

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Order Instituting Rulemaking to Develop
an Electricity Integrated Resource Planning
Framework and to Coordinate and Refine
Long-Term Procurement Planning
Requirements

R.16-02-007
(Filed February 11, 2016)

**COMMENTS OF GRIDLIANCE WEST LLC
ON PROPOSED DECISION ON ADOPTING PREFERRED SYSTEM PORTFOLIO
FOR 2017-2018 INTEGRATED RESOURCE PLANNING CYCLE**

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In accordance with Rule 14.3 of the California Public Utilities Commission’s (Commission or CPUC) Rules of Practice and Procedure, GridLiance West LLC (GridLiance West) hereby submits these comments on Administrative Law Judge (ALJ) Julie A. Fitch’s March 18, 2019 Proposed Decision (PD) adopting the Preferred System Portfolio (PSP) for the 2017-2018 Integrated Resource Planning (IRP) cycle.

I. OVERVIEW

The PD evaluates the IRP submittals of Load Serving Entities (LSEs), summarizes the Commission staff’s actions in aggregating the LSE plans and performing production cost modeling, adopts a modified version of the Commission’s previously adopted Reference System Portfolio (RSP) as the PSP for the 2017-2018 IRP cycle, and recommends that the California Independent System Operator (CAISO) utilize the adopted PSP and study two policy-driven sensitivity cases in its 2019-2020 Transmission Planning Process (TPP). The PD also addresses near term actions to meet the PSP, addresses Diablo Canyon-related issues, and offers “lessons learned” from the first IRP cycle.

For the most part, GridLiance West supports the PD's proposed findings and actions, including its acceptance of the great majority of LSE plans, its conclusion that the staff's proposed PSP was inferior in terms of reliability and greenhouse gas (GHG) emissions reductions, its exploration of the treatment of Diablo Canyon, thermal and other grid assets needed to ensure continued grid reliability going forward, and its proposed adjustments to future IRP cycles based on lessons learned during the 2017-2018 IRP process. GridLiance West is concerned, however, about the last-minute application of the California Independent System Operator's (CAISO) data on transmission capacity in Southern Nevada. GridLiance West is also concerned about the potential consequences of that data being incorporated into the PSP and sensitivity cases that the CAISO will study in its TPP. GridLiance West offers comments on that issue and other aspects of the PD below.

II. GRIDLIANCE WEST COMMENTS ON SPECIFIC ASPECTS OF THE PD

A. GridLiance West supports Commission's overall strategy of putting forth the Reference System Plan as the PSP but opposes application of certain transmission capabilities transmitted to the CPUC by the CAISO at the end of the 2017-2018 IRP cycle.

GridLiance West supports the PD in its adoption of a modified RSP as the Commission's Preferred System Plan. GridLiance West did not object to the adoption of the Hybrid Conforming Plan as the PSP when that was proposed by the Commission's staff in January.¹ However, as the PD notes, the HCP results in less GHG reductions than the RSP otherwise would have. For that reason, GridLiance West is supportive of the PD's determination to not adopt the HCP and to instead revert to a modified RSP to serve as the PSP.

¹ Administrative Law Judge's Ruling Seeking Comment on Proposed Preferred System Portfolio and Transmission Planning Recommendations, January 11, 2019.

GridLiance West objects, however, to the PSP’s dramatic limitation of renewables in GridLiance West’s Participating Transmission Owner (PTO) service area as a result of incorporating “updated” transmission capability data it seems that the CAISO provided to the CPUC on January 18, 2019.² As detailed below, the implications of this limitation are significant, both from a planning perspective and from a process perspective. GridLiance West urges the Commission to reverse the last-minute application of an unvetted transmission constraint into the IRP process to avoid undermining the feasibility, reasonability, and utility of the proposed PSP.

1. It is unclear what the Commission intends with respect to application of “updated” transmission constraints within the Southern Nevada renewable region.

