GRIDLIANCE

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GridLiance West Economic Study Request

Introduction

In the 2019-20 TPP, CAISO identified congestion on the Pahrump – Sloan Canyon 230 kV line. However, reconductoring the Pahrump – Sloan Canyon 230 kV line to mitigate the identified congestions increases congestion on the neighboring NVE system. In the reliability study portion of the TPP study, GLW recalled that the CAISO considered RAS and other non-wires solutions to manage flows from GLW area renewables onto NVE's system, but that in the course of the economic study the CAISO included phase shifting transformers to ensure that flows on the adjacent NVE system would not have significant adverse impacts. If CAISO believes phase shifting transformers or other similar transmission equipment is required, GLW requests that CAISO revisit the congestion in the area with the base case alternatives indicated later in this request.

Also, in the latest CPUC portfolio that was posted in February 2020, the CPUC indicated its intent to study an expanded energy-only base case scenario. GLW conducted its own RESOLVE analysis on the expanded energy-only case. The results showed there were 1462 MW of solar generation sited to the GLW footprint.

Based on this information, GridLiance requests CAISO to consider the CPUC renewable portfolio with the expanded energy-only scenario with 1462 MW sited to GLW's system as well as the 802 MW generation with FCDS 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 the 802 MW and 1462 MW solar generation mapped to the GLW/VEA service area in Southern Nevada. GridLiance requests that the CAISO, as part of its 2020-21 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. The CAISO has indicated that the additional generation siting on the GridLiance system could be accommodated by cost-effective upgrades. Studying those upgrades in this 2020 – 21 TPP would avoid a delay that could be costly to California LSEs wishing to satisfy their renewable requirements.

2020-2021 CPUC Portfolio Analysis

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) mitigate thermal overloading, (3) improve reliability, and (4) improve the resiliency of GLW's system. Our analysis determined the best project solutions based on the CPUC's portfolios that include 802 MW and 1,462 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 2020-21 CPUC renewable portfolio in southern Nevada.

201 East John Carpenter Frwy; Suite 900
Irving, TX 75062

1701 Pennsylvania Ave, NW
Suite 200
Washington, DC 20006

Blackstone Portfolio Company

Southern Nevada substations	*MW mapped*	*MW mapped*
Innovation 230 kV (GLW)	152	277
Desert View 230 kV (GLW)	118	215
Eldorado 230 kV (SCE)	102	186
Trout Canyon 230 kV (GLW)	430	784
Total	802	1462

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 projects on the GLW system:

1. Pahrump – Sloan Canyon ($91.46M): Upgrade the existing Pahrump – Sloan Canyon 230 kV line to 926/1195 normal/emergency rating and connect to the new Gamebird 230 kV bus and Trout Canyon 230 kV switching station.

2. Innovation – Desert View ($21.12M): Add second Innovation – Desert View 230 kV circuit.

3. Desert View – Northwest ($2.34M): Add a second 230 kV circuit Desert View – Northwest at 926/1195 normal/emergency rating.

4. Pahrump – Innovation ($30.4M): Upgrade Pahrump – Innovation 230 kV to 926/1195 normal/emergency rating.

As mentioned in the introduction, GLW encourages CAISO to consider the phase shifting transformers or any alternatives in its base case model. In its analysis, GLW showed the problems as issues appearing in the base case as a reliability issue. Below is the project, along with alternatives, that GLW plans to submit in the reliability window.

5. Innovation and Lathrop Wells Phase Shifting Transformers ($7.6M): Add 138 kV phase shifting transformers at Innovation and Lathrop Wells stations.

   GLW also requests that CAISO consider the following alternatives to the phase shifting transformers:

   a. Jackass Flats – Mercury – Northwest ($60.42M): Rebuild the Jackass Flats – Mercury (DOE) and Mercury – Northwest (NVE) 138 kV lines at 207/285 normal/emergency rating.

   b. Innovation and Lathrop Wells Line Reactors ($3M): Add 138 kV line reactors at Innovation and Mercury Switch.

   c. 138 kV Line Reconfiguration ($0): A previously proposed line reconfiguration included the following:
      i. Jackass Flats – Mercury taken out of service
      ii. Mercury Switch – Indian Springs and Lathrop Wells – Jackass Flats operating normally open. These lines could be closed for emergencies.

Our analysis indicates that the solutions we propose will provide important cost-effective reliability benefits that address the future needs of the system, including an expanded energy-only generation scenario and mitigation of congestion on the GLW system and adjacent NVE lines.

Conclusion

This transmission solution set will resolve issues and support the development of cost-effective renewable generation for much more than 802 MW in the GLW/VEA area. GridLiance appreciates CAISO's consideration in studying the economic and policy benefits of the submitted solution in the 2020-21 TPP. We are therefore submitting this Economic Study Request for consideration in the 2020-21 TPP.

Sincerely,

Jody Holland

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GridLiance West LLC