

The CAISO received comments on the topics discussed at the September 23-24, 2024 stakeholder call from the following:

- A. Alameda Municipal Power
- B. Bay Area Municipal Transmission Group (BAMx)
- C. California Department of Water Resources
- D. California Public Utilities Commission - Public Advocates Office
- E. Grid United LLC
- F. Horizon West Transmission (HWT)
- G. Kern-Southland Energy Link LLC
- H. Key Capture Energy
- I. Pacific Gas & Electric
- J. Regenerate California Coalition
- K. San Diego Gas & Electric
- L. Silicon Valley Power (City of Santa Clara)
- M. Southern California Edison
- N. Terra-Gen, LLC
- O. California Public Utilities Commission

Copies of the comments submitted are located on the Transmission Planning Process page at:

<https://stakeholdercenter.caiso.com/RecurringStakeholderProcesses/2024-2025-Transmission-planning-process>

The following are the CAISO's responses to the comments

1. [Provide your organization's comments on the preliminary reliability results for the North area](#)
2. [Provide your organization's comments on the preliminary reliability results for the South area](#)
3. [Provide your organization's comments on the PTO's proposed reliability alternatives \(SDG&E, PG&E, SCE, VEA\)](#)
4. [Provide your organization's comments on the high voltage TAC update](#)
5. [Provide your organization's comments on the policy assessment update](#)
6. [Provide your organization's comments on the economic assessment update](#)
7. [Provide any additional comments your organization has on the September 23-24 Transmission Planning Process Meeting](#)

1. Provide your organization's comments on the preliminary reliability results for the North area

No	Submitting Organization	Comment Submitted	CAISO Response
1A	Alameda Municipal Power	<p>AMP is a major customer supplied by the PG&E North Oakland and South Oakland transmission systems and provides the following comments on these request window proposals.</p> <ul style="list-style-type: none"> AMP requests an active role in the planning process for both these projects including identification of alternatives to be studied, evaluation of the alternatives and selection of the ultimate proposed project. The North Oakland project that PG&E proposed involves upgrading of the 115 kV system. PG&E identified three alternatives including a different approach to upgrading the 115 kV and two 230 kV alternatives. These were dismissed without much detail because of "higher cost". AMP requests further investigation of the alternatives, including additional cost detail, as these projects, particularly the 230 kV options, may be better long-term solutions for the North Oakland system The North Oakland proposed project shows an in-service date of May 2032. Given the history of supply shortages in North Oakland and impact on AMP, AMP requests that the project be expedited for an earlier in-service date. <p>Moved from question #2:</p> <p>AMP is a major customer supplied by the PG&E North Oakland and South Oakland transmission systems and provides the following comments on these request window proposals.</p> <ul style="list-style-type: none"> AMP requests an active role in the planning process for both these projects including identification of alternatives to be studied, evaluation of the alternatives and selection of the ultimate proposed project. The South Oakland project is shown as conceptual at this time. There is no information provided on costs, alternatives or in-service date. AMP requests more information on costs, alternatives and in-service date. 	<p>Stakeholder participation in the planning process is highly valued, and this is facilitated through the Transmission Planning Process at various stages, as well as open forums held throughout the year.</p> <p>Regarding the alternatives being considered for the North Oakland reinforcement project, a thorough analysis of potential options will be performed and the recommendation will be included in the draft Plan.</p> <p>The estimated in-service dates were provided by PG&E and reflect a realistic timeframe for project completion, taking into account the project scope and current supply timelines. This will be re-evaluated in the future cycle based on changes in situation.</p>
1B	Bay Area Municipal Transmission Group (BAMx)	The Bay Area Municipal Transmission group (BAMx) ¹¹ appreciates the opportunity to comment on the CAISO's 2024-25 Transmission Planning	



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		<p>Process. The comments and questions below address the material presented at the CAISO Stakeholder meeting on September 23-24, 2024.</p> <p><u>BAMx Appreciates CAISO's Consideration of Low-Cost Transmission Alternatives</u></p> <p>BAMx applauds the CAISO staff's efforts in relying on the implementation of Remedial Action Schemes (RAS) and storage solutions in its Preliminary Reliability Assessment. The CAISO has effectively and rightfully utilized the existing/planned RAS solutions and also included some new battery storage projects to mitigate the contingency overloads. BAMx understands the CAISO's recommendation for transmission upgrade alternatives takes into consideration the inadequacy and complexity of RAS in certain planning areas. BAMx encourages the CAISO to transfer such valuable feedback to the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) so that it is incorporated as part of the battery storage mapping exercise in the next Transmission Planning Process (TPP) cycle from the reliability standpoint.</p> <p>San Jose Area Transmission Plan Update</p> <p>During the 2024-2025 TPP stakeholder meeting on September 23, 2024, the CAISO proposed a new hybrid configuration that replaces the previously approved project in the 2021-2022 TPP. The CAISO plans to seek approval of this new "hybrid" configuration in the board meeting on November 12, 2024, which entails</p> <ul style="list-style-type: none"> • A 1,000 MW HVDC link between Metcalf and San Jose B 230 kV; • Instead of HVDC, a high capacity 230 kV circuit between Newark and NRS; and • A high capacity 230 kV circuit between San Jose B and NRS. <p>BAMx supports this Hybrid project to the extent that it adequately addresses the reliability needs of SVP/San Jose areas and if it is the most cost-effective alternative to do so. BAMx also recognizes other local 230 kV and 115 kV upgrades to the existing facilities will also be required in addition to the above hybrid configuration.</p>	<p>Comment noted. Thanks!</p>
1C	California Department of Water Resources	No comment	
1D	California Public Utilities Commission - Public Advocates Office	The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) provides these comments on the California Independent System Operator's (CAISO) stakeholder meetings on the 2024-2025 Transmission Planning Process – Reliability Assessment and Study Updates on September 23-24, 2024. Cal Advocates is an independent ratepayer advocate with a	Your comment is noted and ISO will work towards obtaining itemized cost estimates.

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		<p>mandate to obtain the lowest possible rates for utility services, consistent with reliable and safe service levels and the state's environmental goals.^[1]</p> <p><u>Recommendations to Improve the CAISO Transmission Planning Process</u></p> <ol style="list-style-type: none"> 1. <u>CAISO and the Participating Transmission Owners should provide itemized project cost estimates and the length of proposed reconducted lines or new lines for all proposed projects.</u> <p>For the CAISO Transmission Planning Process (TPP), there does not appear to be an established project information format. For example, during the September 24, 2024 TPP meeting, the Participating Transmission Owners (PTOs) and project sponsors provided total cost estimates or estimated ranges for all proposed projects but no information on the cost for individual project scope items. The PTOs also did not consistently provide the length of lines to be reconducted or of new proposed lines. CAISO should establish a TPP project information format that PTOs and project sponsors must follow. This requirement should include the costs for each proposed project scope item and the proposed miles of new transmission lines or reconducted lines for transparency. Without this information, stakeholders are not able to confirm project costs are reasonable through comparisons between the proposed project costs and the PTO per unit cost guide and other sources.</p> <p>For example, at the September 23, 2024 TPP meeting, CAISO presented revised project scope items for the previously approved San Jose High Voltage Direct Current (HVDC) project in the 2021-2022 Transmission Plan. The total cost for the revised San Jose project was not provided. Since the revised project scope will now install a 230 kilovolts (kV) Alternating Current circuit between Newark and NRS instead of the previously proposed HVDC link, there could be a cost savings for this scope item change.^[2] However, it is not clear that the revised San Jose project will have a total cost that is consistent with what was previously approved and the PTO per unit cost guide, because revised costs were not provided for each new project scope item.</p> <p>For transparency, Cal Advocates requests CAISO provide a cost comparison between the approved 2021 San Jose HVDC project versus the revised 2024 San Jose project with estimated costs for each scope item. With this information, stakeholders will be able to assess whether the new project costs are reasonable by comparing the approved San Jose HVDC project to the revised project and the PTO per unit cost guide. CAISO should provide this additional project information to stakeholders before seeking CAISO Board approval at the November 12, 2024 Board meeting.</p>	<p>Your comment has been noted and will work towards maintaining consistency</p> <p>Comment noted.</p>

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		<p>2. <u>Require PTOs to provide cost estimates for all the transmission solutions considered.</u></p> <p>At the September 24, 2024 TPP meeting, the PTOs did not provide cost estimates for the alternatives considered. As stated in the California Independent System Operator's (CAISO) Business Practice Manual (BPM) for the CAISO TPP, one purpose of the TPP is to identify alternatives to proposed reliability and policy infrastructure solutions. [3] To confirm whether a proposed project is the least-cost, best-fit solution, it is necessary to evaluate and compare the proposed project to feasible alternatives. A reliability-driven project can be justified based, in part, on its costs compared to alternatives. [4] Thus, to fully justify a reliability-driven project, CAISO and the PTOs should consider feasible alternatives and consistently provide the costs of alternatives.</p> <p>3. <u>Require PTOs to provide their power flow results for all proposed projects and alternatives to demonstrate each proposed project's effectiveness.</u></p> <p>Only one of the 35 PTO project presentations at the September 24, 2024 TPP meeting included power flow results for the alternatives considered. Pacific Gas and Electric Company (PG&E) provided power flow results that demonstrated the project need and the effectiveness of its 13 non-conceptual project proposals. San Diego Gas & Electric Company (SDG&E) did not consistently provide power flow results to demonstrate the need for and effectiveness of their projects. Southern California Edison Company (SCE) provided power flow results demonstrating its project need but did not consistently provide analytical results demonstrating the effectiveness of their selected projects. Without power flow results for proposed projects and the alternatives considered, stakeholders cannot assess the proposed project's effectiveness in comparison to alternatives. Cal Advocates requests that the PTOs be required to consistently provide power flow analyses demonstrating the effectiveness for proposed projects and alternatives to improve TPP transparency.</p> <p>For this TPP cycle, Cal Advocates makes the following recommendations:</p> <ul style="list-style-type: none"> i. PG&E should provide power flow analysis and cost estimates for all the alternatives considered for the conceptual South Bay 115 kV System Reinforcement project. The cost estimate should include costs for each project scope item. ii. PG&E should provide power flow analysis and cost estimates for all the alternatives considered for the conceptual South Oakland Area 	<p>Comment noted. The ISO will provide cost estimates for comparable alternatives as applicable.</p> <p>Comment noted.</p>



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		<p>Reinforcement project. The cost estimate should include costs for each project scope item.</p> <p>4. <u>Require PTOs to provide Project Cost Estimates Within a 50% Accuracy Range.</u></p> <p>To address the project definition, design, and scope unknowns, Cal Advocates recommends PTOs in the CAISO balancing authority area be required to provide better developed projects prior to requesting project approval. With better developed projects, the range of project cost estimates should be significantly narrower and ideally no greater than 50%. Cal Advocates recommends all PTOs be required to provide accurate representations of the project budget contingency versus project cost estimate ranges, as project cost estimates should become more accurate as the project develops.^[5] It is worth noting that PG&E continues to present project cost estimate ranges that include a budget contingency of 100%.^[6]</p> <p>5. <u>PTOs Should be Required to Maximize the Capacity of Grid Connected Energy Storage.</u></p> <p>Cal Advocates recommends further consideration of energy storage where it could be a cost-effective solution to meet system reliability needs based on only the energy storage's interconnection costs and the most recent CPUC busbar mapping results. This recommendation is based on the following factors:</p> <p>i. California load serving entities (LSE) are required to purchase a significant amount of energy storage through CPUC procurement mandates. The CPUC preferred system portfolio (PSP) for study in the 2024-2025 TPP cycle indicates that the LSEs will need to procure 22,822 megawatts (MW) of four-hour energy storage and 1,080 MW of long duration energy storage by 2039 to meet the state's clean energy goals.^[7]</p> <p>ii. In 2020, CPUC directed CAISO to consider using energy storage procured to meet the state's clean energy goals to also assist with mitigating any transmission needs identified during TPP studies.^[8] To this end, CPUC staff specifically requested CAISO not include "the full capital cost of storage as an assumption in the assessment of transmission alternatives for reliability needs identified."^[9]</p>	<p>Comment noted.</p> <p>Comment noted. The ISO does consider energy storage alternative as part of the ISO's review of these projects. In doing so, the ISO doesn't use the full cost of storage, as suggested.</p>

