



February 23, 2021

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California Independent System Operator
250 Outcropping Way, Folsom, CA 95630

Dear CAISO Transmission Planning:

Western Grid Development LLC (“Western Grid”) appreciates the opportunity to comment on the CAISO’s Transmission Planning Report dated February 1st, 2021. (“Draft TPP Report”). We want to focus these comments on one critical issue; the CAISO’s conservative valuation of the Local Capacity Requirements (“LCRs”) reduction benefits Western Grid’s proposed Pacific Transmission Expansion Project (“PTE”) will provide in the LA Basin.

PTE LCR Reduction Benefits

We appreciate the CAISO’s determination that the PTE will provide net 1,993 MW’s of LCR reduction benefits by reducing the LCRs in the LA Basin and, thereby, allowing 1,993 MW’s of existing gas plants to close in the West LA Basin and Big Creek/Ventura area. *Draft TPP Report at page 327.* Given the CAISO’s analysis, the PTE could also fill the shortage of Resource Adequacy capacity in Southern California because PTE will enable delivery of new Resource Adequacy capacity from outside the region. This need was recently demonstrated on August 14 and 15, 2020 when the region was short of local capacity and drove the marginal cost of energy to skyrocket levels for the entire CAISO. However, the CAISO again applied a very conservative value to the LCR benefits in this planning cycle. In this regard, the CAISO stated that:¹

While future IRP efforts are expected to provide more guidance and direction regarding expectations for the gas-fired generation fleet at a policy level, without that broader system perspective available at this time, the CAISO has taken a conservative approach in assessing the value of a local capacity reduction benefit when considering a transmission reinforcement or other alternatives that could reduce the need for existing gas-fired generation providing local capacity. In this planning cycle, the CAISO therefore applied the differential between the local capacity price and system capacity price to

¹ *Id.* At 252



assess the economic benefits of reducing the need for gas-fired generation when considering both transmission and other alternatives.

Western Grid believes CAISO TPP did not achieve its objective of providing helpful information to state policy makers and regulatory agencies by using conservative values for local capacity and not addressing the host of reliability issues facing the State. A more global perspective and evaluation of transmission benefits for all projects including the PTE is the underlying intent of the TPP. The TPP should evaluate the IRP's base procurement portfolios in the context of providing an overall lower cost solution to ratepayers while addressing *all* reliability issues and avoid the piecemeal approach currently in place. Otherwise at best, reliability issues will be resolved incrementally and at higher cost to ratepayers. For instance, it is widely known that California's Resource Adequacy requirements is inadequate and insufficient to adhere to SB 100, is subject to changes in the Planning Reserve Margin (PRM) and changes to rules for how imports and intermittent resource can fulfill requirements.

Western Grid believes that the CAISO TPP valuation is inaccurate and very narrow as the PTE project is not aimed at displacing existing local RA but instead avoiding the construction of new renewables or 4 hour batteries that cannot provide the reliability and the deliverability needed to operate the grid reliability. PTE's objective is a long-term solution that addresses various reliability challenges such as:

1. **Compliance with SB100:** Western Grid requests that CAISO evaluate the PTE as a transmission solution that enables the State to comply with SB 100. There are approximately 3,658 MW's of gas fired plants in the Western LA Basin alone that will need to close by 2045 under the requirements of SB 100. The CAISO and major load serving entities have urged the CPUC to start planning for the shutdown of these gas plants as soon as possible. Therefore, using PTE to allow closure of 1,993 MW's of gas plants in the LA basin by 2027 is an appropriate start on this long overdue and challenging effort. The TPP fails to do this evaluation and narrowly views the PTE as a project that would only displace LCR provided by existing gas-fired generation, where it should be evaluated as a solution that enables the replacement of gas fired plants throughout the State (i.e. – system capacity benefit.)
2. **Resource Adequacy Benefits of PTE:** (1) The increase of the PRM, (2) the changes in resource availability throughout the west combined with the reduced accounting of imports for Resource Adequacy, (3) the updated effective capacity accounting, (4) the updated Demand forecasts and (5) the planned retirement of the Diablo Canyon Nuclear Plant. These rule changes and events all have one commonality; they all will increase the Resource Adequacy capacity need. The PTE is designed to access system resources and make them deliverable to the LA basin., Further, the PTE can take system resources that are classified as "Energy Only"



and deliver this energy to LA Basin and make these existing and future “Energy Only” resources fully deliverable resource adequacy capacity.

