that can provide energy replacement during low production periods of solar and wind resources. These periods can last for days and

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<sup>2</sup> Western Area Power Administration-Sierra Nevada Region (“WAPA”) operates within the BANC Balancing Authority Area (“BAA”) and participates in BANC processes; however, WAPA is not a formal member of BANC. Currently WAPA participates through various agreements with BANC, including the BANC Energy Imbalance Market Participation Agreement. The California-Oregon Transmission Project, which is managed by the Transmission Agency of Northern California, is also within the BANC BAA.

sometimes weeks. BANC strongly encourages the development and evaluation of alternative combustion generation fuels, particularly renewable gas and hydrogen.

One tool to manage the increase in intermittent renewable resources is the expansion of markets. The Western Energy Imbalance Market (“EIM”), operated by the CAISO, has proven helpful in mitigating the effects of intermittency, and the current CAISO initiative to extend participation in its day-ahead market to EIM entities<sup>3</sup> will produce additional value. Diversity of the resource mix is key to managing grid reliability, and utilization of renewable resources throughout the West must be considered. BANC became an EIM Entity in April of 2019 and is actively participating in discussions related to the development of EDAM.

As for affordability, California needs to focus on carbon-reduction actions that result in “the biggest bang for the buck.” Attention should be focused on electrifying transportation and building infrastructure, since the transportation and building sectors own 53 percent of the State’s greenhouse gas emissions. Investments in these areas should be structured to address affordability for all end-use customers and equity for all customer classes. How we implement the goals of SB 100 can have profound impacts on both utility debt structure and end-use consumer rates and bills.

Transmission planning will become an increasingly important part of meeting SB 100 goals as California retires thermal units, coal units in the West also retire, and these activities change the transfer capability within the Western grid. Although consolidation of regional transmission planning across the West (for example, via a Regional Transmission Organization) is probably unrealistic in the near term, increased collaboration, coordination and integration of regional planning should be feasible – and indeed could be a likely byproduct of the expanded

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<sup>3</sup> Referred to as the “Extended Day Ahead Market,” or “EDAM.”

regional coordination that is already occurring through the voluntary markets of CAISO's EIM and EDAM. Meeting the goals of SB 100 will also require a major investment in research and development that likely exceeds the capabilities of a single state or country. Investment needs to be undertaken at a global level.

Regarding the modeling scenarios and assumptions put forth by the Joint Agencies at the Workshop, BANC generally supports these proposals. BANC recognizes the need to simplify modeling for this initial report by conducting the analysis at a statewide level. However, future analyses should allow for BA input and concurrence on assumptions that best reflect the individual plan of each BA. Since each BA is unique in geography and transmission available for imports, a statewide evaluation will likely not provide an accurate assessment of a given BA's capabilities. In addition, BANC is evaluating how to respond to the requirements of SB 100, and efforts of the individual BAs need to be properly included in the Joint Agencies' study.

Moreover, the Joint Agencies should model a high-electrification scenario that allows for low levels of combustion generation (for example, at a 20 percent capacity factor) to maintain reliability. This case will serve as a reference for existing technology capabilities and help California to understand how a net-zero carbon approach might look. A consistent finding in studies exploring 100 percent renewable energy resources shows that allowing some gas generation results in significantly reduced overbuild of renewable resources and storage build outs. BANC also has concerns with the capabilities of the models being used to perform the study, including: (1) the limitations of the RESOLVE model in areas of modeling constraints and being a zonal model will likely not provide an accurate representation for each BA; and (2) the RPS Calculator v.6.3 does not take into account individual BA transmission constraints when

identifying renewable resource availability. These modeling limitations warrant further discussions and consideration of alternative modeling approaches for the long term.

Finally, the Imperial Irrigation District (“IID”) requested at the Workshop to add an additional modeling scenario for geothermal resources to reflect the forecasted increase of geothermal generation in IID’s BAA. BANC supports IID’s request.

### **III. CONCLUSION**

BANC appreciates the opportunity to provide these comments and look forward to continuing to work with staff in this proceeding.

Dated: March 9, 2020

Respectfully submitted,

*/s/ James Shetler*  
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Northern California