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		<p>iii. Energy storage has the capability to provide grid services such as voltage and frequency support in addition to shifting energy in time. <u>[10]-[11]</u></p> <p>Energy Storage alternative analysis should also consider locating energy storage outside of the relevant / associated substation if space is an issue. Cal Advocates recommends further consideration of energy storage solutions for the following projects.</p> <p>a. <u>PG&E's San Miguel Substation 70 kV New Line Project</u>. For the identified issues on the San Miguel 70 kV line, CAISO recommends "redundant battery supply" to address the potential reliability issues on the San Miguel 70 kV line. <u>[12]</u> In contrast, PG&E did not consider energy storage as an alternative that could assist with responding to the potential reliability issues on the San Miguel 70 kV line. Cal Advocates recommends that SCE evaluate CAISO's proposal.</p> <p>b. <u>SCE's Pardee-Vincent No. 2 230 kV Line Update</u>.</p> <p>CAISO supports considering energy storage as a mitigation to address potential reliability issues in the project area. <u>[13]</u> Cal Advocates recommends that SCE evaluate CAISO's proposal.</p> <p>c. <u>SCE's Control 115/55 kV B-Banks Replacement, Kramer-Coolwater 115 kV line Looping into Tortilla 115 kV Substation, Tortilla 115 kV Capacitor Replacement and Pardee-Vincent No. 2 230 kV Upgrade</u>.</p> <p>At the September 24, 2024 TPP meeting, SCE could not confirm whether energy storage would have comparable costs to the proposed solutions for the specified projects if only the interconnection cost of energy storage was considered. Cal Advocates recommends SCE be required to provide power flow analysis to compare the effectiveness of the proposed projects to energy storage and provide the cost to integrate energy storage. With this information, stakeholders can assess the most cost-effective option.</p> <p>d. <u>SDG&E's TL623C Reconductor (San Ysidro – Otay Tap – Second Project)</u>.</p> <p>SDG&E states that energy storage is not a feasible solution for the reliability issues at the San Ysidro substation due to a spacing</p>	<p>The ISO will consider storage alternative as part of its review.</p>

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		<p>issue.[14] However, SCE did not confirm whether energy storage could be located outside the San Ysidro substation.</p> <p>6. <u>There Should be Greater Consideration of the Range of Grid Enhancing Technologies (GETs) such as Dynamic Line Rating, Advanced Power Flow Control Devices, Advanced Conductors, and Transmission Switching Options in the TPP.</u></p> <p>The Federal Energy Regulatory Commission (FERC) Order No. 1920 recommends that RTOs / ISOs evaluate the cost effectiveness of the mentioned GETs when considering new lines or upgrades to existing lines. [15] GETs may be more cost-effective solutions than some of the proposed solutions presented at the September 24, 2024 meeting. Also, GETs could reduce the cost of some of the proposed solutions. For example, during the September 2024 meeting PG&E stated that a power flow device could be a cost-effective alternative to PG&E's proposed Konocti-Eagle Rock 60 kV reconductoring project, but this option was not considered. It also appears that dynamic line rating devices were not considered to address any of the potential reliability issues.</p> <p>CAISO Presentation Comments</p> <p><u>CAISO Inverter Based Resource System Modeling Update - Results</u></p> <p>Cal Advocates recommends the PTOs be required to agree on standards for short circuit modelling practices and tools for consistency. [16]</p>	
1E	Grid United LLC	No comment	
1F	Horizon West Transmission (HWT)	No comment	
1G	Kern-Southland Energy Link LLC	No comment	
1H	Key Capture Energy	No comment	
1I	Pacific Gas & Electric	No comment	
1J	Regenerate California Coalition	<p>The California Environmental Justice Alliance (CEJA), Sierra Club, Communities for a Better Environment (CBE), Central Coast Alliance United for a Sustainable Economy (CAUSE), and Center for Community Action and Environmental Justice (CCA EJ), together as the Regenerate California Coalition, appreciate the opportunity to submit these comments on the CAISO Reliability Assessment and Study Update for the 2024-2025 Transmission Planning Process. Collectively, we lead the Regenerate California Campaign, where we share a vision for California's most impacted communities to have access to clean energy, good jobs, and clean air. Our work is focused on advancing the retirement of fossil fuel generation in California as quickly as possible. In particular, we see a future where all California gas plants are</p>	Your comment is noted

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		<p>retired by 2035 with a focus on retiring gas plants in or impacting disadvantaged communities by 2030.</p> <p>More than half of the 160 gas-fired power plants in California are located in environmental justice (EJ) communities. Many of the power plants in EJ communities operate to address local resource adequacy (RA) needs. These power plants are retained due to grid limitations caused by decades of underinvestment in transmission and clean new energy sources targeted to EJ communities. Grid constraints are also a barrier to the interconnection and operation of local clean energy resources including battery storage located in EJ communities. This underinvestment in the electric grid impairs air quality due to the continued use of polluting sources, continued dependence on fossil fuels for transportation and increasing and longer outages during extreme weather events.</p> <p>The proactive planning carried out by the CAISO in its annual transmission planning process needs to be a part of a more comprehensive strategy to phase out California's dependence on fossil fuel power plants. The Regenerate California Coalition is particularly concerned about the San Joaquin Valley and the Los Angeles regions. A comprehensive, holistic approach by the CPUC, CEC, and CAISO is needed to drive grid investments that benefit EJ communities. Grid investments must be paired with efforts to promote local and regional clean energy development. A multi-pronged approach is needed to safeguard energy affordability while improving local community resiliency and grid reliability.</p> <p><u>Reliability Results for the Northern Area</u></p> <p>Most notable among the preliminary reliability results for the North area is the impact of accelerating load growth, particularly in the Greater Bay Area. An annual load growth rate of 3.6% per year over the next 15 years is unprecedented. Creative solutions will be required including the use of grid enhancing technologies and advanced conductors that enable better use of built infrastructure and existing rights of way. The CAISO should consider opportunities to use battery storage as a transmission asset to manage load growth and balance power flows particularly in local capacity subareas like the San Jose and the Silicon Valley Power (SVP) area where many new data centers will be sited.</p> <p>The Regenerate California Coalition finds the assumption that 5,595 megawatts of thermal generation will be needed to meet summer peak load in 2039 as unacceptable from an environmental justice perspective. We</p>	<p>The ISO previously approved a flow control solution on one of the transmission lines serving SPV. For the remaining issues driven by significant high load growth forecast, battery storage and additional flow control solutions are not adequate and feasible. A longer-term transmission plan for entire South Bay area is being developed.</p>

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		<p>encourage the CAISO to work with the CPUC to plan for significantly lower thermal generation in the Greater Bay Area in future resource plans.</p> <p>The Greater Fresno Area, which covers the counties of Fresno, Madera, Tulare and Kings, has some of the nation's worst air quality and has suffered from underinvestment in vital infrastructure for decades including upgrades to the electric transmission and distribution system. The historical underinvestment in the electric system has hindered opportunities for promoting economic development in the region and to lessen dependence on agriculture for jobs. It has also hobbled retirement of thermal generation, and thus reduction of pollution emissions.</p> <p>The Regenerate California Coalition is pleased to see that the CAISO has recently recognized the need to upgrade significant parts of the 70 kV and 115 kV sections of the grid that are critically important to providing reliable service to the many rural communities in the area. According to the study there are now 14 grid projects under development in the area with in-service dates from 2026 through 2030.¹</p> <p>It is essential that these transmission projects be completed on-time. We are concerned about PG&E's capability to simultaneously manage these projects given its other priorities.² We encourage the CAISO to carefully monitor PG&E's progress in advancing these projects and to report if delays are occurring that will jeopardize reliability.</p> <p>1. See Page 59, 2024-2025 Transmission Planning Process - Reliability Assessment and Study Updates, September 23-24, 2024 Stakeholder Meeting.</p> <p>2. See the comments of multiple parties to the CAISO Transmission Development forum. www.caiso.com/meetings-events/topics/transmission-development-forum</p>	
1K	San Diego Gas & Electric	No comment	
1L	Silicon Valley Power (City of Santa Clara)	<p>The City of Santa Clara, dba Silicon Valley Power (SVP), appreciates the opportunity to comment on developing the 2024-25 Transmission Plan. The comments and questions below address the material presented at the CAISO Stakeholder meeting on September 23-24, 2024. SVP acknowledges the significant efforts of the CAISO and PTO staff to develop this material.</p> <p>SVP's Load Continues to Grow At a Dramatic Rate, and CEC and SVP Expect Significant Load Growth Over the Next Several Years</p> <p>As the CAISO is aware, SVP's load is expected to grow considerably in the next several years, primarily driven by hyper-scale data centers.^[1] SVP has had five new 60 kV-connected data centers come into service in the past three</p>	

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		<p>years, and SVP is actively working with fifteen future data center customers. Four 60 kV-connected data centers are under construction and expected to be in service in the next two years. Eight 60 kV-connected data centers are waiting for SVP's approval to connect to the SVP system contingent upon the completion of the CAISO-proposed "Hybrid" Transmission projects and identified PG&E 115 kV transmission projects. Each of these existing and future data centers are expected to ramp up significantly in the future 10-year planning horizon and beyond, causing SVP's 1-in-10 peak load forecast to increase to 1,368 MW in 2034.</p> <p>SVP Supports CAISO-Proposed "Hybrid" Transmission Project for the San Jose Area</p> <p>During the stakeholder meeting on September 23, 2024, the CAISO presented the San Jose Area Transmission Plan Update.^[2] The CAISO-proposed "Hybrid" transmission project ("Hybrid project," hereafter)</p> <ol style="list-style-type: none"> 1. Replaces the previously-approved HVDC line between Newark and NRS with a high capacity 230 kV AC line; 2. A 1,000 MW HVDC link between Metcalf and San Jose B 230 kV, instead of a 500 MW HVDC project that was approved in 2021-2022 TPP^[3]; and 3. A high capacity 230 kV AC circuit between San Jose B and NRS. <p>SVP's independent assessment indicates that adding the high capacity 230 kV AC circuit between San Jose B and NRS (assuming PG&E's FMC-KRS 115 kV line connecting SVP with the PG&E system were reconducted as well) would increase SVP's import capability and improve the San Jose area's overall reliability. However, SVP's assessment indicates a potential adverse impact on SVP's transmission system that must be addressed if the Hybrid project is approved, as described in the subsequent sections below.</p> <p>SVP agrees with the CAISO that "other local 230 kV and 115 kV upgrades to the existing facilities..." must be "...included in the 2024-2025 TPP"^[4] to further increase SVP's load serving ability. Therefore, SVP requests that the CAISO management recommendation of the "Hybrid" project in the CAISO Board meeting on 11/12/2024 be approved, including the mitigation measures needed to address the adverse impacts to SVP identified below.</p> <p>SVP's Studies Indicate That Replacement of Newark - NRS HVDC with 230 kV AC and Addition of San Jose B – NRS 230 kV AC Cause Significant Fault Duty Issues on NRS 115 kV and 230 kV Lines That Need to be Addressed</p>	<p>The long-term transmission plan for the San Jose area is currently under evaluation. This plan aims to incorporate additional reinforcements and grid enhancements to address overload issues, voltage concerns, and short-circuit duty challenges in the TPP 2024-2025 planning cycle. The ISO acknowledges the potential implications of</p>

