BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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GRIDLIANCE WEST LLC COMMENTS ON PROPOSED DECISION ADOPTING PREFERRED SYSTEM PLAN

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In accordance with Rule 14.3 of the Commission's Rules of Practice and Procedure, GridLiance West LLC ("GLW") respectfully offers these comments on the December 22, 2021 proposed decision of Administrative Law Judge ("ALJ") Julie Fitch titled *Decision Adopting 2021 Preferred System Plan* ("PD").

I. INTRODUCTION

The PD recommends electricity resource portfolios to the California Independent System Operator ("CAISO") to study in its 2022-2023 Transmission Planning Process ("TPP"), including a base case and, potentially, one sensitivity portfolio. As discussed in these comments, the analysis used to justify the base case portfolio mapping lacked information regarding additional transmission expansion capability in Southern Nevada that shows significant savings in meeting California's reliability and climate goals. This additional capability in the base case portfolio mapping should be included in the CAISO 2022-23 TPP to accurately reflect the lowest-cost and lowest environmental impact solution for achieving California's carbon reduction goals. Incorporating the incremental Southern Nevada transmission capability enables a base case portfolio mapping that includes 2,076 megawatts ("MWs") of additional battery storage within the GLW system, which in turn could enable thousands of MWs of additional solar capacity in the

GLW system. System benefits from this incremental expansion are significant, saving over $100 million per year in capital build-out costs by avoiding very expensive alternative renewable options. Including the additional renewable resources in the portfolio mapping will allow the CAISO to study incremental highly cost-effective network upgrades to support California's carbon and reliability goals in its 2022-23 TPP.

Conversely, if the portfolios do not reflect the incremental available transmission capability, the study and approval of the next set of network upgrades needed to support the critically necessary renewable buildout will be delayed for at least one year and potentially will result in an inappropriate, irreversible transmission expenditure. To avoid that result, GLW urges the Commission to modify the PD to direct staff to work with the CAISO and California Energy Commission ("CEC") to include resources supported by the GLW Upgrade before the final base case portfolio mapping is transmitted to the CAISO for study in its 2022 – 2023 TPP.

Additionally, GLW encourages ongoing Commission involvement in establishing a policy sensitivity case for the CAISO's 2022-23 TPP study and, in subsequent Integrated Resource Planning ("IRP") cycles, the development of Preferred System Plans, should the Commission approve the PD's recommendation to eliminate the development of a Reference System Plan as part of the Year-1 process in each IRP cycle.

II. COMMENTS

A. CAISO is pursuing the previously identified GLW Upgrade; further incremental upgrades can add over 2,000 MWs of additional fully-deliverable capability for minimal cost.

The CAISO has studied for two subsequent TPP cycles the previously recommended GLW Upgrade. The GLW Upgrade will cost-effectively interconnect over 2,000 MWs to Southern Nevada, and the CAISO staff intends to recommend approval of the GLW Upgrade to its Board.

CAISO staff is very supportive of this upgrade given that it cost-effectively upgrades primarily existing facilities, can be upgraded quickly, and provides interconnections to areas rich in renewables, including significant potential and ample land for geothermal, solar (with battery storage), and wind energy. There is strong commercial interest in the GLW area, with close to 7 gigawatts ("GWs") of active renewable generator interconnection requests in the CAISO queue. One facility is under construction and four others have signed interconnection agreements from cluster 12 and earlier queues. Two more facilities from cluster 12 are in ongoing interconnection agreement negotiations. Four facilities from cluster 13 are in their Phase 2 study process, and there are nine facilities (solar/storage and geothermal) that entered the Cluster 14 queue.

GLW has studied upgrades that are incremental to the GLW Upgrade identified for approval by the CAISO in the 2021-22 TPP. These incremental upgrades would cost approximately $260 million, could be built in approximately 36 months, and would allow for the interconnection of 2,076 MWs of additional fully deliverable capacity through GLW and the Eldorado substation, enabling timely interconnection of urgently needed deliverable resources. This is a very cost-effective additional transmission enhancement. Based on modeling runs conducted by GLW with this incremental capability being available at the aforesaid price, RESOLVE selects the incremental upgrades within the study horizon for both the 38 MMT Core scenario and the 30 MMT High Electric scenario. In both scenarios, it results in a present value levelized revenue requirement savings of over $100 million per year.[1] Further, the incremental upgrades ensure that near-term renewable buildouts can be supported to add resilience to the IRP

[1] The appendix to these comments contains detailed information about GLW's analysis related to these incremental upgrades, and the RESOLVE files associated with this analysis can be found at https://www.gridliance.com/companies/gridliance-west/irp-modeling-results.html.

in the event that there are delays in the development of other options such as out-of-state wind or offshore wind, and by supporting the diversity provided by delivering geothermal energy.

