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Submitted to: CAISO (regionaltransmission@caiso.com)

COMMENTS OF HORIZON WEST TRANSMISSION, LLC IN REGARDS TO THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION 2019-2020 TRANSMISSION PLANNING PROCESS STAKEHOLDER MEETING HELD ON NOVEMBER 18, 2019

Horizon West Transmission, LLC (Horizon West) appreciates this opportunity to provide comments in regards to the California Independent System Operator (CAISO) 2019-2020 Transmission Planning Process (TPP) November 18, 2019 stakeholder meeting.
Horizon West respectfully requests CAISO to consider the following comments as it undertakes its current transmission planning efforts in the 2019-2020 TPP:

Red Bluff - Mira Loma 500 kV Transmission Project

To improve reliability, mitigate thermal overloads of the existing 230 kV transmission network in the West of Devers area, and to address the growing deliverability constrained Desert Area, Horizon West submitted the Red Bluff-Mira Loma 500 kV Transmission Project into the 2019-2020 cycle. The Project consists of a new 139-mile 500 kV transmission line from Mira Loma 500 kV substation to Red Bluff 500 kV substation with 50% compensation with an estimated cost of $850 MM and expected in-service date of December 1, 2024.

CAISO reviewed the proposal and informed Horizon West that the Red Bluff-Mira Loma 500 kV Transmission Project does not meet a reliability need, however it may consider the project in the evaluation of the economic study requests. During the November 18th stakeholder meeting the CAISO did not identify the Red Bluff-Mira Loma 500 kV Transmission Project on the list of high priority study areas to receive detailed consideration.

Horizon West appreciates the ISO's detailed evaluation, and would like to encourage CAISO to consider evaluating the project in the following studies in the current TPP cycle:

1. The economic evaluation of the Red Bluff-Mira Loma 500 kV Transmission Project should include an increased level of SCE Eastern area renewables in the post project cases, as one of the goals of the Project is to enable renewables to interconnect to the system. During the November 18th stakeholder meeting the CAISO indicated that the economic evaluation of

the Pacific Transmission Expansion (PTE) will include offshore wind in the post-project cases. Horizon West believes that the economic evaluation of the Red Bluff-Mira Loma 500 kV Transmission Project should make similar assumptions regarding increased renewables in the post-project cases.

2. Consistent with Transmission Economic Analysis Methodology (TEAM), test the effectiveness of the project in economic studies and calculate the benefit to cost ratio for the project as part of the economic and policy assessment. CAISO performed an economic evaluation of the project in 2018-19 TPP cycle but noted that conservative values were applied for the local capacity in the LA Basin area due to the uncertainty regarding future system requirements for the gas-fired generation fleet in the area and the need for further coordination with the CPUC's IRP process. Hence, Horizon West requests that the ISO consider performing the near-term local capacity studies for 2020 – local capacity area technical study, and 2024 – mid-term local capacity requirements studies, and to assess the benefits of the proposed Red Bluff – Mira Loma 500 kV transmission project, in the current 2019-2020 TPP cycle.

Lopez – Divide 230 kV Transmission Project

The CAISO's 2019-2020 Reliability Assessment – Preliminary Study Results for Central Coast Los Padres identified a number of contingencies that generated potential overloads. The project, which was initially approved by CAISO in the 2012-2013 TP process, PG&E's Midway – Andrew 230 kV, is currently on hold with its original in-service date of 2019. This in-service date was critical due to the reliance on the Mesa and Santa Maria Special Protection Systems (SPS) as an interim solution to avoid voltage collapse following several outages in the area, including a P2 stuck breaker outage at the Mesa 115 kV bus. The interim solution also relied on the Divide SPS to trip load following a P6 outage in the area.

The proposed Horizon West Transmission solution, Lopez – Divide 230 kV, fully mitigates the thermal overloads and voltage collapse problems observed by the CAISO in the 2019-2020 preliminary reliability results and solves the issues previously determined to be solved by the Midway - Andrew 230 kV Project and the North of Mesa Project at much lower cost ($85 MM).

Horizon West encourages the CAISO to evaluate the Lopez – Divide 230 kV project as a potential solution to the North of Mesa constraints and consider issuing the project for competitive solicitation.