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		<p>SVP performed its own studies, using the 2028 and 2034 short circuit cases from the 2023-2024 TPP as the starting (pre-project) cases. SVP then added the above-mentioned Hybrid project to develop the post-project cases for the years 2028 and 2034. In the 2028 post-project cases, SVP assumed all the elements of the Hybrid project would be built, except for the San Jose B to NRS 230kV line. [5] Table 1 summarizes the breaker fault duty issues under both pre- and post-project cases in 2028 and 2034 on the NRS 230kV bus. It shows that with the original (previously-approved) CAISO plan (pre-project case), none of the 230kV breakers at NRS are overdutied. With the addition of the 230kV lines between Newark and NRS and San Jose B to NRS, the overduty issues increase significantly (well exceeding the threshold of 90%) on the existing NRS 230kV breakers. These results demonstrate that the four existing 40kA breakers at NRS are insufficient with the Hybrid project and will need to be replaced.</p> <p>Table 1: Pre-and Post-Hybrid Project Fault Duty (%) on NRS 230kV Bus</p> <table><tr><th rowspan="2">Breaker</th><th rowspan="2">Breaker Rating</th><th colspan="2">2028</th><th colspan="2">2034</th></tr><tr><th>Pre-Project</th><th>Post-Project</th><th>Pre-Project</th><th>Post-Project</th></tr><tr><td>NRS-SSS 230kV</td><td>40kA</td><td>58%</td><td>81%</td><td>60%</td><td>94.9%</td></tr><tr><td>NRS 230/115kV transformer</td><td>40kA</td><td>75%</td><td>99%</td><td>77%</td><td>111%</td></tr><tr><td>NRS 230kV to HVDC</td><td>63kA</td><td>47%</td><td>N/A</td><td>48%</td><td>N/A</td></tr><tr><td>NRS 230kV to Newark</td><td>63kA</td><td>N/A</td><td>47%</td><td>N/A</td><td>55%</td></tr><tr><td>NRS 230kV to San Jose B</td><td>63kA</td><td>N/A</td><td>N/A</td><td>N/A</td><td>64%</td></tr></table> <p>N/A: Not Applicable</p> <p>SVP's studies indicate a similar breaker fault overduty occurs with respect to the NRS 115kV bus. Table 2 summarizes the breaker fault duty issues under both pre- and post-project cases in 2028 and 2034 on the NRS 115kV bus. It shows that with the original (previously-approved) CAISO plan, none of the 115kV breakers at NRS are overdutied. With the addition of the Hybrid project,</p>	Breaker	Breaker Rating	2028		2034		Pre-Project	Post-Project	Pre-Project	Post-Project	NRS-SSS 230kV	40kA	58%	81%	60%	94.9%	NRS 230/115kV transformer	40kA	75%	99%	77%	111%	NRS 230kV to HVDC	63kA	47%	N/A	48%	N/A	NRS 230kV to Newark	63kA	N/A	47%	N/A	55%	NRS 230kV to San Jose B	63kA	N/A	N/A	N/A	64%	the hybrid transmission project for the San Jose area and will continue to develop complementary projects to tackle the long-term reliability issues identified.
Breaker	Breaker Rating	2028			2034																																						
		Pre-Project	Post-Project	Pre-Project	Post-Project																																						
NRS-SSS 230kV	40kA	58%	81%	60%	94.9%																																						
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NRS 230kV to HVDC	63kA	47%	N/A	48%	N/A																																						
NRS 230kV to Newark	63kA	N/A	47%	N/A	55%																																						
NRS 230kV to San Jose B	63kA	N/A	N/A	N/A	64%																																						

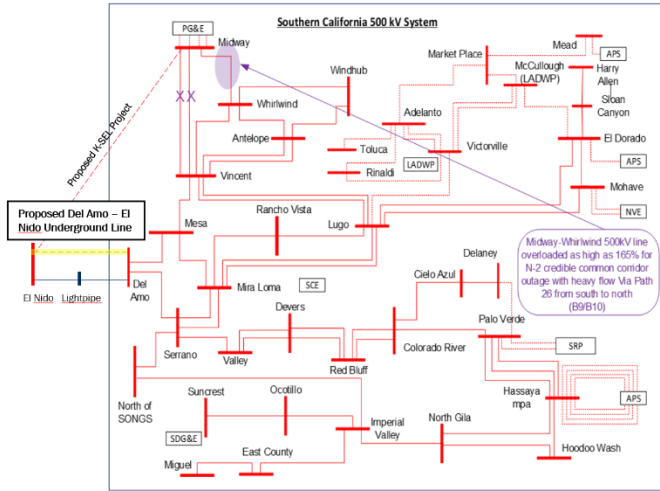
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		<p>the over duty issues increased significantly (well exceeding the threshold of 90%) for the NRS 115kV breakers. These results demonstrate that the 63kA breakers (existing and future) at the NRS 115kV switchyard are insufficient with the Hybrid project. This means that the Hybrid project would require replacing all the NRS 115kV existing and newly installed 63kA breakers with new breakers with a minimum rating of 80kA.</p> <p>Table 2: Pre-and Post-Hybrid Project Fault Duty (%) on NRS 115kV Bus</p> <table><tr><th rowspan="2">Breaker</th><th colspan="2">2028</th><th colspan="2">2034</th></tr><tr><th>Pre-Project</th><th>Post-Project</th><th>Pre-Project</th><th>Post-Project</th></tr><tr><td>NRS300 CB 312 to KRS</td><td>84.9%</td><td>97.0%</td><td>86.2%</td><td>97.6%</td></tr><tr><td>NRS300 CB 322 to KRS</td><td>86.1%</td><td>98.1%</td><td>86.5%</td><td>98.5%</td></tr><tr><td>NRS300 CB 342 to Newark F</td><td>82.1%</td><td>94.7%</td><td>81.8%</td><td>95.6%</td></tr><tr><td>NRS300 CB 372 to 230kV Xfmr</td><td>81.9%</td><td>90.6%</td><td>83.3%</td><td>90.9%</td></tr><tr><td>NRS300 CB 382 to 60kV Xfmr</td><td>85.6%</td><td>97.6%</td><td>87.1%</td><td>98.0%</td></tr><tr><td>NRS400 CB 402 to 60kV Xfmr</td><td>86.8%</td><td>99.5%</td><td>N/A</td><td>N/A</td></tr><tr><td>NRS400 CB 412 to 230kV Xfmr</td><td>83.7%</td><td>93.3%</td><td>83.3%</td><td>93.7%</td></tr><tr><td>NRS400 CB 442 to NewarkD</td><td>83.0%</td><td>96.3%</td><td>82.5%</td><td>97.3%</td></tr><tr><td>NRS400 CB 462 to SRS</td><td>87.3%</td><td>100.0%</td><td>86.9%</td><td>100.5%</td></tr></table> <p>N/A: Not Applicable</p> <p>Currently, there is only one vendor that manufactures 80kA breakers rated for 123kV, and due to supply chain challenges and long delivery timelines, it will <u>not</u> be possible to procure 80kA breakers by 2028, when the Newark-NRS 230kV portion of the Hybrid project is expected to be operational. SVP will investigate with the original equipment manufacturer if the 63kA breakers that have already been ordered will be capable of interrupting fault duties that will exceed 90% in 2028. The alternative means to mitigate the overduty condition will be to open the NRS 392 breaker until such time as the breakers can be replaced with 80kA-rated breakers. To be clear, SVP's NRS substation has no space to accommodate the addition of series reactors to address short circuit</p>	Breaker	2028		2034		Pre-Project	Post-Project	Pre-Project	Post-Project	NRS300 CB 312 to KRS	84.9%	97.0%	86.2%	97.6%	NRS300 CB 322 to KRS	86.1%	98.1%	86.5%	98.5%	NRS300 CB 342 to Newark F	82.1%	94.7%	81.8%	95.6%	NRS300 CB 372 to 230kV Xfmr	81.9%	90.6%	83.3%	90.9%	NRS300 CB 382 to 60kV Xfmr	85.6%	97.6%	87.1%	98.0%	NRS400 CB 402 to 60kV Xfmr	86.8%	99.5%	N/A	N/A	NRS400 CB 412 to 230kV Xfmr	83.7%	93.3%	83.3%	93.7%	NRS400 CB 442 to NewarkD	83.0%	96.3%	82.5%	97.3%	NRS400 CB 462 to SRS	87.3%	100.0%	86.9%	100.5%	
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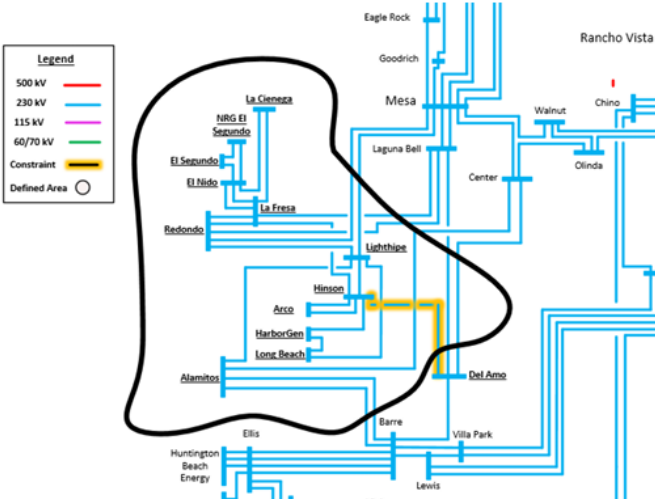
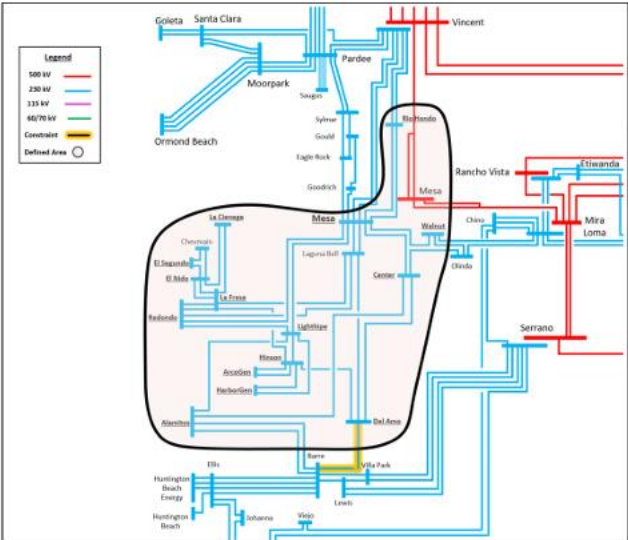
No	Submitting Organization	Comment Submitted	CAISO Response																						
		<p>issues. Without short circuit mitigation planned for the CAISO San Jose Long Term plan, the NRS 115kV 80kA breakers planned for service in 2030 will be operating with fault duties starting at 80%, which is unacceptably high given the magnitude of resources and additional projects that will be required to meet future power delivery requirements in the area. Each of these future projects will exacerbate the overduty condition on these breakers. SVP recommends that CAISO's San Jose Long Term plan include short circuit mitigation plans for the new LS Power 230kV AC transmission line and for the future San Jose B to NRS 230kV AC transmission line anticipated to be proposed in the CAISO's 2024-2025 Transmission Plan.</p> <p>Hybrid Project Requires Additional Upgrades to SVP's Transmission System and SVP Import Facilities</p> <p>SVP used the CAISO 2024-2025 TPP preliminary reliability assessment cases for the Greater Bay Area (GBA) Summer Peak conditions for years 2029, 2034, and 2039 to perform steady state power flow analysis to assess the potential for adverse impacts of the Hybrid project on SVP's system. Table 3 below summarizes SVP's findings that the adverse impacts to SVP's key facilities, which occur with both pre- and post-project loadings, are not fully mitigated by the proposed Hybrid project in 2029, 2034, and 2039.</p> <p>Table 3: Pre-and Post- Hybrid Project Loadings: 2029, 2034 and 2039</p> <table><tr><th rowspan="2">Overloaded Facility</th><th rowspan="2">Contingency</th><th colspan="2">2029</th><th colspan="2">2034</th><th colspan="2">2039</th></tr><tr><th>Pre-Project</th><th>Post-Project</th><th>Pre-Project</th><th>Post-Project</th><th>Pre-Project</th><th>Post-Project</th></tr><tr><td>FMC-KRS 115kV</td><td>New San Jose B to NRS 230kV (P1)</td><td>N/A</td><td>155.0%</td><td>N/A</td><td>151.0%</td><td>N/A</td><td>142.0%</td></tr></table> <p>As shown in Table 3, there were no P1 overloads found on one of the SVP's import facilities, i.e., FMC-KRS (Kifer) 115kV found in the pre-Project case. However, with the Hybrid project, under the loss of the new San Jose B to NRS 230kV, significant overloads are identified as early as in 2029. The reconductoring of PG&E's 115 kV lines is necessary to maximize the impact of the proposed 230 kV project. Therefore, SVP supports the PG&E Request Window (RW) project alternative that includes the reconductoring of the FMC-KRS 115kV line.^[6]</p> <p>SVP also observed considerably lower voltages with the Hybrid Project under both normal and contingency conditions. In particular, voltages at Newark are 0.98 PU (1.0 PU), and NRS 230 kV are 0.973 PU (0.992 PU) under N-0 in post-Project (pre-Project) cases. Such low voltages under the post-project case</p>	Overloaded Facility	Contingency	2029		2034		2039		Pre-Project	Post-Project	Pre-Project	Post-Project	Pre-Project	Post-Project	FMC-KRS 115kV	New San Jose B to NRS 230kV (P1)	N/A	155.0%	N/A	151.0%	N/A	142.0%	
Overloaded Facility	Contingency	2029			2034		2039																		
		Pre-Project	Post-Project	Pre-Project	Post-Project	Pre-Project	Post-Project																		
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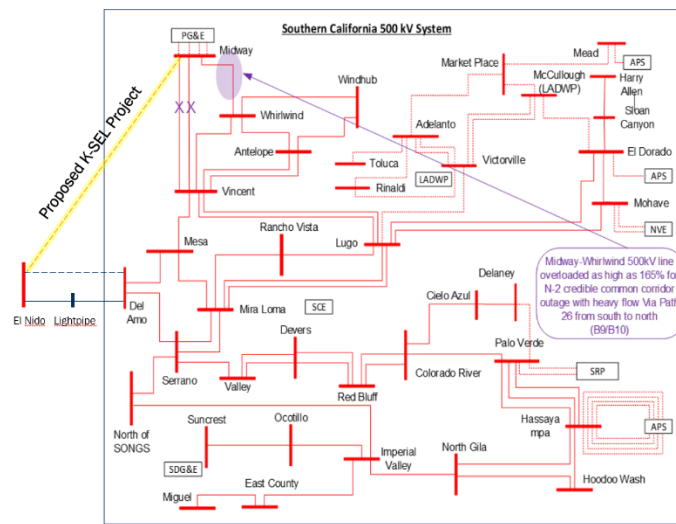
No	Submitting Organization	Comment Submitted	CAISO Response																		
		<p>would indicate the need for adding more voltage support (shunt capacitors) at appropriate locations, preferably at Newark. Given the long lead time required to secure the land needed for these mitigation measures, SVP recommends the evaluation of land procurement to house the new equipment as soon as possible.</p> <p>The CAISO has also identified potential additional upgrades, such as the reconductoring of Los Esteros (SSS) to NRS 230kV lines with advanced conductors (with a 1,000MVA rating), to increase reliability in the area. The SSS-NRS 230kV capacity is currently limited by the rating of SVP's Phase-Shifting Transformer (PST), which is ~420MVA. SVP notes that the rating of the bundled 230kV cables is ~827MVA (normal rating). SVP submits that further studies should be conducted to assess the adequacy of the ratings of these existing facilities. Meanwhile, SVP is considering installing a second PST at SSS to improve the controllability of the flows on the SSS-NRS 230kV line.</p> <p>The CAISO's estimated in-service date for the NRS-San Jose B 230kV AC line is 2030.^[7] While a proposed five (5) year project timeline is standard and appropriate, SVP's studies show that any delay in this anticipated timeline will create additional overloads on SVP's system. SVP performed a sensitivity study without the NRS-San Jose B 230kV AC line for the year 2034. Under the P6 contingency entailing the loss of the Newark-NRS 230kV line followed by the loss of the PST path, as summarized in Table 4, SVP observes significant overloads on key SVP import facilities.</p> <p>Table 4: Overloads Observed With Hybrid Project, but Without Proposed NRS-San Jose B 230kV AC Line</p> <table><tr><th>Overloaded Facility</th><th>Los Esteros-Nortech Reactor Bypassed</th><th>Los Esteros-Nortech Reactor Inserted</th></tr><tr><td>Los Esteros – Nortech 115 kV</td><td>156.4%</td><td>121.2%</td></tr><tr><td>Nortech-NRS 300 115 kV</td><td>142.0%</td><td>105.1%</td></tr><tr><td>Newark D – NRS 400 115 kV</td><td>111.5%</td><td>125.6%</td></tr><tr><td>Newark F – NRS 300 115 kV</td><td><100%</td><td>101.8%</td></tr><tr><td>FMC Jct – KRS 115 kV</td><td>135.3%</td><td>152.8%</td></tr></table>	Overloaded Facility	Los Esteros-Nortech Reactor Bypassed	Los Esteros-Nortech Reactor Inserted	Los Esteros – Nortech 115 kV	156.4%	121.2%	Nortech-NRS 300 115 kV	142.0%	105.1%	Newark D – NRS 400 115 kV	111.5%	125.6%	Newark F – NRS 300 115 kV	<100%	101.8%	FMC Jct – KRS 115 kV	135.3%	152.8%	
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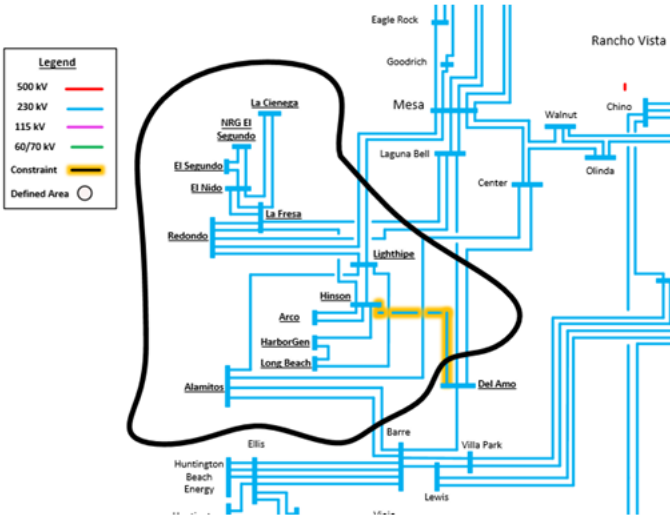
No	Submitting Organization	Comment Submitted			CAISO Response
		FMC – San Jose B 115 kV	110.4%	121.4%	
		These overloads indicate that certain PG&E 115kV facilities, such as PG&E's Los Esteros–Nortech 115 kV line, PG&E's Nortech-NRS 300 115 kV line, and PG&E's Newark-NRS 115kV, should be reconducted if the NRS-San Jose B 230kV AC segment of the Hybrid project cannot be constructed and energized by the expected in-service date.			
1M	Southern California Edison	No comment			
1N	Terra-Gen, LLC	No comment			
10	California Public Utilities Commission	<p>Staff of the California Public Utilities Commission in the Energy Division (CPUC Staff or Staff) develop and administer energy policy and programs to serve the public interest, advise the CPUC, and ensure compliance with CPUC decisions and statutory mandates. The CPUC Energy Division Staff provide objective and expert analyses that promote reliable, safe, and environmentally sound energy services at just and reasonable rates for the people of California.[1] Further, CPUC Staff advocate on behalf of California ratepayers at the Federal Energy Regulatory Commission (FERC), under whose jurisdiction the 2024-2025 Transmission Plan would fall.</p> <p>CPUC Staff appreciate this opportunity to provide these comments.</p> <p>CPUC Staff have no comments at this time on the preliminary reliability results for the North area.</p>			