The CAISO has encouraged GLW's analysis and presentation of these additional upgrade opportunities and has indicated to GLW its support for transmitting this information to the Commission. Additionally, the International Brotherhood of Electrical Workers ("IBEW") and the Nevada Governor's office have been in contact with GLW, with both having encouraged GLW to request the study of additional capability for renewable interconnection in this region of the CAISO network.

B. The 2022-23 TPP portfolios should be revised to include the incremental GLW upgrades; not forwarding a portfolio for the study of this upgrade would result in significant adverse outcomes – some of which may be irreversible.

It is not difficult for the portfolio mapping to be adjusted to provide for the study of the incremental GLW transmission enhancement in the 2022-23 TPP. Tables 2 and 3 of the attached appendix provide conservative recommended GLW mapping that would be supported by the Southern Nevada ("SNV") incremental transmission enhancement. GLW recommends increasing the siting of battery storage and solar as indicated in Table 2. Adding storage and solar results in a case that would site more renewables than needed for the 38 MMT Core scenario but directionally would be aligned with the 30 MMT High Electric scenario and the ambitious 2040 California clean energy goals.

Not making this change will result in a portfolio for GLW no larger than the CAISO studied in its 2021-22 TPP, resulting in CAISO studying no greater renewable buildout in this area than was indicated a year ago by the Commission. Moreover, the earliest the CAISO Board could potentially approve the incremental upgrade would be in 2024, delaying the possibility of the enhanced capability unnecessarily.

Most critically, the incremental upgrades are very cost-effective if pursued before the equipment is procured for the GLW Upgrades studied, and slated for approval, in this current 2021-22 TPP. That is because the incremental upgrades would replace certain planned 230 kilovolt ("kV") segments with 500 kV equipment. This upgrade will be inexpensive if the development decision is made *before* the 230 kV poles and lines are purchased or installed. But if the 230 kV equipment is purchased and/or installed, the incremental cost to pivot to 500 kV facilities will be dramatically higher.

To keep the GLW Upgrade already studied on track, this equipment procurement would happen before the CAISO could next study these upgrades if they are not studied in the 2022-23 TPP. Provided with this information, as well as with the RESOLVE analysis GLW believes CAISO and staff would otherwise provide had they time to do this analysis within the IRP cycles, GLW urges the Commission to find, per GLW's request, that it is prudent and appropriate to include slightly more than 2,000 MWs of additional battery storage and solar on the GLW system in the Decision's portfolios in accordance with the provided Tables 2 and 3.

C. Busbar mapping lacks supporting information and explanation; warrants platform for further information transfer.

Despite the Commission's stated intentions from the last IRP cycle to maximize opportunities for stakeholder input to the bus-bar mapping,[2] the PD acknowledges yet again that, due to the compressed schedule, opportunities for understanding and vetting the bus-bar mapping conducted by staff remains limited.[3] Regardless of whether the Commission allows for more direct stakeholder engagement during the process, a better mechanism for resolving parties' questions

[2] Decision ("D.") 21-02-008 at 15.
[3] PD at 121.

about mapping is needed. GLW has a number of questions about the mapping logic and underlying data that seem not to be addressed by Attachment A to the PD.

Without a deeper understanding of the underpinnings of the mapping, GLW is unable to determine whether its concerns should be elevated to the point of opposing adoption of the PSP portfolio. Most of GLW's questions on the busbar mapping are narrow and likely could be resolved by a staff response. GLW therefore urges the Commission to create a mechanism wherein parties can seek data and have questions addressed on busbar mapping on a more technical and informal basis. More specifically, GLW recommends the Commission direct staff to implement either an inquiry mechanism or, alternatively, a working group session where staff addresses parties' questions that are submitted in advance.

At the present time, GLW is seeking responses to two questions. First, in the last IRP cycle, renewable resources were mapped to the GLW Desert View bus. In this IRP cycle, however, no resources were mapped there. The busbar mapping notices a level 2 violation for inconsistencies with the prior IRP cycle's mapping, but no explanation is provided for why the choice was made to not map to Desert View. GLW seeks that explanation,

Second, in this IRP cycle, the mapping references WECC level 2 and WECC level 3 land-use metrics for the first time. The busbar mapping dashboard workbook includes a table of raw data of WECC 2 and WECC 3 areas in kilometers and acres for the busses outside of California, including GLW's busses.[4] Yet GLW can find no source data for this information contained within, or noted in, the filing, and the WECC Level 2 and Level 3 designations are not, to GLW's knowledge, commonly used. GLW thus seeks further information about the source and origin of that data and the Commission's choice to use it for this purpose. Without such information about

[4] BusbarMapping_Dashboard_38MMT_V2021_12_20.xls, sheet Solar Eco-Land Use, cells AW3 through BC15.

the mapping, GLW does not know whether to support or oppose the proposed mapping recommendation.

