

March 14, 2019

## GridLiance Economic Study Request

### Introduction

In the 2017-18 CPUC portfolio, the 3,006 MW that was mapped to Southern NV had more generation mapped to the GridLiance (GLW) and Valley Electric Association (VEA) service territory. In this year's CPUC portfolio, most of the Southern Nevada portfolio is mapped to Eldorado (specifically, 2,304 MW). According to the 2019 IRP Portfolio Allocations to Substations, the CPUC has indicated that the 2,304 MW allocation "likely exceeds the amount of solar development that would occur near El Dorado." There are significant land availability limitations and physical constraints that severely limit how much generation can be sited in that area and, therefore, economically interconnected to the Eldorado 500 kV substation.

There are constructability problems for new transmission (including generation interconnection facilities) near the Eldorado Substation. There are many high voltage transmission lines traversing the Eldorado Valley. Any new construction would require potentially dozens of line crossings—this increases costs and raises other concerns that should be considered. Constructing long transmission lines in the corridors to reach the Eldorado 500 kV Substation from areas where land is available will significantly increase the cost of generation and ultimately the cost of renewable resources to serve California ratepayers.

Based on the presented information, GridLiance requests CAISO to revisit the CPUC renewable portfolio with a greater amount of solar generation allocated to the GLW/VEA service area. GLW fears California will lose a clear opportunity to access the low-cost renewable resources available in the other parts of Southern Nevada.

GLW conducted its own analysis with a larger portion of the 3,006 MW solar generation mapped to the GLW/VEA service area in Southern Nevada. GridLiance requests that the CAISO, as part of its 2019-20 TPP, conduct a detailed study of the need for transmission upgrades on its system as a result of the modification to the CPUC's renewable portfolio. There is compelling evidence to suggest that the additional generation added on the GridLiance system in Southern Nevada would trigger the need for significant upgrades. Performing transmission upgrades to the system would provide long-term benefits to users of the CAISO system.

### 2018-19 TPP Analysis using 2017-18 CPUC Portfolio

GridLiance West has identified transmission upgrades that, based on the CPUC's renewable portfolios, will (1) enable CAISO-connected renewable generation in Southern Nevada to meet California carbon goals, (2) result in annual savings of \$54 million for CAISO customers assuming 1,512 MW mapped as described below, (3) mitigate thermal overloading, (4) improve reliability, and (5) improve the resiliency of the system. Our analysis shows the clear benefits of these projects based on the CPUC's portfolios that include 1,134 MW, 1,512 MW, and 3,006 MW of renewable generation in Southern Nevada. In addition, these solutions are all upgrades to existing facilities—this means significantly lower risk in implementation.

GridLiance modeled the renewable portfolios in accordance with the following assumed siting taken from the 2017-18 CPUC renewable portfolio in southern Nevada. The 1,512 MW scenario was interpolated from the 1,134 MW and 3,006 MW portfolios.

<i>Southern Nevada substations</i>	<i>MW mapped</i>	<i>MW mapped</i>	<i>MW mapped</i>
Innovation 230 kV (GLW)	373	497	989
Desert View 230 kV (GLW)	168	224	445
Eldorado 230 kV (SCE)	123	164	326
Crazy Eyes 230 kV (GLW)	270	360	716
Gamebird 230 kV (GLW)	200	267	530
<b>Total</b>	<b>1134</b>	<b>1512</b>	<b>3006</b>

As CAISO continues the important work of planning for the state's 2030 objectives, we are confident these projects should be a part of reaching the state's goals. We propose the following:

1. **Pahrump – Sloan Canyon:** Upgrade the existing Pahrump – Sloan Canyon 230 kV line to 926/1195 normal/emergency rating and connect to Carpenter Canyon and Trout Canyon.
2. **Innovation – Desert View:** Upgrade the existing Innovation – Desert View 230 kV line to 926/1195 normal/emergency rating and add second circuit at same rating.
3. **Desert View – Northwest:** Add a second 230 kV circuit Desert View – Northwest at 926/1195 normal/emergency rating.
4. **Pahrump – Innovation:** Upgrade Pahrump – Innovation 230 kV to 926/1195 normal/emergency rating.

In its evaluation of the CPUC's various renewable portfolio scenarios in southern Nevada for the 2018-19 TPP, GridLiance also developed a 2030 UPLAN Production Cost Model (PCM) with and without the proposed projects listed above. Our analysis indicates that the solution we propose (estimated to cost approximately \$170 million) will provide important cost-effective reliability and economic benefits that address the future needs of the system.

## Conclusion

This transmission solution set will resolve issues and support the development of cost-effective renewable generation for much more than 702 MW in the GLW/VEA area. GridLiance requests CAISO's consideration in studying the economic and policy benefits of the submitted solution in the 2019-20 TPP. We are therefore submitting this Economic Study Request for consideration in the 2019-20 TPP.

Sincerely,



Jody Holland  
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