GridLiance West cannot tell from the PD and the underlying record whether the Commission intends to apply the “estimated” transmission limits and “ball park” cost figures for upgrades to the GridLiance West system that the CAISO provided to the Commission³ as part of the “updated information” it submitted on January 18, 2019.⁴ The PD states that, in the course of aggregating LSE plans, staff identified five regions where the renewable buildouts proposed in LSE plans would “unnecessarily exceed available transmission capacity in California, even on an energy-only basis”;⁵ however, the five regions referenced in the PD do not include Southern Nevada. At the same time, the PD states, “No adjustments were made to specific out-of-state

² See “Readme” sheet of file IRP_TPP_ReliabilityAndPolicyBaseCase_ToBePosted.xlsx, posted at: http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/2018/IRP_TPP_ReliabilityAndPolicyBaseCase_ToBePosted.xlsx.

³ *Id.*

⁴ PD, p. 108.

⁵ PD, p. 85.

resource selections even though such selections may imply transmission upgrades (e.g., Wyoming or New Mexico resources).”⁶

It is possible that this statement regarding out-of-state resources is meant to exclude Southern Nevada, as the Southern Nevada region that lies within the CAISO Control Area (*i.e.*, the region including GridLiance West’s transmission system) is sometimes referred to as “in-state” based on how it is treated in the CAISO’s modeling (rather than where it is geographically located). However, neither the PD’s description of the five affected “in-state” regions nor its description of staff’s treatment of “out-of-state” resources indicate that the 2017-2018 portfolio is intended to be modified to incorporate the “updated” data for GridLiance West’s service area in Southern Nevada. Adding to the uncertainty, the portfolio captured in the Commission’s posted spread sheet simply shows that the PSP includes Southern Nevada Solar at 3006 MWs total, including 802 FCDS and 2,204 MWs of EO.⁷ Additionally, the RESOLVE modeling interface and results noticed via email to the service list on April 3, 2019 does not reflect any additional constraint for siting in GridLiance West.⁸ As a result, GridLiance West is unable to discern what the Commission actually intends.

⁶ *Id.*

⁷ IRP_TPP_ReliabilityAndPolicyBaseCase_ToBePosted.xlsx, posted at: http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/2018/IRP_TPP_ReliabilityAndPolicyBaseCase_ToBePosted.xlsx.

The portfolio spread sheet does include a side note indicating the Southern NV (GridLiance-VEA) has a limit of 700 MWs.

⁸ [RESOLVE model User Interface, Inputs files, and Results files.](#)

2. Applying the “updated” transmission capability data provided by the CAISO would result in a significant adjustment to the PSP without any transparency or vetting.

GridLiance West is concerned that the transmission capability data for the GridLiance West footprint provided by the CAISO in January of 2019 and labelled as “Tx Capability Estimated for 2019-2020 TPP” appears to have been applied, as part of the subsequent mapping captured at the California Energy Commission (CEC), to the 2017-2018 portfolio that the CAISO plans to study in its TPP.⁹ This is concerning given that: (i) the purpose of the PSP is to allow the CAISO to study in detail what policy-driven transmission projects are needed to support an efficient renewable buildout, and the CAISO’s application of a new limit in the GridLiance West area could result in unintended consequences with respect to the study process and cause additional renewable buildout in the area to be not studied and therefore overlooked;¹⁰ (ii) the limit seems to be arbitrary (it is described as “ballpark” and “estimated”) and, as far as GridLiance West has been able to ascertain, was *not* determined through the CAISO’s last TPP; (iii) to the best of GridLiance West’s knowledge, the CAISO has not provided any substantiating information to stakeholders in support of its “updated” GridLiance West area limit, and there has been no opportunity for stakeholders to review the basis of the CAISO’s assumptions or for the Commission to consider such stakeholder input; (iv) the CAISO’s “conceptual,” “ballpark” and “estimated” transmission capacity values for Southern Nevada and the GridLiance West system are in contradiction to the values developed in detail by GridLiance West and filed in the IRP docket, which were without

⁹ TN227311_20190311T143938_UPDATED 2019 IRP Portfolio Allocations to Substations.xlsx, posted at:

<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-MISC-03>

¹⁰ See Section 3 for a further discussion of this point.

objection from the CAISO; and (vi) the results from applying the new constraints will significantly change the siting of over 2,000 MWs of planned renewables in the TPP study process.