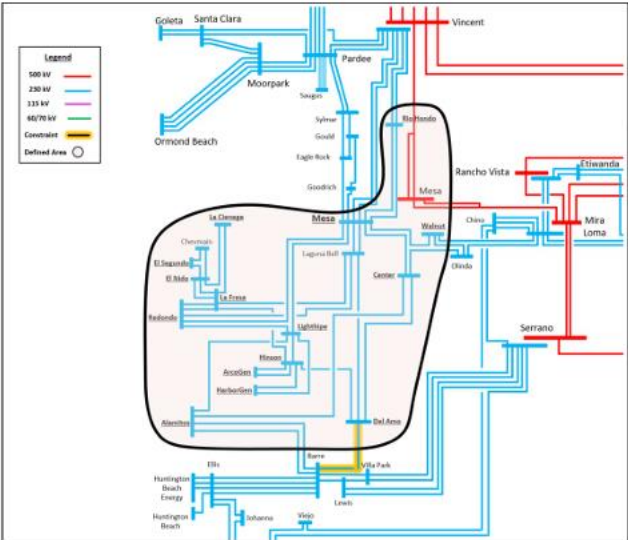
2. Provide your organization's comments on the preliminary reliability results for the South area			
No	Submitting Organization	Comment Submitted	CAISO Response
2A	Alameda Municipal Power	Comment moved to question #1 for appropriate response	
2B	Bay Area Municipal Transmission Group (BAMx)	No comment	
2C	California Department of Water Resources	No comment	
2D	California Public Utilities Commission - Public Advocates Office	Refer to question #3 response	
2E	Grid United LLC	<p>Similar to the K-SEL project, the Del Amo to El Nido Underground Line (The Project) will utilize a repurposed oil & gas pipeline to provide valuable right-of-way from the Del Amo Substation to the El Nido Substation, as shown in Figure 1, as a new 230kV AC line with preliminary analysis showing potential power carrying capability of up to 510MVA. The Project intends on repurposing an existing underground oil & gas industry pipeline as the conduit for the below grade transmission cable and right-of-way, enabling the deliverability of cheaper FCDS resources deep into the LA basin. The exact route of the pipe is confidential and can be shared with CAISO upon request. The Project would be a fully networked 510MVA 230kV AC transmission line, in combination with K-SEL would provide a critical backbone to the CAISO grid by interconnecting the Del Amo Substation - El Nido Substation providing a link to coastal LA from the Southern Area Reinforcement Projects.</p> <p>The Project would greatly expand intra-basin transmission deliverability and maximize utilization of the existing transmission network in the LA basin. In combination with the proposed K-SEL project, The Project would in affect create a connection between the South Area Reinforcement Project and Midway – creating a new high-voltage backbone throughout Southern California.</p>	<p>The CAISO has determined that the project does not meet a reliability need identified by the CAISO in this TPP cycle. Therefore it will not be considered as a stand-alone reliability solution in the development of the transmission plan. However, it may be considered as a policy and economic solution.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		 <p style="text-align: center;">Figure 2: Midway – Whirlwind 500kV Constraint</p> <p>The Project would facilitate deliverability from the Del Amo substation to load, alleviating in-basin constraints such as the Hinson – Del Amo and Del Amo – Barre constraints.</p>	

No	Submitting Organization	Comment Submitted	CAISO Response
		<p style="text-align: center;">Hinson - Del Amo On-Peak Constraint</p>  <p style="text-align: center;">Figure 3: Hinson – Del Amo On-Peak Constraint</p> <p style="text-align: center;">Del Amo – Barre On-Peak Constraint</p>  <p style="text-align: center;">Figure 4: Del Amo - Barre On-Peak Constraint</p>	

No	Submitting Organization	Comment Submitted	CAISO Response
2F	Horizon West Transmission (HWT)	No comment	
2G	Kern-Southland Energy Link LLC	<p>The K-SEL project is a new HVDC VSC line capable of carrying 2,000MW from the Midway 500kV Substation to the El Nido 230kV Substation, as shown in Figure 1. K-SEL intends on repurposing an existing underground oil & gas industry pipeline as the conduit for the below grade HVDC transmission cable and right-of-way, enabling the deliverability of cheaper FCDS resources deep into the LA basin. The exact route of the pipeline can be provided confidentially with CAISO at their request. K-SEL has worked with cable manufacturers and other third-party vendors to determine that the project is feasible. K-SEL would be a fully networked, multi-terminal 2 GW VSC HVDC line, providing a critical backbone to the CAISO grid by interconnecting the Midway 500kV Substation – El Nido 230kV Substation providing a link to coastal LA. Additionally, K-SEL could provide a path into Del Amo 500kV Substation, with the optionality to tie into the South Area Reinforcement projects approved in the 2022-2023 TPP.</p> <p>K-SEL would greatly expand intra-basin transmission deliverability and maximize utilization of the existing transmission network in the LA basin. K-SEL would provide another import/export path into the LA Basin, with the ability to dynamically control power flow to alleviate flows on Path 26 and mitigate the overload on Midway – Whirlwind 500kV. In combination with the proposed Del Amo – El Nido Underground Line, this would in affect create a connection between the South Area Reinforcement Project and Midway – creating a new high-voltage backbone throughout Southern California.</p>  <p>Figure 2: Midway – Whirlwind 500kV Constraint</p>	<p>The CAISO will consider this transmission solution submitted into the request window in the 2024-2025 TPP.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>Due to the inherent bi-directional capability of the line and the fast, precise power flow control of HVDC VSC technology, K-SEL could be used to provide counterflow and balancing to alleviate in-basin constraints such as the Hinson – Del Amo and Del Amo – Barre constraints.</p> <p style="text-align: center;">Hinson - Del Amo On-Peak Constraint</p>  <p style="text-align: center;">Figure 3: Hinson – Del Amo On-Peak Constraint</p>	

No	Submitting Organization	Comment Submitted	CAISO Response
		<p style="text-align: center;">Del Amo – Barre On-Peak Constraint</p>  <p style="text-align: center;">Figure 4: Del Amo - Barre On-Peak Constraint</p> <p>HVDC VSC converter stations have the ability to provide voltage support, with STATCOM functionality. This ability to provide absorb and inject reactive power will help alleviate high voltage issues found by the ISO at Midway 500kV (1.06 pu), the proposed northern terminus of K-SEL.</p>	
2H	Key Capture Energy	No comment	
2I	Pacific Gas & Electric	No comment	
2J	Regenerate California Coalition	<p>The Regenerate California Coalition believes the greatest opportunity for transmission-facilitated retirement of gas-fired power plants in the near term is in the South area of the CAISO system, particularly in the Los Angeles Basin. In its 2022-2023 Transmission Plan the CAISO approved 12 major transmission projects to improve system reliability and to better integrate renewable energy into the electric system serving Southern California.³</p> <p>Some of the projects will improve reliability and resource deliverability by 2029 and others by 2034. A critically important project is the Serrano-Del Amo-Mesa 500 kV transmission reinforcement project which will increase power flows throughout the Los Angeles Basin. Once completed, this project should enable the closure of at least 3,568 megawatts of thermal generation in 2034. With additional transmission to be identified in the 2024-2025 transmission plan,</p>	The comment has been noted.