Weber – Manteca 230 kV Transmission

During the November 18th Stakeholder meeting the CAISO presented the 2019-2020 Transmission Planning Process Less than $50 Million Project Recommendations – PG&E Area. The projects recommended for approval included the East Shore 230 kV Bus Terminals Reconfiguration (Greater Bay Area), the Newark 230/115 kV Transformer Bank #7 Circuit (Greater Bay Area), the Moraga 230 kV Bus Upgrade (Greater Bay Area), the Wilson Ora Loma 115 kV Line Reconductoring (Greater Fresno Area), the Borden 230/70kV TB #1 Capacity Increase (Greater Fresno Area), and the Tulucay-Napa #2 60kV: Remove Limiting Element Project (North Coast & North Bay Area). A comparison was drawn between the CAISO's recommended approval list and the PG&E Presentation "PG&E's 2019 Request Window Proposals" from the September 25-26th meeting. The only PG&E proposed project less than $50 MM not on the recommended list for approval is the Bellota 230 kV Bus Upgrade.

It appears that a reliability solution in this area is still under consideration. Therefore, Horizon West would like to highlight that the proposed Weber-Manteca 230 kV Project is a competitor to the Bellota 230 kV bus upgrade project and believes it offers an effective reliability solution at a lower cost. In order to achieve the same reliability benefits as the Weber-Manteca 230 kV Project, PG&E would require the bus upgrade at Bellota 230 kV (protect against P2 Bellota 230 kV Section 1E & 2E), as well as a bus upgrade at Tesla 230 kV (protect against P2 Tesla 230 kV Section 2E & 1E) and Tesla 115 kV (protect against P2 Tesla 115 kV Section 1D & 2D), and install a third 230/115 kV transformer at Bellota (protect against P6 Bellota 230/115 kV Transformers #1 & #2). A full cost breakdown was included in the Request Window Submission and it was estimated that Weber-Manteca 230 kV Project cost was conservatively four (4) times less than the bus upgrades and transformer bank in order to achieve the same reliability benefits.

Horizon West encourages the CAISO to look at the reliability needs in this area holistically by addressing the P2 outages at Bellota 230 kV, Tesla 230 kV and Tesla 115 kV, as opposed to approving a partial solution at Bellota. Horizon West believes that this comprehensive approach will meet the systems reliability needs while ensuring the least cost to ratepayers.

San Francisco Long Term Reliability

Horizon West appreciates the ISO's review of the 2019/2020 TPP Request Window Project submittals: New Horizon West Sub – Embarcadero 230 kV, and Sobrante – Embarcadero 230kV Transmission. Horizon West understands that both of the projects were found as not needed for reliability in the current TPP cycle. Horizon West would like to highlight that these projects were proposed to address extreme event contingencies not published in the preliminary reliability results,

but were identified in CAISO's San Francisco Reliability Assessment Alternatives Presentation – August 2013 (available on CAISO's Market Portal under the 2012-2013 TPP Cycle). Horizon West believes it is of high importance to consider a long term transmission solution for the San Francisco Peninsula, for which the supply of safe and reliable energy would be at risk if exposed to an extreme event.

As conveyed in our submission for both projects, the electric transmission system serving the San Francisco Peninsula faces a unique set of challenges and risks: high-density urban load area, is geographically surrounded by water on three sides, the most seismically active area in the United States amongst large urban areas, entirely dependent on electric imports, and has challenging restoration times.

Per the ISO's Planning Standards (September 2018), the requirements of NERC TPL-001-4 requires Extreme Event contingencies to be assessed. Although the NERC standard does not require mitigation plans to be developed for these Extreme Events, Section 7.1 of the ISO planning standards identifies that the San Francisco Peninsula area has unique characteristics requiring consideration of corrective action plans to mitigate the risk of extreme events. The planning standards identify that the CAISO will consider the overall impact of the mitigation on the identified risk, and the associated benefits that the mitigation provides to the San Francisco Peninsula area.

Previous CAISO TPP cycles (2012-2013, 2013-2014, 2014-2015) have included detailed reliability analyses of the San Francisco Peninsula area. These CAISO reliability analyses resulted in a credible list of key extreme events to be considered in future assessments of the San Francisco Peninsula, and a means for approving corrective action plans to mitigate the risks of these credible extreme contingencies. The results showed that under moderate to peak-load conditions, extreme event contingencies significantly reduced the transmission import capability into the San Francisco Peninsula. With all San Francisco Peninsula generation at Hunters Point and Potrero retired, extreme events result in reliability issues including significant loss of load and/or voltage collapse. Additionally, many of the transmission facilities serving load in the San Francisco area could require restoration times of 4-8 weeks (or longer). Previous reliability assessments (2012-2015) examined several potential alternatives to address the identified extreme event performance concerns. including:

- No mitigation (unacceptable based upon assessment);
- Expanded mobile and spare equipment contingency plans and strategy;
- Modifications to 230 kV transmission supply;
- Upgrades to 115 kV transmission system;
- New 230 kV supply into North Peninsula Area (originally identified at Potrero and considered to be the most comprehensive and robust solution).

