

DOCKETED

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SB100 July Transmission Workshop Comments from GridLiance West

SB100 July Workshop comments from GLW are provided in the accompanying file.

Additional submitted attachment is included below.

August 11, 2021

RE: SB 100 Joint Agency Report Workshop on Transmission Next Steps

TO: California Energy Commission, Public Utilities Commission, and Air Resources Board

GridLiance West (GLW) is a California Independent System Operator (CAISO) Participation Transmission Owner¹ with thousands of megawatts of signed interconnection requests and Large Generator Interconnection Agreements in place for renewable energy waiting to interconnect to the CAISO on GLW's system.

GLW appreciates the ongoing effort that the California Energy Commission (CEC), Public Utilities Commission (CPUC), and California Independent System Operator (CAISO) are putting into the SB100 study to arrive at a plan that is workable and optimal.

We appreciate the opportunity to offer these comments in response to the discussion at the Next Steps workshop on July 22, 2021 (July Workshop).

Summary of Comments

GLW encourages the CPUC, CAISO and CEC to seek transmission solutions that offer high bang-for-the-buck, environmental viability, and shortened build timelines in order to support SB100 resource buildout needs. GLW also encourages the agencies to incorporate into the SB100 portfolios reasonable levels of geographic and technological diversity. Lastly, GLW supports the agencies vetting bus mapping results with stakeholders.

¹GridLiance West was formed to partner with electric cooperatives, municipal utilities, joint action agencies, irrigation districts, and renewable energy developers in the California Independent System Operator (CAISO) region in order to unlock the financial value of existing transmission assets as well as to invest in transmission projects with GridLiance West's partners. GridLiance West owns and operates approximately 165 miles of 230-kilovolt (kV) high-voltage transmission lines and related substation infrastructure within the CAISO footprint but located in rural Southern Nevada. GridLiance West is a non-load-serving Participating Transmission Owner (PTO) in the CAISO. The region that GridLiance West serves encompasses significant lands available for ready permitting of solar/storage hybrid, wind, and geothermal energy.

High Bang-for-the-Buck, Fast to Build, Transmission Projects Should be Prioritized for SB100

The July workshop provided a platform for the review of a large suite of transmission projects in the West which are aimed at enabling California's reliable integration of renewables and zero-emission resources at the levels called for to meet SB100 goals. The projects have a range of capital costs and completion timelines, with most relying on the CAISO's transmission access charge (TAC) as the primary means of cost recovery. GLW is appreciative that the CAISO intends to implement a 20-year study process capable of examining the feasibility of a number of alternatives beyond that encompassed by the tariff 10-year plan.² Even a relative comparison of estimated costs, time to project completion, and incremental delivery expectations would be beneficial to the agencies' prioritization of possible transmission solutions.

GLW presented its transmission project proposals in the July Workshop because these projects provide very high bang-for-the-buck and relatively low environmental and fire-hazard impacts given the desert terrain. To recap, GLW has proposed two projects.

1. An extension of the GLW system to enable the delivery of renewable energy, including high-capacity factor geothermal resources, from Nevada into southern California – a line which is envisioned to network into NV Energy's (NVE's) current 230kV network or NVE's proposed GreenLink West 545kV system and to the existing 230kV "Oxbow" line connecting into SCE's system at Control, California. This line would interconnect up to 500 MWs of renewable energy. GLW submitted an economic study request for this line to the CAISO for the CAISO's 2021-2022 transmission planning process.
2. A 500kV-ready enhancement to 230kV projects currently under CAISO consideration for the current renewables portfolio renewables. As GLW presented during the workshop, GLW has provided proposals to the CAISO for upgrades to its current 230kV system, upgrades that are expected to be both cost-effective and beneficial for connecting the 2,024 MWs of renewables in the IRP portfolios transmitted for the CAISO's use in this current TPP. Rather than simply make that infrastructure 230kV, GLW proposes to install equipment as part of those upgrades which would later enable the upsizing of those lines to 500kV for future interconnection of

² CAISO July 27, 2021 2021 – 2022 Transmission Planning Process Stakeholder Call – see presentation, slide 75 – 77. <http://www.caiso.com/Documents/Presentation-2021-2022TransmissionPlanningProcess-Jul27-2021.pdf>
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solar-storage, wind, or geothermal resources at a much lower cost.³ Making these projects 500kV ready would likely save \$10s of millions in avoided costs which would otherwise result (for example from installing 230kV transmission poles and then subsequently removing them and replacing them with 500kV transmission poles) as the renewable buildout grows to levels and types needed to meet the SB100 goals. Construction in this manner would also significantly reduce times to upgrade, outages times during upgrades, and land disruption.