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>the retirements should increase to 3,906 megawatts in the base case scenario and to 7,279 megawatts in the high gas retirement sensitivity scenario.⁴</p> <p>The Regenerate California Coalition is looking forward to reviewing the results from the policy-driven assessment that is planned for release in November. We are encouraged that, with the inclusion of advanced conductors, storage as a transmission asset, and additional transmission into the Los Angeles Basin, the high gas retirement scenario can be achieved.</p> <p>We note that two areas adjacent to the Los Angeles Basin will also be impacted by the high gas retirement scenarios. Those areas are the Ventura 230 kV system and the SDG&E service area. The reliability study provides reasonable mitigation proposals for those areas. For the Ventura area upgrades to the 230 kV lines will be needed as well as the targeted dispatch of energy storage and demand response resources in the Ventura area.⁵ For the SDG&E area, curtailment of generation in the Imperial Valley will be required together with dispatch of energy storage and demand response in the SDG&E and LA Basin.⁶</p>	
2K	San Diego Gas & Electric	No comment	
2L	Silicon Valley Power (City of Santa Clara)	No comment	
2M	Southern California Edison	No comment	
2N	Terra-Gen, LLC	No comment	
2O	California Public Utilities Commission	No comment	

3. Provide your organization's comments on the PTO's proposed reliability alternatives (SDG&E, PG &E, SCE, VEA)

No	Submitting Organization	Comment Submitted	CAISO Response
3A	Alameda Municipal Power	<p>AMP is a major customer supplied by the PG&E North Oakland and South Oakland transmission systems and provides the following comments on these request window proposals.</p> <ul style="list-style-type: none"> AMP requests an active role in the planning process for both these projects including identification of alternatives to be studied, evaluation of the alternatives and selection of the ultimate proposed project. The North Oakland project that PG&E proposed involves upgrading of the 115 kV system. PG&E identified three alternatives including a different approach to upgrading the 115 kV and two 230 kV alternatives. These were dismissed without much detail because of "higher cost". AMP requests further investigation of the alternatives, including additional cost detail, as these projects, particularly the 230 kV options, may be better long-term solutions for the North Oakland system. The North Oakland proposed project shows an in-service date of May 2032. Given the history of supply shortages in North Oakland and impact on AMP, AMP requests that the project be expedited for an earlier in-service date. The South Oakland project is shown as conceptual at this time. There is no information provided on costs, alternatives or in-service date. AMP requests more information on costs, alternatives and in-service date. 	<p>Comment noted.</p> <p>For South Oakland project, alternative assessment is under way.</p>
3B	Bay Area Municipal Transmission Group (BAMx)	<p>PG&E's Proposed Reliability Applications/Alternatives</p> <p>On September 24, 2024, PG&E presented fifteen (15) projects in its request window (RW) proposals presentation. BAMx's comments are focusing on the following nine (9) projects.</p> <p>Vaca Dixon-Davis Area Reinforcement, \$278 to \$556M, May 2032</p> <p>PG&E indicated the Brighton-Howard section of its Brighton-Davis 115 kV Line will be experiencing severe thermal overload (about 80%) by 2034 due to anticipated demand in its Davis/Yolo Area. PG&E also indicated two other 115 kV lines, Woodland-Davis and West Sacramento-Davis, will be overloaded by 3% to 8.7% by 2034.</p> <p>PG&E's RW proposal is to construct two new 115 kV lines from Vaca Dixon to Davis by: (a) converting two 60 kV lines and two substations to 115 kV, (b) constructing a 115 kV switching station, and (c) reconductor two 115 kV and</p>	<p>The comment has been noted on SCE's proposed projects.</p>



No	Submitting Organization	Comment Submitted	CAISO Response
		<p>two 60 kV lines. PG&E estimated the project to cost between \$278-\$556 million (M). PG&E also evaluated but rejected two alternatives that would construct a double-circuit 115 kV or a 230 kV line from Vaca Dixon to Davis.</p> <p>BAMx believes PG&E's \$278-\$556M proposal is not cost-effective in mitigating the Brighton-Davis 115 kV line loading concerns. Furthermore, PG&E's proposed scope of work has many complicated and environmentally challenging components adding to the future project cost increase potential.</p> <p>BAMx requests and encourages the CAISO to evaluate alternatives that are commensurate with the identified reliability issues. PG&E listed 512 Amps as the emergency rating of its Brighton-Davis 115 kV Line, while the other 115 kV lines in the area have an 878 Amps emergency rating. Reconductoring the Brighton-Davis 115 kV Line to 878 Amps may be a more direct mitigation measure and would reduce the loading down to 105% using conventional transmission conductors.</p> <p>BAMx requests the CAISO to explore and evaluate "more direct" options, such as reconductoring the Brighton-Davis 115 kV line with the advanced conductor, a new single 115 kV line from Brighton to Davis, and a new single 115 kV line from Rio Oso/West Sacramento to Davis.</p> <p>North Oakland Reinforcement, \$564 to \$1,127M, May 2032; South Oakland Reinforcement, Conceptual</p> <p>PG&E indicated that its underground (UG) cables and overhead (OH) transmission lines in the North Oakland Area will experience thermal overload. Some of the UG cables will be overloaded by 27 to 59%.</p> <p>PG&E's RW proposal is to: (a) rebuild the two Sobrante-Claremont 115 kV OH lines into four OH 115 kV lines, (b) construct two new UG cables and connect Oakland L and D to Sobrante via two of the new OH lines from (a), (c) construct a new UG cable and connect Oakland C to Moraga but joining the Moraga-Oakland X 115 kV Line, and (d) Re-cable the Oakland C-x 115 kV UG Cable.</p> <p>The total project cost is estimated at \$564-\$1,127M. PG&E evaluated but rejected three other alternatives, including 115 kV reconductoring, a new 230 kV submarine cable, and a new 230 kV OH transmission line.</p> <p>BAMx applauds the CAISO and PG&E's creativity in this project proposal. PG&E's RW proposal appears to be a good concept that fully utilizes PG&E's existing infrastructure and attempts to transform it to meet future needs. However, BAMx believes PG&E's proposal is incomplete and urges the</p>	<p>Comment noted.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>CAISO not to approve this project in the 2024-2025 TPP. BAMx believes the CAISO and PG&E need to develop a complete set of project alternatives and conduct a complete alternative evaluation. BAMx urges the CAISO to undertake a larger area or regional perspective, including the need and impacts to PG&E's South Oakland Area.</p> <p>In addition, BAMx urges the CAISO to review the project alternatives from an environmental perspective. For example, rebuilding PG&E's Sobrante-Claremont 115 kV OH lines may have severe environmental issues and implications, given the facility's location and surrounding neighborhood. A new submarine 230 kV cable would perhaps be more economically attractive if the Sobrante-Claremont OH line is mandated to be underground.</p> <p>Turning to South Oakland, PG&E has indicated that its <i>South Oakland Reinforcement Project</i> proposal is conceptual and that studies of the proposed alternative are ongoing. Given the limited information we have regarding the effectiveness and cost of the project alternatives at this time, BAMx recommends that the CAISO not approve the South Oakland Reinforcement Project in the 2024-2025 TPP. BAMx looks forward to engaging with the CAISO, PG&E, and interested stakeholders in completing the North and South Oakland Area transmission assessment work.</p> <p>South Bay 115 kV System Reinforcement (Conceptual)</p> <p>PG&E stated that its South Bay 115 kV System Reinforcement Project is conceptual and includes three potential alternatives with multiple elements, such as reconductoring, combining transmission paths, and adding transmission transformers. BAMx recognizes that certain elements of the PG&E-proposed reinforcements, such as reconductoring the Kifer-FMC 115kV line, are needed based on the NERC criteria violations in 2034, even with the above-mentioned hybrid project. However, BAMx is unclear regarding the need for the other two reinforcements proposed by PG&E. Therefore, BAMx recommends the CAISO not approve the South Bay 115 kV System Reinforcement Project in its entirety in the 2024-2025 TPP, but only approve certain elements, such as reconductoring the Kifer-FMC 115kV line. BAMx is looking forward to engaging with the CAISO, PG&E, and interested stakeholders in completing the overall South Bay 115 kV system assessment work. BAMx believes the CAISO, PG&E, and stakeholders must take a broader area perspective to include other projects, such as the newly proposed hybrid project.</p> <p>Metcalf, Moraga, and San Mateo Transformer Additions, \$91-\$182M, \$20-\$40M, \$55-\$110M, respectively</p>	<p>Comment noted. For South Bay 115 kV System Reinforcement, scope development is currently underway.</p> <p>Appropriate alternatives will be evaluated as part of the ISO's review.</p> <p>Comment noted. The ISO will review need of the scope as part of the ISO's review.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>PG&E presented three different transformer addition projects. PG&E stated its Metcalf 500/230 kV and Moraga and San Mateo 230/115 kV transformers are expected to be overloaded by 21%, 18%, and 38% by the year 2034, respectively in a P6 contingency where two of the three transformers at the substation are lost.</p> <p>PG&E's RW proposal is to add a fourth transmission transformer at these three substations to mitigate the anticipated P6 overload. PG&E stated it has evaluated but rejected an energy storage alternative.</p> <p>BAMx believes the CAISO should explore transformer loading reduction measures, such as generation re-dispatch, transmission line switching, and dynamic bus series reactors. In addition, transmission transformers, with their mass and slower thermal time constant, could be loaded to a higher level for a short duration, i.e., a few hours. BAMx encourages the CAISO to explore transformer up-rate options with PG&E to mitigate these P6 contingencies.</p> <p>In addition, it is unclear about the large discrepancy in cost estimates for the Moraga and San Mateo transformers. The estimated cost for San Mateo is 2.5 times more than Moraga. PG&E should be required to explain the cost differences.</p> <p>Gold Hill-El Dorado Reinforcement, \$63.5 to \$127M, May 2032</p> <p>PG&E indicated the El Dorado-Missouri Flat #2 115 kV Line would be experiencing severe thermal overload (about 120%) under a P2-1 contingency where the Gold Hill-Shingle Springs line section is open.</p> <p>PG&E's RW proposal is to reconnector a section of the El Dorado-Missouri Flat 115 kV Line and to convert its Shingle Springs Substation 115 kV Bus to a breaker-and-a-half (BAAH) configuration.</p> <p>It appears to BAMx that the proposed line reconductoring is appropriate in addressing the anticipated line overload. However, it is unclear if the Shingle Springs BAAH conversion is needed to mitigate the anticipated reliability issues and at what cost. BAMx believes PG&E's "maintenance-based" BAAH projects should not be approved by the CAISO under the purview of CAISO TPP. Furthermore, BAMx understands a ring-bus, not BAAH, is PG&E's design standard for its distribution substations.</p> <p>West Fresno 115 kV Voltage Support, \$30 to \$60M, May 2031</p> <p>PG&E indicated its Transmission Operation personnel observed low voltage issues at West Fresno during summer peak conditions. PG&E's power flow</p>	<p>Appropriate alternatives will be evaluated as part of the ISO's review.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>results showed voltages at 0.946 in 2026, declining to 0.920 per unit in 2034. PG&E's proposed RW project is to install 75 MVAR voltage support at the West Fresno Substation. PG&E also indicated it had evaluated an energy storage alternative but rejected it due to its cost-effectiveness.</p> <p>BAMx urges the CAISO not to approve PG&E's proposed West Fresno 115 kV Voltage Support Project. BAMx recommends the CAISO work closely with PG&E on the cost-effective evaluation of energy storage as a replacement for the proposed \$60M expenditure and share the results with stakeholders.</p> <p>SCE's Proposed Reliability Applications/Alternatives</p> <p>SCE proposed the following six (6) advanced reconductoring projects.</p> <ol style="list-style-type: none"> 1. Santa Clara-Vincent 230 kV Advanced Reconductor 2. Moorpark-Santa Clara No. 1 230 kV Advanced Reconductor 3. Moorpark-Santa Clara #2 230 kV Advanced Reconductor 4. Pardee-Santa Clara 230 kV Advanced Reconductor 5. Julian Hinds-Mirage 230 kV Advanced Reconductor 6. Magunden-Springville No. 2 230 kV Advanced Reconductor <p>All six (6) projects have a common theme.</p> <ol style="list-style-type: none"> 1. They are all seeking partial or full funding from the California Harnessing Advanced Reliable Grid Enhancing Technologies for Transmission (CHARGE 2T) program.^[1] 2. They all entail reconductoring existing lines with high temperature low sag (HTLS) advanced conductors. 3. The need for the first four is primarily driven by P7 issues in 2039, and the last two are generation-driven. <p>Overall, given that their reliability need is not in the near term, BAMx recommends that the consideration of approval for any of these projects in the current transmission plan be contingent on</p> <ol style="list-style-type: none"> 1. The projects receiving at least 50% of their funding from the CHARGE 2T program; and 2. The CAISO policy-driven assessment finds that these projects have significant policy/deliverability benefits. 	
3C	California Department of Water Resources	No comment	