3. **Grid Reliability:** The PTE will provide reliability support to the Big Creek/Ventura area of SCE, specifically within the Goleta area. The Goleta area is subject to voltage collapse issues under a double line (N-2) outage of the two 220 kV lines feeding Goleta substation from Santa Clara substation. Western Grid believes that CAISO did not consider in its modeling the full capabilities of PTE’s HVDC VSC technology. The proposed PTE will mitigate Goleta’s voltage collapse issue by providing up to 500 MW into Goleta in the event of an outage. Further, as noted in the CAISO 2020 Local Capacity Technical Study, page 165, the Elwood generating station “will only be allowed to retire after suitable replacement is in place at or near the same bus (Goleta)”. The PTEP is proposed to have a direct connection to Goleta substation and would serve as a viable replacement, several times over, for the Elwood generating station and eliminate the need for Elwood to be under a Reliability Must Run (“RMR”) contract. With respect to the “flexibility” of gas fired plants, the PTE with its associated converter stations are far more flexible than gas fired generation. The PTE converters with their grid forming attributes, can respond much faster than the synchronous generators used on gas fired units. The faster response applies both in reaction time and impact for AC voltage control and frequency stabilization while providing effective short circuit capacity and system damping requirements.
4. **Wildfire mitigation:** The PTE reduces the risk of another wildfire cutting off electric service to the LA coastal area. The PTE with its associated subsea cables would have enabled CAISO to by-pass the problematic transmission areas interrupted by the wildfires. With PTE, CAISO could have kept the lights on in the LA Basin even without the local gas plants being on-line when service from the terrestrial lines from the east were cut off this past summer. With the vast number of MW’s in the CPUC resource portfolio assumed coming from solar and batteries that will be located in the interior part of the State and which will require additional terrestrial transmission to reach the coastal population, it makes good sense to have at least some capacity delivered by subsea cables that do not involve dealing with the same wildfire risks.
5. **Increase Renewable deliverability:** PTE allows otherwise curtailed renewable energy to be delivered to the northern CAISO system or to other Balancing Authority Areas (“BAAs”). We believe this benefit should be included in the BCR calculation for PTE and categorized as a Renewable Integration Benefit which is one of the stated TEAM benefit categories.
6. **Environmental Justice:** PTE will clearly improve air quality, particularly in the LA area where the poorest air quality falls disproportionately on disadvantaged neighborhoods.
7. **Resource Adequacy valuation:** A holistic evaluation of all reliability issues and using realistic values for local capacity would have provided better information for ensuring future policy



decisions will evaluate the most cost-effective alternatives especially when considering the benefits of long-lead solutions such as the PTE. However, as the CAISO found, the PTE reduces the need for local capacity in those areas by 1,993 MW's, thereby avoiding the need to purchase that amount of local capacity and thus, saving the cost differential between that local capacity and the lower cost of the PTE. The CAISO's valuation method produced prices in the LA Basin local capacity areas of 15,360/MW-year and for Big Creek-Ventura of \$9,720/MW-year. CAISO valuation method is incorrect because PTE's objective is not to displace existing resources but to displace new resources that will be needed to deal with the reliability and policy issues discussed in items 1 to 6 above.

We understand that CAISO's position is that these reliability issues are dealt with through the PUC Integrated Resource plan. However, we urge the ISO to address the PTE project as a transmission project that can reduce the procurement cost to ratepayers. The IRP is not suited to analyze the true value of the PTE which includes firming up existing and planned renewables and allowing these renewables to count for 100% qualifying capacity toward the Resource Adequacy. Further, the IRP does not address the value for voltage support, frequency response and inertia that are needed services to preserve the reliability of the Grid. The PTE project provides these critical reliability services in addition to system and local Resource Adequacy.