GridLiance West performed extensive analysis regarding Southern Nevada transmission capabilities and presented these findings at the October 31, 2018 Production Cost Modeling workshop. Under the direction of ALJ Fitch, GridLiance West subsequently filed detailed information about its assumptions, methods and findings, as part of its January 31, 2019 comments on the Proposed PSP.¹¹ In that filing, GridLiance West explained that renewables at the level indicated by the HCP (approximately 1,500 MWs) could be sited in the GridLiance West footprint, consistent with the CEC's prior bus mapping of the RSP, with only selective upgrades to the transmission being required. Those upgrades, estimated at \$155 million (according to GridLiance West's Per Unit Cost Guide for transmission facility costs provided on the CAISO website), would result in an annual revenue requirement of \$25 million but – according to the full 8760-hour production cost modeling GridLiance West performed and provided to the CPUC – would produce grid production cost savings of \$55 million per year, thus **resulting in net savings of \$30 million per year**.¹² Furthermore, at a buildout level of approximately 3,000 MWs (i.e., the buildout proposed in the PSP by the Commission), the aforesaid transmission projects would **result in a benefit of \$85 million per year for a net annual benefit of \$60 million**.¹³ And that is only the transmission system benefit, which would be additive to the benefit of building out renewables in this low-cost area.

¹¹ Comments of GridLiance West LLC on Administrative Law Judge's Ruling Seeking Comment on Proposed Preferred System Portfolio and Transmission Planning Recommendations, January 31, 2019. (GridLiance January 31, 2019 Comments)

¹² *Id.*, p. 5.

¹³ *Id.*, p. 6.

Thus, based on a full analysis, siting the low-cost renewables in accordance with the CEC's original mapping – *i.e.*, mapping that is not adjusted by the CAISO's "updated" transmission capabilities for Southern Nevada – is supportable by the limited projects identified in GridLiance West's study, which would also produce net benefits themselves. To trump those solid findings by implementing the CAISO's undocumented, unvetted "ball park" and "conceptual" estimates of transmission system capability and costs – estimates that were not based on a transmission planning production cost benefit – would be wrong from an analytical perspective and would fail to give adequate weight to the viewpoint and extensive analysis provided by the actual transmission owner.

Furthermore, the CAISO has only provided cost estimates for Full Capacity Deliverability Status (FCDS) expansion. Whereas most of the IRP renewables are being sited based on the ability to interconnect on an Energy Only (EO) basis, the CAISO-provided transmission capability spreadsheet provides no data for costs and additional capacity for supporting further renewables on an EO basis. By mapping the resources away from the GridLiance West service area, the EO cost must have been prohibitive or else it has been deemed to be infinite (e.g., that the 700 MW limit is not able to be exceeded at any cost). Without the availability of any information on the EO expansion cost, one must assume the CAISO simply directed the 700 MW limit as one that is effectively infinitely expensive to surpass. But such a finding would be incorrect. Again, GridLiance West identified a limited set of projects that would easily allow its system to transfer 1500 MWs to 3000 MWs of solar assets for \$155 million. That the CAISO has proposed a constraint that prevents Energy Only interconnection above 700 MWs *at any cost* is an overstatement of the actual costs. This, too, suggests that the application of the 700 MW limit is inappropriate for the 2017-2018 PSP and policy sensitivity cases.

3. An important purpose of the IRP portfolios is to stimulate study in the Transmission Planning Process.

The CEC's initial mapping of the Southern Nevada IRP resources sited those resources within GridLiance West's service area. This mapping would have resulted in the CAISO studying 3006 MWs in the GridLiance West footprint as part of their 2018-2019 transmission planning process. Such a study would have identified constraints, and potential solutions for those constraints could have been further considered. However, rather than studying constraints and potential projects, the CAISO has instead provided the CPUC with an indication of transmission limitations which was obtained by means other than a production cost model study. If the CAISO's cost values are not reconsidered, then the result will be that *no portfolios* of significant size and no renewable-related transmission projects will be fully studied in the GridLiance West footprint.