D. GLW supports updating the resource potentials and land availability as part of the next round of mapping and urges the Commission to update the underlying RESOLVE input data.

In GLW's September 27, 2021 Comments on the ALJ's Ruling Seeking Comments on Proposed System Reference Plan, GLW provided an extensive record of the availability of geothermal potential in Southern Nevada.[5] The data provided was from credible sources, was available publicly, and showed that the potential for geothermal energy in Southern Nevada well exceeded the 320 MW legacy geothermal potential value that has resided in RESOLVE for several years. GLW also commented that with the improved transmission capability representation in RESOLVE, it was no longer necessary for the Commission to understate the Southern Nevada geothermal potentials itself, were the potential to have been set low for that purpose.[6]

The PD notes that GLW supported these increases.[7] Yet the Commission did not take this information into consideration in developing the PSP nor in the busbar mapping. GLW is pleased that the Commission intends to take this information into consideration in its final round of mapping for the finalized portfolios. However, it is also appropriate for the inputs and assumptions to be updated with this information, such that the burden does not continue to fall on the Commission staff to after-the-fact adjust the busbar mapping. If the Commission finds the record, even with GLW's submitted data and data sources, on the appropriateness of these Southern Nevada geothermal potential increases to be insufficient to justify the increase in geothermal

[5] GLW Comments at 3-8.
[6] *Id*. at 6-7.
[7] PD at 120.

potential in this region, then GLW urges the Commission to direct its staff to work with GLW and any other interested parties to resolve this open item.

E. Without a formal Year-1 RSP, the Commission will need alternative measures to ensure that carbon and reliability goals are met effectively.

The PD proposes to eliminate the development of a Reference System Plan (RPS) every two years while maintaining a two-year IRP cycle.[8] GLW agrees with many of the bases for this recommendation: the cycles are overly burdened with activities that are not being completed to the satisfaction of the Commission or parties, and additional work is required for which the staff seems to have insufficient time.[9] GLW also agrees with the PD, however, that eliminating the production of an RSP does not alleviate the need for the Commission to develop the analytical underpinnings heretofore associated with the RSPs.[10] The PD proposes to rely instead on the PSP and recognizes that revisions to the PSP may be needed to "incorporate key new inputs such as load forecasts."[11] GLW cautions, however, that Commission revisions will likely be needed frequently, essentially on the same time schedules the Commission has previously used in producing the RPSs. The load forecasts do change regularly. Even the transmission constraint representations – to which GLW has paid much attention as a Participating Transmission Owner affected by these representations – have for the most part become too complex for most parties to understand the impacts of on their own accord. Regular postings of the PSPs as modified by current information will significantly aid in the LSEs' plan development and procurement. Without such updates, LSEs' planning could be based on information that is close to two years old, where two years is significant in this vastly changing time horizon.

[8] PD at 69.
[9] *Id.* at 68-69.
[10] *Id.* at 69-70.
[11] *Id.* at 70.

Further, aggregated LSE plans often fail to meet carbon goals, loss of load reliability measures, or both.[12] If the Commission uses the SERVM tested and vetted PSP, as updated for changing input conditions, the Commission will have a valid portfolio with which to compare against the aggregated LSE plans.

While foregoing complex SERVM validation each year seems reasonable, GLW urges the Commission to continue to update the PSP and make the revised portfolios and RESOLVE models and files available for LSEs and other parties.

III. CONCLUSION

The CAISO staff studied, and plans to nominate this year for approval to its Board, the GLW Upgrade required to cost-effectively connect over 2,000 MWs of solar, wind, and geothermal energy to the GLW region of the CAISO grid – a region very beneficial to California's climate and reliability goals. Timely enhancement of the GLW Upgrade provides access to over 2,000 MWs of *additional* renewables, for a total of 10,328 MWs of renewables and 3,780 MWs of battery storage, in an efficient and cost-effective manner while bringing significant savings to customers. However, this enhancement can only be done cost-effectively if the decision to develop occurs before main equipment for the GLW Upgrade is procured and installed. This enhancement is expected to cost $260 million yet produce savings on the order of $100 million or more per year from reductions in capital build costs alone. However, the opportunity for the enhancement to occur at this value may not be possible if the CAISO does not study it in the 2022-23 TPP, given the investment in the 230 kV equipment that will otherwise take place prior to the completion of the subsequent TPP cycle. GLW therefore urges the Commission to increase the GLW siting, as

[12] See for example PD at 85 discussions of how staff found it necessary to augment the LSE plans using RESOLVE to determine which resources were needed to supplement the resources in the LSE plans.

indicated in the appendix hereto, to allow the CAISO staff to study this enhancement in the 2022-23 TPP.

Respectfully submitted,

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