

March 14, 2017

**GridLiance Economic Study Request
and
Public Comments on the CAISO 2017-2018 Transmission Planning Process Draft Plan ¹**

GridLiance West Transco LLC (GridLiance) provides these comments regarding the CAISO's 2017-2018 Transmission Planning Process (TPP) draft plan. GridLiance herein both makes an explicit economic study request, and offers related feedback on a specific methodological assumption.

Economic Study Request

GridLiance requests that the CAISO, as part of its 2017 – 2018 TPP, conduct a detailed study of the congestion between the Bob Tap Substation and the Mead Substation, and the potential economic merits of upgrades to that path. There is compelling evidence to suggest that significant levels of congestion could be alleviated by path upgrades, and it seems likely that the upgrades would be technically and physically feasible with a strongly positive net present value (NPV). We also believe that continued development in the region will increase congestion. Performing incremental upgrades to the system would allow time to determine the best long-term solutions that will provide long-term benefits to users of the CAISO system.

CAISO 2016 – 2017 Draft Transmission Plan Indicates Significant Path Congestion

The CAISO 2016 – 2017 draft transmission plan identifies nearly \$24 million of expected congestion annually, affecting approximately 600 hours, in its 2026 study year on the Bob Substation (Bob SS) to Mead line.² The path is also shown in the CAISO's preliminary 50% in-state study results to be overloaded under N-0 and N-1 conditions,³ and the study also shows that the number of congested hours will increase to 1,229 hours under higher level of renewables.⁴ The draft also suggests that significant renewable curtailment would result without upgrades.⁵

The draft plan recognizes that this is the first time that congestion on this path has been identified in the CAISO's Transmission Planning Process (TPP). This is because VEA will not be physically interconnected with the bulk of the CAISO system until the Bob SS is energized, which the CAISO expects to occur in 2018.⁶

The congestion on the Bob SS to Mead path exceeds, by a large margin, the balance of the congested elements shown in the CAISO's draft plan. In fact, the costs associated with the Bob SS to Mead path are expected to exceed congestion costs on such major interfaces in the CAISO system as Path 26 (connecting northern and southern California), Path 45 (connecting SDG&E and Mexico), and Path 66 (the California-Oregon interface). The congestion results likely reflect the extensive buildout of renewable energy in and around the Eldorado area, and the value the Bob SS project brings by providing another flowpath for renewable energy in the region (i.e., the Eldorado to Mead interconnection through Bob SS).

¹ Separately, GridLiance is filing confidential comments that are Critical Energy Infrastructure Information.

² See, for example, the Draft Plan table 4.6-2, p. 177.

³ The 50% in-state results were presented briefly at the February 17, 2017 stakeholder meeting. See the CAISO's presentation materials slide 25 (<http://www.caiso.com/Documents/Presentation-2016-2017TransmissionPlanUpdate.pdf>).

⁴ *Id.*, slide 137.

⁵ *Id.*, slide 141, shows curtailment results for the VEA and East of Pisgah areas combined. The presentation seems to have a typographical error; GridLiance assumes the intent was to reflect 1,000 MWs of curtailment in the study hour. It is unclear whether this curtailment is due to the same Bob SS to Mead congestion.

⁶ The most current in-service date is on, or prior to, July 1, 2019.

With more than one in every fifteen hours constrained at an average cost of \$40,000 per hour, this path demonstrates that it is an ideal candidate for an upgrade on economic grounds. Further, if the level of congestion and curtailment is in-line with that which is presented in the draft plan, there could be additional second-order effects requiring excessive renewable build-out (i.e., to overcome the magnitude and frequency of physical curtailments) to satisfy California renewable energy mandates if the path is not upgraded.

In its 2016 – 2017 draft plan, the CAISO indicated that it did not study this constrained path in detail during this past cycle. GridLiance formally requests that the CAISO study an economic upgrade to this path as part of its 2017 – 2018 TPP.

Upgrades of the Bob SS to Mead Path are Feasible

The 15-mile Bob SS to Mead path can be upgraded from its current approximate 400 MVA rating to 800 MVA, 2000 A or greater, by rebuilding the existing line. Utilizing existing ROW, the upgrade could be built within 18 months to 24 months of approval.

An Economic Upgrade to the Bob SS to Mead Path Warrants Further Study

As indicated above, the CAISO's own analyses have shown that the Bob SS to Mead path will suffer from significant congestion in the upcoming years. This congestion will likely have detrimental effects on CAISO participants by constraining supplies, and potentially by adding to renewable curtailment. We believe that such renewable curtailment may trigger overbuild of renewable resources to meet California's RPS targets. Upgrades to the path seem both technically feasible and economically viable.

GridLiance estimates the cost to upgrade the Bob SS to Mead path to be approximately \$25 million, assuming installation costs of \$1.5 million per mile, along with expected substation work at each terminal. The benefit-to-cost of reduced congestion to CAISO participants and regional stakeholders of this upgrade is estimated to be 4.8 (or \$19 million in annual savings) which would imply a 5-year NPV benefit of over \$75 million (B/C ratio of 4.6). Viewed differently, the expected cost of the project would be fully recovered in the first year of operations after the upgrade is completed. For these reasons GridLiance strongly urges the CAISO to study this path further in its 2017 – 2018 TPP.

Comments on Methodology

GridLiance also requests that the CAISO reconsider in its 2017 – 2018 planning cycle the characterization of the appropriateness of addressing the Bob SS to Mead congestion. As you may recall, GridLiance submitted similar comments in response to the CAISO's 2016 – 2017 draft plan. The 2016 – 2017 draft plan indicated that CAISO did not study congestion on this pathway in detail as part of its 2016 – 2017 TPP because the CAISO believed that mitigating the congestion would not benefit ISO's ratepayers.⁷ GridLiance's understanding of the economic assessment approach is that the CAISO will examine both the WECC-wide benefits as well as specific CA-participant benefits. In the case where there are WECC benefits but CA-participants do not share in those benefits, the CAISO coordinates with the adjacent balancing area authorities. In its draft plan the CAISO has reported that the benefits to CA ratepayers do not warrant a path upgrade. The CAISO did not report on the benefits to CA participants, where participants *included both load and suppliers*, even though the CAISO Transmission and Economic Assessment

⁷ Draft Plan, p. 178.

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Methodology (TEAM) approach calls for assessing benefits to ratepayers and producers.⁸ The CAISO should not base its determination of the value of relieving the congestion solely on impacts to load; the cost of non-delivery of renewable energy and the cost of economic dispatch to accommodate renewables are legitimate, adverse impacts borne by CAISO participants. GridLiance asks that the CAISO recognize the breadth of the impacts and not limit its decision to act or not act based on load-related impacts alone, consistent with the approved TEAM methodology as cited above.

Respectfully Submitted by:

Noman L. Williams

Senior Vice President, Operations & Engineering and
Chief Operating Officer

⁸ See, for example, the TEAM methodology document, p. ES-6 and p. ES-20 which defines "CAISO Participant" as ISO Ratepayers plus the CA IPP Producer Benefit (<http://www.caiso.com/Documents/TransmissionEconomicAssessmentMethodology.pdf>).