No	Submitting Organization	Comment Submitted	CAISO Response
3D	California Public Utilities Commission - Public Advocates Office	<p>In addition to the requested project clarifications and energy storage alternative analysis outlined in the response to question 1, the following are Cal Advocates' specific recommendations on PG&E, SCE, SDG&E, and VEA projects.</p> <p>PG&E Presentation</p> <p><u>New Vaca Dixon-Davis Area Reinforcement Project</u></p> <p>Cal Advocates has concerns with PG&E's proposed project scope for the new Vaca Dixon-Davis Area Reinforcement project. PG&E's power flow results identify overloads primarily on the Brighton-Davis 115 kV line under P1 and P6 contingencies. PG&E proposes one project scope item that will address these potential overloads, which is reconductoring the limiting sections of the West Sacramento Davis 115 kV lines. [1] The remainder of the proposed Vaca Dixon-Davis Area Reinforcement project scope does not seem justified based on PG&E's provided power flow results. [2] In contrast, CAISO recommended reviewing PG&E's Vaca Dixon Area Reinforcement project approved in its 2017-2018 Transmission Plan to address reliability issues in the project area. [3] Cal Advocates also recommends PG&E pursue the previously approved Vaca Dixon Area Reinforcement project. This project was expected to be in service in 2022 but is now likely going to be in service in 2025. [4] PG&E did not confirm whether its power flow analysis assumed the 2017-2018 Vaca Dixon Area Reinforcement project was in service or discuss potentially modifying the approved Vaca Dixon Area project to address any additional issues in the project area. It appears that a permit for 2017-2018 Vaca Dixon Area Reinforcement project has still not been filed. [6]</p> <p><u>Transformer Bank Addition Projects</u></p> <p>PG&E proposes to install additional transformers at the Moraga, Metcalf, and San Mateo substations to address possible P6 contingencies. PG&E states that a P6 contingency at these substations that involves the loss of two transformers could overload the remaining third transformer at these substations. [7] PG&E considered energy storage as an alternative, but there are charging limitations in the project area. PG&E should consider other possible non-wire technologies if energy storage is not an option due to charging issues. For this project, it may be appropriate to consider installing dynamic series reactors as an alternative to address the potential overloads because series reactors could be more cost efficient.</p> <p>PG&E previously considered dynamic series reactors to address overloads at the Metcalf substation during the 2020 TPP cycle. PG&E's project scope involved installing SmartValves [8] in series with the three 500/200 kV transformers on the low voltage side at the Metcalf station. "Once a transformer</p>	<p>Appropriate alternatives will be evaluated as part of the ISO's review.</p> <p>Appropriate alternatives will be evaluated as part of the ISO's review.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>at Metcalf substation is overloaded, the SmartValves connected to the transformer will operate to introduce inductive reactance (2 ohm) and mitigate the overload." [9] While this project was not pursued, PG&E's description demonstrates that dynamic series reactors could address the same P6 contingencies described this TPP cycle.</p> <p>Alternatively, CAISO recommended continuing to monitor possible overloads at Sobrante 230/225 kV transformer #3. [10] It is worth noting that the 2023-2024 Transmission Plan already approved a Sobrante 230/115 kV transformer bank addition as a policy project. [11]</p> <p>For the Moraga Hill substation, CAISO recommended the Moraga 230 kV Bus Upgrade and the North Oakland project as potential mitigations. [12]</p> <p><u>Konocti-Eagle Rock 60 kV Reconductoring Project</u></p> <p>Based on the discussion during the September 24, 2024 TPP meeting, PG&E should consider a power flow device as a cost-effective alternative to this proposed project.</p> <p><u>North Oakland Reinforcement Project</u></p> <p>For the North Oakland Reinforcement project, PG&E proposes rebuilding the two existing Sobrante-Grizzly Claremont #1 and #2 115 kV lines into four lines. The two new lines will extend past the Claremont K substation to connect to Oakland D and L substations respectively. CAISO already approved a Moraga-Sobrante 115 kV Line reconductoring project in 2018, which is likely the most viable option to address reliability issues in the area in comparison to building new lines. [13] PG&E should pursue the most cost-effective and viable option to address reliability issues in the North Oakland area, which is increasing the capacity of the existing lines with advance conductors and increasing their voltage from 115 kV to 230 kV. This alternative should be evaluated for its effectiveness and viability in comparison to the selected project scope.</p> <p>SCE Reliability Projects</p> <p><u>Pardee-Vincent No. 2 230 kV Line Update.</u></p> <p>The proposed project scope involves reconductoring 34 miles of transmission lines in the project area to address a potential P7 contingency that may occur in 2039. Energy storage may be a more cost-effective mitigation to address the potential reliability issue, if the total capital cost of energy storage is excluded in SCE's project alternative analysis. SCE should conduct further</p>	<p>Appropriate alternatives will be evaluated as part of the ISO's review.</p> <p>Appropriate alternatives will be evaluated as part of the ISO's review.</p> <p>Pardee-Vincent: Energy storage is one of the alternative mitigations under consideration</p>



No	Submitting Organization	Comment Submitted	CAISO Response
		<p>analysis to determine if this project could have a policy benefit since CAISO's reliability study results do not support the scale of the proposed project. The proposed project "has been identified as a conceptual ADNU [area deliverability network upgrade] needed to address the Pardee-Sylmar area deliverability constraint." [14]</p> <p><u>SCE Advance Reconductoring projects.</u></p> <p>SCE did not consider alternatives for any of its proposed advanced reconductoring projects. [15] CAISO also did not appear to identify the same reliability issues in the project areas and recommended energy storage as a mitigation for reliability issues on the Pardee-Santa Clara 230 kV lines, Santa Clara Moorpark 230 kV lines, and Vincent-Santa Clara lines. [16] SCE should further study its advance reconductor projects to determine if energy storage could be a cost-effective alternative or means to reduce the scale of these proposed projects. SCE should also conduct further studies to determine if these projects could provide policy benefits and to confirm the Department of Energy's grant commitment.</p> <p>There is sufficient time for further study on these projects since SCE's justification for projects 1-4 are P6 and P7 contingency in 2039.</p> <p>San Diego Gas & Electric Area Projects</p> <p><u>Coronado Island Reinforcement project</u></p> <p>The United States (US) Navy should fund the proposed project at Coronado Island. The US Navy has significant operations at Coronado Island and its operations are likely driving the transmission infrastructure needs at the Island. For consistency with FERC Order No. 1000 Cost Allocation Principle 1, cost allocation should be at least roughly commensurate with estimated benefits. [17]</p> <p>Valley Electric Association</p> <p>Valley Electric Association (VEA) should consider its existing or expected energy storage to mitigate any remaining issues with the forthcoming data centers. [18] Additionally, VEA should consider targeted programs to reduce the energy demand from data centers during peak time frames.</p>	<p>SCE Advance Reconductoring projects: Energy storage is one of the alternative mitigations under consideration</p> <p>Coronado: The ISO does not determine rate recovery responsibility.</p> <p>VEA: Comment noted.</p>
3E	Grid United LLC	No comment	
3F	Horizon West Transmission (HWT)	No comment	

No	Submitting Organization	Comment Submitted	CAISO Response
3G	Kern-Southland Energy Link LLC	No comment	
3H	Key Capture Energy	No comment	
3I	Pacific Gas & Electric	No comment	
3J	Regenerate California Coalition	<p>The Regenerate California Coalition is pleased to see that SCE is proposing to use advanced high capacity conductors on multiple reconductoring projects. High capacity conductors take advantage of existing rights of ways and can alleviate thermal overloads far into the future. We are very supportive of the four reconductoring projects that address overloads in the Ventura area.⁷</p> <p>PG&E has indicated that it will evaluate the use of advanced high capacity conductors on a case by case basis for reconductoring projects in its service area. We appreciate this commitment and look forward to seeing the results of these evaluations. However, it is not clear how this evaluation will be made available to stakeholders.</p> <p>As noted earlier, the Regenerate California Coalition is concerned with PG&E's ability to complete complex transmission projects on schedule. Among the 15 reliability projects identified by PG&E is the North Oakland Reinforcement Project. The North Oakland area is experiencing load increase due to industrial and commercial growth and the installation of electric vehicle charging infrastructure. The proposed project includes a significant amount of underground work for new cables as well as upgrading existing 115 kV lines.</p> <p>The North Oakland Reinforcement Project would seem to be a good candidate for the use of advanced high capacity conductors. We urge the CAISO to keep stakeholders informed as to PG&E's progress in developing this important project and to consider alternative approaches if PG&E is not capable of meeting the expected in-service date of May 2032.⁸</p> <p>7. The Ventura area projects include: 1) the Santa Clara-Vincent 230 kV Advanced Reconducting Projects; 2) the Moorpark-Santa Clara No. 1 230 kV Advanced Reconducting Project; 3) the Moorpark-Santa Clara No. 2 230 kV Advanced Reconducting Project; and 4) the Pardee-Santa Clara 230 kV Advanced Reconducting Project.</p> <p>8. See pages 52 and 53, PG&E 2024 Request Window Proposals, September 24, 2024</p>	<p>Comment noted.</p> <p>Comment noted.</p>
3K	San Diego Gas & Electric	No comment	
3L	Silicon Valley Power (City of Santa Clara)	PG&E proposed a "South Bay 115kV Systems Reinforcement Project (Conceptual)" during the September 24 th stakeholder meeting. ^[1] One element of PG&E's proposal is to upgrade the PG&E and SVP 115kV corridor. SVP supports Alternative 1A, which includes reconductoring the Kifer-FMC 115kV line for the reasons described in SVP's response to Q.1 above.	Appropriate alternatives will be evaluated as part of the ISO's review.
3M	Southern California Edison	No comment	



No	Submitting Organization	Comment Submitted	CAISO Response
3N	Terra-Gen, LLC	No comment	
30	California Public Utilities Commission	<p style="text-align: center;">San Jose Area HVDC Projects</p> <p>During the presentation of the San Jose Area HVDC Projects, the CAISO proposed scope changes to the Newark-NRS and Metcalf-San Jose projects but did not include any estimates for the changes in project cost or timeline. CPUC Staff request the CAISO identify and provide the modeling files used to justify the changes (and why alternatives were not sufficient) and any information on what the cost/timeline changes the CAISO or PG&E anticipates.</p> <p style="text-align: center;">Oakland Clean Energy Initiative (OCEI) Project</p> <p>The OCEI project was only briefly mentioned in the September 23, 2024 presentation in the context of East Bay upgrades and mitigation efforts. This same OCEI project has experienced both a scope change and significant delays since the initial 2018 CAISO Transmission Plan approval. A scope change was recommended and approved in the 2019 Transmission Plan, the year after its CAISO approval. In the 2023-2024 Transmission Plan, the OCEI project was brought back for reassessment and the CAISO reported that although it no longer sufficiently mitigates the overloads modeled in the Oakland area, the CAISO still recommends it move forward as originally designed^[1]. How does CAISO plan on addressing the fact that the project does not sufficiently mitigate the overloads? Is it expected that the scope of the project will have to change again in the future to address this?</p> <p>CPUC Staff also note that there is a discrepancy on the OCEI Project in-service date (ISD). Slide 71 of the September 23, 2024 CAISO presentation lists the OCEI ISD as April 2025. Modeling files posted in the Market Participant Portal (MPP) for the 2024-2025 TPP assumes an ISD of 2028. Please correct the date in the slide deck or the MPP file for the OCEI Project.</p>	<p>Comment noted.</p> <p>The ISO recommends OCEI project to continue as planned as an interim solution. A longer term transmission upgrade is currently under development.</p>