A critical failure of the CAISO evaluation is that it undervalues the LCR benefit for PTE and other transmission solutions. Based on the publicly available FERC EQR data reflected in Table 1, the weighted average price of local capacity contracts in the Western LA Basin is about \$16.68/kW-month². Even if the contract prices for the three Once Through Cooling ("OTC") units planned for retirement and shown in Table 2 are included, the average weighted price for gas-fired generation in the Western LA Basin is about \$9.80/kW-month (Table 3). This is based on an analysis of the publicly available FERC EQR data for existing LCR contracts totaling roughly 3,313 MW's of existing gas plants in the LA Basin. By way of comparison, the LCR contract price needed to cover the PTE cost is approximately \$7.35/kW-month³. Obviously, the price of LCRs will only rise in the future as the CPUC starts to plan for the retirement of the non-OTC gas units, particularly since there is no clear resource that can replace the reliability and flexibility currently provided by the gas plants other than an HVDC VSC circuit like PTE's with its associated converter stations.

² This excludes the rate-based Western LA Basin gas-fired units owned by City of Anaheim, City of Vernon, City of Pasadena and Southern California Edison which have total NQC of around 537 MWs.

³ Calculated based on using the \$2.405 billion estimated total capital cost used by CAISO in the Draft TPP Report on page 330.



Table 1. 2020 Average Capacity Cost for Western LA Basin Gas-fired Resources (not including retiring OTC units)

Western LA Basin Generators (natural gas-fired)	2020 Avg Capacity Cost (\$/kW-Month)	NQC (MW)	\$/YEAR
El Segundo Energy Center	19.98	522.34	\$125,238,602
Malburg power plant	27.30	134	\$43,892,611
Walnut Creek Units	17.08	478.8	\$98,112,519
Long Beach Peakers (Hinson)	4.49	202	\$10,894,800
Harbor	5.00	100	\$4,500,00
Total	14.77	1437.14	\$282,638,532
Weighted Average Cost	16.68		

Table 2. 2020 Average Capacity Cost for Western LA Basin Gas-fired Resources (retiring OTC units)

Retiring OTC Generators in Western LA Basin	2020 Avg Capacity Cost (\$/kW-Month)	NQC (MW)	\$/YEAR
Alamitos*	12.17	349.75	\$51,062,916
Huntington Beach*	3.65	677.4	\$9,890,040
Redondo Beach	8.40	Variable	\$69,142,230
Total	8.07	1876.15	\$106,896,806
Weighted Average Cost	4.82		

Table 3. Summary 2020 Average Capacity Cost for Western LA Basin Gas-fired Resources

	2020 Avg Capacity Cost (\$/kW-Month)	NQC (MW)	\$/YEAR
Total Table 1 and Table 2	12.26	3313.29	\$389,535,338
Weighted Average Cost	9.80		

In terms of the need for system capacity, by its Order issued November 13, 2019, the CPUC has directed LSEs to purchase 3,300 MW's of system capacity to be in service in the 2021-2023 time period



(1-3 years from now).⁴ To the extent that additional *system* capacity is a concern, certainly an additional 1,993 MW's of system capacity can be acquired by the 2027 in-service date of the PTE (7 years from now). Obviously, system capacity located outside the local capacity areas will be less expensive than capacity located in the local areas. Therefore, system capacity should be located outside the local areas and any such needs are not a basis for keeping gas plants in the local areas in service. Indeed, for this and other reasons, the PTE will be developed and permitted to the maximum extent possible to allow for expansion.

We appreciate CAISO's consideration and response to our comments and stand ready to discuss these comments further or to generally discuss our project's benefits with the transmission planners.

Thank you for your consideration!

Sincerely yours,

A handwritten signature in blue ink that reads 'Christine Vangelatos'.

Christine Vangelatos
on behalf of Western Grid Development

⁴ "Decision Requiring Electric System Reliability Procurement for 2021-2023" issued November 13, 2019 in Docket No. R16-02-007.