To impose a limit midcycle and thereby avoid studying a possible portfolio in the TPP seems to entirely negate the intention of the consideration in the TPP of policy driven projects. The Commission should instead request that the CAISO study the buildout that the CEC sited originally, prior to the CAISO's conveyance of the "updated" data for Southern Nevada. Otherwise, the agencies and the parties will never see the full costs and benefits of these resources. Instead the resources would be forever precluded from being sited in the high-quality renewable area encompassed within GridLiance West's footprint.

4. The alternative siting resulting from the CAISO January 2019 GridLiance West transmission capability constraint is inferior and will result in a high-cost renewable buildout for Californians.

The Southern Nevada renewable area includes both the GridLiance West footprint and areas to the south east and the Eldorado substation. The Commission's RESOLVE model recognizes Southern Nevada as a low-cost, high solar quality, renewable area. The RESOLVE data reflects abundant land availability and relatively low interconnection costs. The revised

mapping, directed by the imposed CAISO 700 MW, resulted in 2300 MWs of the portfolio's 3006 MWs of Southern Nevada solar resources being presumed sited at the Eldorado substation.

The Eldorado substation, however, does not have the same land availability. For example, despite there being 42,000 acres of Bureau of Land Management (BLM) land in this area, there are many competing uses for this land, including use by organized off-road vehicle groups, other recreational uses, proposed airport space, and land including threatened and endangered species. Approval of projects in this BLM land will need to await completion of a current and ongoing NEPA process for that BLM land. Further, given the high density of substation equipment and other land limitations, locating 2300 MWs at the Eldorado substation will most certainly require significantly higher interconnection costs. These are just two examples of how the mapping for the PSP requires careful treatment, demonstrating why alleged constraints within a renewable area – such as the one proposed by the CAISO with its GridLiance West “nested” constraint - should be given critical review before simply being applied.

5. This situation can be remedied by not applying the constraint at this time to the 2017-2018 portfolios and by robustly considering the application of any such potential constraint for the 2019-2020 IRP cycle.

The last-minute “updated” 700 MW limit to renewables imposed by the CAISO should not be applied without much more rigorous examination and cross stakeholder consideration. This situation can be remedied by the Commission directing the CAISO to study the PSP and policy-driven sensitivity cases using the mapping the CEC had developed prior to the invocation of the CAISO's proposed 700 MW limit. This change essentially requires no analysis on the CPUC, CAISO, or CEC's part to specify the portfolio, as the CEC had previously provided a mapping for the RSP.

By studying a portfolio with resources that are presumed to be located within the GridLiance West footprint, the CAISO will be studying a portfolio with excellent cost and land-

availability characteristics consistent with those presumed in the RESOLVE model. The CAISO's detailed study of such a portfolio will determine the specific production-cost modeling constraints that arise from this more feasible portfolio as well as benefits associated with potential transmission upgrades to fully support the resources.

B. The Commission must carefully consider the implications of policy sensitivities.

GridLiance West does not object conceptually to the policy sensitivity cases but recommends careful consideration of the implications of both the Commission's and the CAISO's broad intentions with respect to grid infrastructure investment to support renewable goals. The Commission should more broadly consider policies regarding grid build-out to support renewable expansion, so as to ensure that the resultant actions represent an overall efficient solution.

The Commission's out-of-state wind policy sensitivity case contemplates transmission system buildout of major interstate transmission paths to interconnect high-quality renewables with California load. The Commission has indicated that out-of-state wind seems to add promise as a low-cost renewable source, especially under high-buildout scenarios.¹⁴ These scenarios posit transmission expenses of \$1.8 billion for 2,000 MWs of New Mexico wind and \$2.1 billion for 2,250 MWs of Wyoming wind.¹⁵ As provided in GridLiance West's January 31, 2019 comments, modeling indicates that, at a gross transmission upgrade cost of \$155 million, 1500 to 3000 MWs of renewables can be sited within GridLiance West's footprint. That is **less than 10%** of the cost

¹⁴ See for example CPUC staff presentation "Proposed IRP Portfolios for the 2019-20 CAISO Transmission Planning Process," January 7, 2019, slide 12: "[A]llowing increased access to out-of-state resources may substantially reduce the marginal GHG abatement cost because lower cost GHG-reduction solutions were made available."