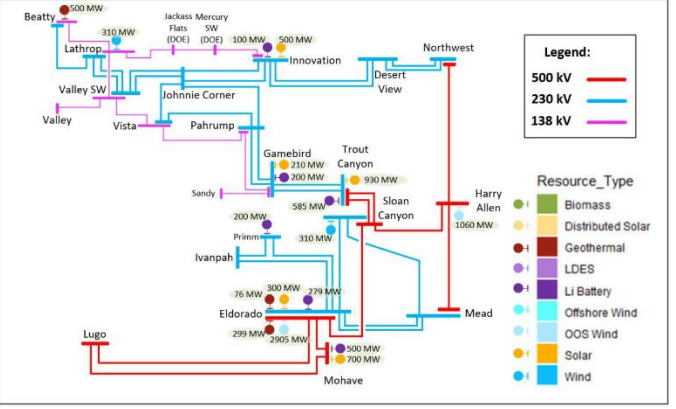
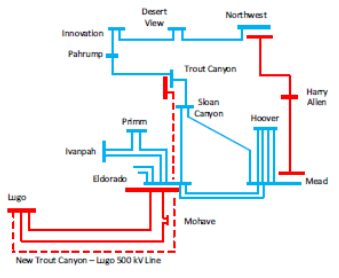
4. Provide your organization's comments on the high voltage TAC update			
No	Submitting Organization	Comment Submitted	CAISO Response
4A	Alameda Municipal Power	No comment	
4B	Bay Area Municipal Transmission Group (BAMx)	<p>BAMx appreciates the continued work of the CAISO in keeping the stakeholders updated about the likely impact of its decision to approve transmission projects affecting the High Voltage (HV) Transmission Access Charge (TAC). BAMx appreciates the opportunity to comment on the CAISO's 2023-2024 HV TAC Estimating Model ("TAC Model" hereafter) that was posted on the CAISO website on September 24, 2024.</p> <p>Capital Project Cost Comments</p> <p>BAMx has the following questions and comments on some of the capital transmission projects included in the TAC Model. We hope the CAISO addresses them in the next revision of the TAC Model. All the recommended corrections below are expected to increase the projected HV TAC further.</p> <ul style="list-style-type: none"> Gates 230/70 kV Transformer Addition: CAISO approved the Gates 230/70 kV Transformer Addition project costing \$72 million in the 2023-2024 TPP. [1] This project seems to be missing from the CAISO 2023-2024 Transmission Plan High Voltage Transmission Access Charge Capital Costs. We expect approximately 50% of the Gates 230/70 kV Transformer Addition project to be part of the HV Transmission Revenue Requirement (TRR). Riverside Transmission Reliability Project (RTRP): We noticed that the latest TAC model continues to exclude the capital expenditure associated with Riverside Transmission Reliability Project (formerly Jurupa 230kV Sub). According to SCE's AB 970 quarterly report (Q1 2021), this project was approved by the CAISO in 2007 with a current planned in-service date of 10/15/2026. A Certificate of Public Convenience and Necessity (CPCN) for this project was granted on 03/12/2020 and indicates that its capital cost is approximately \$450M. Please explain why the capital expenditures associated with the RTRP were excluded from the TAC Model. Alberhill Transmission Project: The TAC model continues to assume the old capital cost of \$237.98M. This amount needs to be updated to ~\$500M to reflect SCE's updated cost estimate included in the Alberhill CPUC CPCN proceeding (A.09-09-022). Please explain why the capital expenditure associated with the Alberhill in the TAC Model is so low. Warnerville-Bellota 230 kV Line Reconductoring: The TAC model assumes a capital cost of \$109.8M; however, based on the CAISO's reporting, the capital cost is expected to be \$151.6M. GLW/VEA area upgrades: Based on the CAISO's 2022-2023 Transmission Plan, the estimated cost of the increased scope is 	<p>The Gates 230/70kV transformer work is entirely on the 70kV, and the TAC only includes the costs for project components over 200kV.</p> <p>The Riverside project has been included in the TAC. The project name is "Method of Service for Wildlife 230/66kV Substation", as it was in last year's TAC.</p> <p>Cost estimates are provided by the PTOs for the TAC process, and are the most accurate cost available at the time the TAC was calculated.</p> <p>The GLW/VEA upgrades were re-scoped, and changes presented through the Transmission Development Forum.</p>



No	Submitting Organization	Comment Submitted	CAISO Response
		\$228 million for a total cost of the recommended re-scoped project of \$506M with an estimated in-service date of 2027. ^[2] The TAC model includes a cost of \$855M. Please identify the source of this higher capital cost estimate.	
4C	California Department of Water Resources	No comment	
4D	California Public Utilities Commission - Public Advocates Office	<p><u>CAISO should provide an estimate on the incremental impact to the Transmission Access Charge (TAC) from projects approved in the 2024-2025 TPP.</u></p> <p>CAISO's TAC forecast provides an estimate of the total transmission costs of all CAISO-approved projects after each TPP cycle is complete (e.g., the 2023-2024 TAC Forecast Model with New Capital published on September 20, 2024). For purposes of estimating the TAC, CAISO provides cost estimates for previously approved high voltage transmission projects in addition to the existing revenues recoverable through FERC authorized transmission rate base. CAISO adds together costs from projects approved in the most recent Transmission Plan and projects approved in prior transmission plans with expected future capital costs. Since the costs are aggregated from projects approved in multiple transmission plans, stakeholders cannot determine the incremental impact of projects approved in the most recent TPP cycle on the TAC. CAISO should separate the estimated costs for projects approved in the forthcoming 2024-2025 Draft Transmission Plan from cost estimates of previously approved projects to illustrate the impact on the TAC with projects approved specifically in the current plan.</p> <p><u>CAISO and the PTOs should provide a high-voltage and low-voltage cost breakdown for projects that include both high and low-voltage upgrades.</u></p> <p>For example, SDG&E's presentation slide for the Downtown project provides only a single cost estimate of \$385-475M^[1] even though the project proposes to upgrade transmission infrastructure at both high and low voltages. Since SDG&E did not provide the cost estimates with allotments for the high and low voltage portions of the project, stakeholders cannot determine the impact of the project on the high and low voltage TAC. There should be a breakdown of the cost allocation for projects at multiple voltages in the 2024-2025 Draft Transmission Plan.</p> <p>Additionally, CAISO does not clearly break down costs by voltage level for previously approved projects needed at both high- and low-voltage upgrades in the capital cost estimates used in the CAISO high-voltage TAC forecast. Providing the cost allocation for high- and low-voltage transmission revenue requirements for projects with multiple voltages would</p>	Comment noted.

No	Submitting Organization	Comment Submitted	CAISO Response
		provide transparency on CAISO' high-voltage and low-voltage TAC cost analysis and cost estimates.	
4E	Grid United LLC	No comment	
4F	Horizon West Transmission (HWT)	No comment	
4G	Kern-Southland Energy Link LLC	No comment	
4H	Key Capture Energy	No comment	
4I	Pacific Gas & Electric	No comment	
4J	Regenerate California Coalition	The Regenerate California Coalition is concerned with the affordability of electric service, particularly for customers in low-income communities of color. We understand the need for additional transmission to maintain reliability, integrate more clean energy technologies and to phase out dependence on fossil fuels. We recognize that there will be substantial load growth in California as policies to electrify transportation and other parts of the economy are implemented. We appreciate that higher load factors can reduce TAC rates going forward. We would like to see further analysis on the impact of data centers on TAC rates.	Comment noted.
4K	San Diego Gas & Electric	No comment	
4L	Silicon Valley Power (City of Santa Clara)	No comment	
4M	Southern California Edison	No comment	
4N	Terra-Gen, LLC	No comment	
4O	California Public Utilities Commission	No comment	

5. Provide your organization's comments on the policy assessment update			
No	Submitting Organization	Comment Submitted	CAISO Response
5A	Alameda Municipal Power	No comment	
5B	Bay Area Municipal Transmission Group (BAMx)	See BAMx's comments on the SCE-proposed advanced reconductoring projects.	
5C	California Department of Water Resources	No comment	
5D	California Public Utilities Commission - Public Advocates Office	No comment	
5E	Grid United LLC	No comment	
5F	Horizon West Transmission (HWT)	No comment	
5G	Kern-Southland Energy Link LLC	No comment	
5H	Key Capture Energy	<p>Although we understand that the recent 2024-2025 TPP meetings addressed mainly reliability needs, Key Capture Energy (KCE) wishes to offer comments in advance on the upcoming policy-driven analyses. In that regard, we wish to focus our comments on policy planning for the East of Pisgah area (EOP). KCE, like many other major renewable energy and storage resource developers/operators, has been seriously pursuing large scale resource development in EOP area. Selection of EOP for resource development was driven, among many good business reasons, by the resource portfolios selected as part of CPUC's biennial Integrated Resource Planning (IRP) process which had identified a large magnitude of diverse Full Capacity Deliverability Status (FCDS) renewable energy and storage resources, including Out Of State (OOS) wind resources, in EOP.</p> <p>Per CPUC IRP and CAISO TPP coordination plan, CAISO should select necessary transmission upgrades to meet the FCDS requirements of the CPUC IRP portfolio. CAISO staff identified the Trout Canyon to Lugo 500 kV line as the appropriate Policy Upgrade to address the FCDS needs of the EOP resources and recommended the same to its board as part of the CAISO 2022/23 TPP.</p> <p>Unfortunately, the approval of the Trout Canyon to Lugo 500 kV line upgrade was not recommended to the CAISO Board for approval and was then postponed to later TPP cycles. This resulted in many commercially viable renewable energy and storage projects in EOP to become stranded in the CAISO queue, in particular in Clusters 14 and 15, even though considerable IRP FCDS resources are still expected in EOP.</p> <p>The CAISO 2024/25 TPP presentation of September 24, 2024, shows even greater magnitudes of IRP FCDS renewable energy and storage resources in EOP than in the last planning cycle – please see below from the CAISO TPP presentation.</p>	Comment noted. If there is a need identified in the policy study, we will propose transmission upgrade to accommodate CPUC portfolio.