GLW believes these projects are compelling and encourages the agencies to continue to seek such optimal projects – those which strongly support the SB100 renewable goals and are high bang-for-the-buck projects with workable construction completion timelines.

Geographic and Technological Diversified Geothermal Sources Likely Will Better Enable Meeting SB100 Goals

The CPUC’s mid-term reliability procurement order called for an incremental 1000 MWs of high capacity factor resources, such as geothermal. This level of procurement is 35% higher than what is being studied in the current IRP portfolio. It is, however, directionally consistent with the SB100 report’s recognition that overall system costs, especially in terms of install capacity costs, can be substantially reduced by realizing price reductions in resources capable of providing generic dispatchable or generic baseload power. The SB 100 report noted that updated information in NREL’s 2020 Annual Technology Baseline report identified a reduction of approximately 30% in the estimated cost of geothermal resources, which placed the levelized cost of geothermal resources below the target price for generic zero-carbon technologies. As such, the SB 100 report postulated that “it is likely that geothermal would be selected to a much greater extent should the updated cost data be used.”⁴ Given this reality, as well as the need to account for SB100 cases involving higher electrification and lower sources of energy from combustion, it is prudent to assume higher levels of geothermal or other generic dispatchable or generic baseload resource. In fact, the CAISO has proposed to use such a case - the no-combustion case - for its 20-year study, a case that includes 2,300 MWs of geothermal by 2040.⁵

³ There currently are over 7,000 MWs of renewable resources in the interconnection queue in GLW’s footprint, and there is over 40 GWs of untapped renewable potential in this region in total.

⁴ SB 100 Report at 92.

⁵ Workshop slides, electronic page 35, and CAISO July 27, 2021 2021 – 2022 Transmission Planning Process Stakeholder Call – see presentation, slide 77. <http://www.caiso.com/Documents/Presentation-2021-2022TransmissionPlanningProcess-Jul27-2021.pdf>
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Similar to other renewable resources, some level of geographic diversity of presumed geothermal supplies will likely reduce net needs in the planning horizon and generally result in a more viable solution. For these resources, GLW has asked that the CAISO's transmission planning study consider interconnection of some amount of geothermal resources in Nevada, generally at levels consistent with the commercial interest shown in that area.

Bus Bar Mapping is a Critical Step in Planning and Warrants Stakeholder Involvement

The translation of the RESOLVE results of the SB100 cases from area-level siting to specific transmission buses to be studied by the CAISO is a critical step in the process of studying transmission. In addition to distributing RESOLVE area siting to the areas' underlying buses, the mapping process has been critical to remedying some limitations in RESOLVE. RESOLVE is a spread sheet tool, and its refinement has lagged the model structures and options stakeholders have been recommending for increased accuracy. As part of the IRP process, the CPUC staff in consultation with the CEC and CAISO has made a number of adjustments to the bus bar mapping process in order to improve the portfolios for transmission planning. GLW supports the comments of Shannon Eddy from the Large-Scale Solar Association on the importance of including stakeholders in the mapping process. Not vetting the results with stakeholders, and incorporating stakeholders' feedback into mapping revisions, will result in deficiencies in RESOLVE being perpetuated into the portfolios as well as potentially producing suboptimal mapping outcomes generally.

GridLiance West appreciates the ability to submit these comments and would welcome the ability to discuss these issues with the agencies or otherwise participate in the SB100 study.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M Landgraf', is positioned above the typed name.

Michael Landgraf
President, GridLiance West