In this regard, Horizon West requests that, if possible, CAISO share the San Francisco Extreme Event assessment for the current 2019-2020 TPP cycle so that the results of extreme events are available for planning and analysis by proponents.

Oakland – Sobrante 230 kV Transmission Project

In the 2018-2019, and 2019-2020 TPP cycle the CAISO indicates that they will continue to consider transmission, generation or non-transmission solutions as they revisit the assessment of Oakland area needs. CAISO's recent analysis for the Oakland Subarea (Load and Resources 2020, Slide 10, Economic and Policy Assessment, CAISO November 18 Stakeholders Meeting) shows significant increase in load in this pocket. As a result, the LCR deficiency was observed due to underlying Oakland 115 kV network being limited due to loss of the other 115 kV circuits in the area.

In order to address the LCR deficiency in the Oakland area, one of the mitigation solutions discussed during the November 18th meeting was to continue transfer load following the first contingency. The existing Downtown/West Oakland Area is made up of two sub-areas, each fed by separate 115 kV networks. To meet the Planning Standards, the northern sub-area depends on aging local generation and SPS that drop load. The southern area, while not dependent on local generation, depends on SPS to drop load. As the load continue increase, and the existing generation retire in the near term future, Horizon West strongly believes that this area will require the long term robust reliability solution.

Horizon West believes that PG&E's recently proposed project, Northern Oakland Area Reinforcements, requiring multiple transmission upgrades to address the reliability in the northern sub-area is very costly and will require a very lengthy environmental and construction process. Therefore, Horizon West requests CAISO's consideration in performing a special assessment of the Oakland and East Bay area and to evaluate the recently submitted Horizon West project: Oakland – Sobrante 230 kV alternative against all other transmission and non-transmission alternatives being considered to determine the most reliable and cost effective solution. Due to its characteristics, long-term planning for the Oakland/East Bay Area should incorporate an approach similar to the San Francisco Peninsula Extreme Event Reliability Assessment previously performed in the CAISO's 2015-2016 TPP cycle. The Oakland/East Bay assessment should explore all viable mitigation options that address the special circumstances for this area (a high-density urban area consisting of over 400 MW of load; Retirement of Oakland area combustion turbine (CT) generation; Elimination of the reliance on SPS or Remedial Action Schemes (RAS) in High Density Urban Load Area, Exposure and restrictions of transmission system topology). Finally, the analysis of extreme events including wildfires and earthquakes should be investigated as well and taken into consideration as part of the analysis.

Gamebird 230 kV Substation Transmission Project

In this 2019 – 2020 TPP Reliability Submission Window the CAISO is recommending for approval the Gamebird 230/138 kV Transformer Upgrade project. Horizon West understands that it is not yet a resolved matter if this project should be considered an upgrade, since it is not clear that Valley Electric Association (VEA), which owns the Gamebird 138 kV substation, would be the PTO, as the project need and scope is in the 230 kV system (not the 138 kV), and VEA is not the owner of the 230 kV system. The 230 kV system is owned by GridLiance West (GLW), however, GLW is not the PTO of the Gamebird 138 kV substation, as it is owned by VEA; therefore, Horizon West believes the recommended project as a whole cannot be considered an addition or upgrade to VEA or GLW existing facilities, and should be released for competitive solicitation in the Phase 3 2019-2020 cycle.

As neither VEA nor GLW is the single owner of both facilities connected by the project, the project would be a collaboration between two PTOs. The CAISO competitive solicitation process makes provisions for collaboration between entities, and the collaboration between VEA and GLW to construct the Gamebird Substation Project should be evaluated against other qualified potential project sponsors in accordance with CAISO's competitive solicitation process.

Additionally, Horizon West understands that the project scope and cost extends beyond the 230 / 138 kV transformer and involves new 230 kV bus work, which will not fit within the existing substation's fence and will have a total cost well beyond the estimated ~$5 MM. For all intents and purposes the entire project will be a "new" 230 kV substation.

For the reasons stated above, Horizon West requests CAISO to reconsider its current recommendation and release this project for competitive solicitation in Phase 3 of this 2019-2020 TPP cycle.

Conclusion

Horizon West commends CAISO's staff for all its time and effort in the 2019-2020 TPP, appreciates the opportunity to participate in the transmission planning process, and respectfully submits these comments for consideration.

Sincerely,

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