¹⁵ RESOLVE includes cost of \$120/kw-year for New Mexico and \$125/kw-year. Total costs are determined based on CPUC posted values of an Annualization Factor of 0.1127 and an Allowance for Funds Used During Construction factor of 1.175.

of the out-of-state wind transmission that the CPUC has asked the CAISO to study in detail in its next Transmission Planning Process.

It is inconsistent to both consider renewable sources that would require major cross-state new transmission facilities, such as those implicated in the out-of-state wind policy sensitivity case, while at the same time precluding an in-CAISO renewable buildout that requires even nominal transmission investments. Yet the latter is the precise result of constraining the in-CAISO renewable buildout with additional “transmission capability” limitations as the CAISO has proposed to do with its GridLiance West 700 MW limit. Further exemplifying the disparity regarding capital investment to support the renewable buildout, is the bill now that is now before the legislature seeking to mandate the CAISO to procure 2000 to 4000 MWs of long duration bulk storage by June 30, 2022 and pass the costs along to Californian’s through their load serving entities.¹⁶

To not even consider – by virtue of imposing a transmission constraint in RESOLVE – making grid investments on the order of \$155 million to interconnect up to 3000 MWs of high-quality low-cost solar resources, while considering investments of \$2 billion for out-of-CAISO wind or up to \$3 billion¹⁷ for transmission infrastructure in the form of bulk storage, is an obvious contradiction. To meet California’s renewable goals without undermining the California economy, the Commission must direct the CAISO to study not only solutions that require large infrastructure investment but also renewables solutions shown be to efficient that may trigger small infrastructure investment.

¹⁶ SB 722, introduced February 22, 2019, posted at:
http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200SB772.

¹⁷ Senate Appropriations Bill Analysis, August 29, 2018, p. 3.
https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180AB2787

III. CONCLUSION

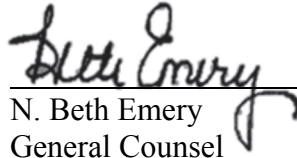
Portions of Southern Nevada offer a rich opportunity for Californian's to meet their renewable needs at low cost. California's mandates command the careful treatment of planning assumptions. Planning for renewable buildout in viable areas of Southern Nevada in general will be beneficial but will require careful treatment to map the renewables to the most feasible locations, *i.e.*, the locations which meet the presumed low cost and land-use presumptions assumed in the IRP process. Most importantly, now is the appropriate time to have careful consideration of infrastructure buildout that will support efficient renewable buildout. While the Commission and CAISO are studying out-of-state transmission options, they certainly have to be open to CAISO-grid build out as well. Ball-park, conceptual rules of thumb that prevent any further consideration of renewables in certain areas is no longer appropriate.

The Commission should take the opportunity to fully study exceptionally cost effective and properly sited locations to ensure that these locations, which may require only modest infrastructure upgrades, will be able to compete with similar out-of-state resources. The Commission may find that the latter resources ultimately deliver a similar or inferior product at a much greater cost to ratepayers. The Commission's ratepayers would suffer if viable and cost-effective locations are overlooked and not fully studied.

GridLiance West urges further diligence on the part of the CPUC staff to question broad assumptions offered into the IRP analysis – even when those assumptions are put forth by the CAISO. Stakeholders can provide a benefit to the process and findings by weighing in on any broad transmission limitation assumptions being considered for the IRP generation optimization processes, and also by providing input on mapping proposals offered by the CEC – especially as these alternatives relate to geographic regions that lie outside those with which the CEC has an historically developed expertise. We urge the Commission to see the importance of these aspects

of the IRP process, such that its findings will be true to the Commission's intention to plan for an effective renewable buildout.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Beth Emery", is written over a horizontal line.

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