No	Submitting Organization	Comment Submitted	CAISO Response
		 <p>FCDS 8,399 MW Total 9,964 MW</p> <p>Given the size of the FCDS resources in the latest CPUC IRP portfolio and zero available deliverability capacity for EOP, we strongly encourage the CAISO to reconsider bringing back the Trout Canyon to Lugo 500 kV line upgrade as a policy upgrade (as also recommended in the CAISO 20-year plan of May 2024, see below), but also approve additional policy upgrades to address the deliverability capacity needs of EOP.</p> <p><u>Trout Canyon – Lugo 500 kV Line Project</u></p> <p>The 2045 portfolio includes solar resources in the Southern Nevada and Eldorado areas. In addition, in this study it was assumed that 3,500 MW of out-of-state wind will be injected at Eldorado 500 kV substation. Considering that the majority of these resources will flow on the Eldorado – Lugo 500 kV path, the new Trout Canyon - Lugo 500 kV line was assumed to address the overloads under normal and contingency conditions.</p> 	
5I	Pacific Gas & Electric	No comment	
5J	Regenerate California Coalition	<p>The upcoming policy assessment is very important to the Regenerate California Coalition. We believe that the high gas retirement sensitivity case can lay the groundwork for improved resource planning that takes into account the impact of the electric system on disadvantaged communities and the</p>	<p>Comment noted. We model gas retirement based on the Gas Capacity Not Retained Assumption List provided by CPUC in the study. In this planning cycle only one non-CPUC jurisdictional resource was added to the model for the policy driven transmission analysis, and this incremental change will be documented in the</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>climate. We especially want to see priority given to retiring gas plants in environmental justice communities.</p> <p>We appreciate the detailed transmission diagrams for each interconnection area showing portfolio resource locations, amounts and types. We would like to see similar detailed mapping for the resources included in the non-CPUC jurisdictional integrated resource plans included in the policy-driven studies.</p>	<p>stakeholder presentations and in the TPP report. For next year's planning cycle we will consider including the non-CPUC jurisdictional resources in the diagrams.</p>
5K	San Diego Gas & Electric	No comment	
5L	Silicon Valley Power (City of Santa Clara)	No comment	
5M	Southern California Edison	No comment	
5N	Terra-Gen, LLC	<p>Terra-Gen, LLC (Terra-Gen) appreciates the opportunity to comment on the CAISO's September 24, 2024-2025 TPP meeting.</p> <p>Terra-Gen provides feedback regarding CAISO's 2024-2025 policy assessment, specifically regarding the need to address planning for additional resources located in Northern California. Terra-Gen believes that the California Public Utility Commission (CPUC) and CAISO base case resource portfolios should better reflect the thousands of MW of clean energy resources currently in development in the PG&E North of Greater Bay Area (NGBA) study area that are now stranded without FCDS behind transmission constraints that CAISO has no immediate plans to address.</p> <p>Terra-Gen concurs with recent concerns submitted to the CPUC in its IRP proceeding (R.20-05-003) that highlight the current RESOLVE model and resulting transmission plan is failing to trigger much needed transmission upgrades in the NGBA Study Area. For example, the RESOLVE model used for the 2023-24 TPP identified the need for 12 policy-driven upgrades at a cost of \$8.9 billion dollars for 2032, yet the CAISO identified no needed upgrades in its study outside \$4.5 billion specifically needed to interconnect Humboldt offshore wind.</p> <p>The CPUC's approved TPP Base Case Portfolio for the 2023-24 TPP includes 5,240 MW of Clean Energy Resources in the NGBA Study Area, including 1,900 MW of battery storage. However, CAISO only studied a fraction of the CPUC Base Case Portfolio – including only 2,895 MW of FCDS resources and just 674 MW of battery storage. In doing so, CAISO avoided the identification of necessary transmission upgrades that would provide the FCDS of the desired resource buildout in Northern California. Of further concern, the CPUC's proposed 2024-25 Base Case Portfolio, which incorporates the CAISO's Base Case Portfolio for the 2024-25 TPP, including the limitations</p>	<p>Comment noted. If there is a need identified in the policy study, the ISO will propose transmission upgrade to accommodate CPUC portfolio.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>described above, only calls for 288.4 MW of incremental Li-Ion Battery resources mapped to the NGBA Study Area (a geographic area that is about 1/3 of California). Yet, there are over 4,600 MW of battery storage projects currently under development in the NGBA. Some of these projects are under advanced, late-stage development with power purchase agreements and the support of the local municipality, but they simply cannot reach commercial operations because they do not have FCDS, and Terra-Gen is concerned that the necessary transmission upgrades have not been adequately planned for.</p> <p>No future renewable or energy storage project located in the NGBA can receive Deliverability until the Collinsville – Tesla 500kV line constraint is alleviated. In fact, not a single storage project located in the NGBA received TPD allocations in the 2024 TPD Allocation process. Importantly, there is currently zero deliverability for any future renewable or energy storage project (other than Off-Shore Wind (OSW)) within the NGBA until the necessary upgrades are included in the CAISO TPP. Specifically, every single substation within the NGBA Study Area, except one, is trapped behind the Collinsville – Tesla 500kV constraint.</p> <p>Terra-Gen requests CAISO consider these discrepancies between the CPUC and CAISO resource portfolios used for the NGBA and address these significant resource development concerns in its 2024-2025 TPP policy assessment.</p>	
50	California Public Utilities Commission	No comment	

6. Provide your organization's comments on the economic assessment update			
No	Submitting Organization	Comment Submitted	CAISO Response
6A	Alameda Municipal Power	No comment	
6B	Bay Area Municipal Transmission Group (BAMx)	No comment	
6C	California Department of Water Resources	No comment	
6D	California Public Utilities Commission - Public Advocates Office	No comment	
6E	Grid United LLC	No comment	
6F	Horizon West Transmission (HWT)	No comment	
6G	Kern-Southland Energy Link LLC	No comment	
6H	Key Capture Energy	No comment	
6I	Pacific Gas & Electric	No comment	
6J	Regenerate California Coalition	The Regenerate California Coalition understands that most of the transmission projects approved by the CAISO in the past have been driven by the reliability and the policy assessments. We understand that the economic assessment has been oriented primarily around the value of avoiding future transmission congestion and curtailment of renewable energy generation. We believe an additional important economic consideration is the opportunity for economic transmission to reduce the costs of the Resource Adequacy program, particularly the need for procurement of local RA resources. We believe there is the potential for expanded transmission to reduce the need for gas-fired generation that is operated at low capacity factors principally during stressed conditions.	This comment has been noted
6K	San Diego Gas & Electric	No comment	
6L	Silicon Valley Power (City of Santa Clara)	No comment	
6M	Southern California Edison	No comment	
6N	Terra-Gen, LLC	No comment	
6O	California Public Utilities Commission	No comment	

7. Provide any additional comments your organization has on the September 23-24 Transmission Planning Process Meeting

No	Submitting Organization	Comment Submitted	CAISO Response
7A	Alameda Municipal Power	No comment	
7B	Bay Area Municipal Transmission Group (BAMx)	No comment	
7C	California Department of Water Resources	California Department of Water Resources (CDWR) appreciates the opportunity to provide comments on the 2024-25 Transmission Planning Process (TPP) updates. CDWR was recently made aware that the formerly TPP approved PG&E Wheeler Ridge 230 kV Voltage Support project consisting of a 225 MVAR Capacitor Bank is operationally out-of-service for an indefinite time period. This capacitor bank causes voltage flickering above the 3% voltage deviation that is allowed and PG&E determined that the capacitor bank is oversized and therefore inoperable. All current planning studies continue to show this capacitor bank as available. Please update the CAISO planning models and ensure to model this capacitor bank as offline in the future CAISO TPP and GIDAP studies.	Thanks for the comment. The ISO will work with PG&E on this issue in the next round of TPP base cases development.
7D	California Public Utilities Commission - Public Advocates Office	<p>CAISO should develop a project cost review process before approval of any additional transmission projects similar to the process conducted by Southwest Power Pool (SPP). For the past 11 years, SPP has relied on a review process to track project costs starting from the project estimation phase to construction on a quarterly basis. If a project's quarterly report reveals that its costs have exceeded 10% of the original project cost, the project is reviewed to ensure that the escalations are appropriate.^[1] and if the project cost is over 20% of the original costs, SPP can suspend the project or order the project to be cancelled.^[2] SPP officials have stated that this process has assisted with completing projects below their original cost estimates.^[3]</p> <p>FERC Order No. 1920 also requires all regional transmission operators such as CAISO to reevaluate long-term regional transmission projects if the reported costs of a previously selected facility "significantly exceed" the cost estimate used to select the project.^[4] To this end, transmission providers are required to have a mechanism to track project costs so that transmission providers can determine if the reported cost for a selected project will exceed the approved cost.^[5]</p> <p>Since it is an accepted practice for transmission providers to track project costs, CAISO should track the costs of approved regional transmission projects and reevaluate projects if their reported costs are 10% or greater than their approved cost estimate. This recommendation is consistent with SPP's business practice which FERC approved.^[6]</p>	The ISO has applied a policy of reviewing individual projects on a case-by-case basis when the ISO or stakeholders have identified material changes in circumstance. This has served the ISO well, and the ISO notes that reviews have been conducted and have led to changes due to changes in project circumstances other than an arbitrary cost ceiling. Notwithstanding, the ISO will be reviewing the compliance requirements of FERC Order 1920 and 1920A and intends to comply with the Orders.
7E	Grid United LLC	No comment	
7F	Horizon West Transmission (HWT)	Horizon West Transmission (HWT) appreciates the opportunity to comment on CAISO's September 23-24 Transmission Planning Process (TPP) Meeting. HWT has concerns regarding the direct assignment of the Newark – NRS	<p>Thanks for the comment!</p> <p>The ISO is reviewing how the changes to the projects are to be implemented following approval of the modifications.</p>

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>230kV AC line and the Metcalf – San Jose B HVDC line as part of the San Jose Area Assessment in the 2024-2025 TPP. While HWT appreciates the need to have these projects in-service by 2028, CAISO's determination of direct-award in this case needs to be examined further. While re-scoped projects may be appropriately awarded without further competitive solicitation under some circumstances, the direct award of these re-scoped projects may not be aligned with the best interest of customers here.</p> <p>FERC Order 1000 projects are intended to achieve two primary objectives: (1) ensure that transmission planning processes at the regional level consider and evaluate, on a non-discriminatory basis, possible transmission alternatives and produce a transmission plan that can meet transmission needs more efficiently and cost-effectively; and (2) ensure that the costs of transmission solutions chosen to meet regional transmission needs are allocated fairly to those who receive benefits from them. Notably, the CPUC has emphasized the "critical value of cost containment commitments" by the winning bidders citing as "further evidence of the cost saving benefits attainable from the use of competitive processes to develop transmission projects."</p> <p>HWT supports the CAISO's continued commitment to competitive award of regional transmission facilities, as it both reduces costs to customers and encourages innovation in high-voltage applications. In the spirit of competition, HWT recommends that CAISO allow additional proposals from other developers or utilities to provide alternative solutions that still meet the project in-service date</p>	
7G	Kern-Southland Energy Link LLC	No comment	
7H	Key Capture Energy	No comment	
7I	Pacific Gas & Electric	<p>The CAISO's Proposed San Jose Area Rescoping Proposal</p> <p>At the September 23, 2024, Stakeholder Meeting, CAISO staff indicated that it was reassessing the transmission plan for the San Jose Area given projected load growth for the area. Specifically, the 2021-2022 Transmission Plan forecasted a load of 2,100 megawatts (MW) in the local area, which, since that time, has increased to 3,400 MW in the base scenario and 4,200 MW in the sensitivity scenario. This increase was and is largely driven by industrial and commercial load growth, EV charging, electrification, and hyper-scaled data center growth. Additionally, as a separate rationale, the CAISO communicated that the Project Sponsor has experienced "cost increases related to the HVDC equipment" [1], suggesting that this development jeopardized the ability of the sponsor to deliver the previously identified solutions.</p> <p>In response, the CAISO proposes to do four things (collectively the "Projects"):</p>	Thanks for the comment!

No	Submitting Organization	Comment Submitted	CAISO Response
		<ul style="list-style-type: none"> <u>Newark to NRS HVDC Line</u>: Re-scope this project from a high voltage direct current (HVDC) line from Newark to NRS to a high-capacity 230 kilovolt (kV) circuit (now alternating current [AC]). The in-service date would remain June 2028. This project would be directly awarded to project sponsor for the previous project. <u>NRS to San Jose B</u>: Introduce a new high-capacity 230 kV circuit between Newark to NRS. The expected in-service date would be set at 2030. This project would be competitively solicited. <u>Metcalf to San Jose B</u>: Maintain the HVDC circuit between Metcalf and San Jose B. The in-service date would remain June 2028. <u>Connection Point for NRS to San Jose B and Metcalf to San Jose B</u>: Modify the 115 kV bus, to a 230 kV bus and transformer, and 115 kV bus to serve as the connection point for both the HVDC circuit and the new, NRS to San Jose B 230 kV circuit. The in-service date would be June 2028. This project would be directly awarded to the project sponsor for the previous project. <p>PG&E recognizes that the unprecedented load growth in the South Bay presents a unique challenge and PG&E is committed to ensuring prompt and reliable service to its customers. Additionally, with the incorporation of changes discussed below, PG&E believes the CAISO has identified appropriate technical solutions to address the identified challenges. Additionally, PG&E appreciates the opportunity to make the San Jose area a continued focus for the 2024-2025 Transmission Plan.</p> <p>As the CAISO and stakeholders confront a challenging and dynamic situation, we should maximize the value of each solution to meet both the immediate and future needs of the system. Accordingly, PG&E offers two suggestions in that vein. One, the CAISO should ensure the new NRS to San Jose B 230 kV Line reinforces the 115 kV system and, two, the CAISO should assign the San Jose B 230 kV and 115 kV bus-work, and transformer to PG&E as an expansion of an existing facility and PG&E's Local Transmission System.</p> <p>Additionally, and as explained below, PG&E is concerned with the CAISO's indication that the Newark to NRS circuit would be directly awarded to the current project sponsor. The CAISO's proposal to direct award what is an essentially a new project circumvents the competitive process and would set a precedent for other competitive projects that are materially rescope after their award. This issue is compounded by the fact that the CAISO lacks any tariff provisions governing modifications to competitive projects and the CAISO's authority to award these projects to a non-incumbent participating transmission owner (PTO) is unclear.</p>	<p>The ISO is reviewing how the changes to the projects are to be implemented following approval of the modifications.</p> <p>The ISO agrees that additional clarity provided proactively would be helpful, and is intending to consult with stakeholders regarding augmenting our tariffs or business practice manuals to provide this clarity.</p>



No	Submitting Organization	Comment Submitted	CAISO Response
		<p>In summary and as detailed below, PG&E recommends the CAISO undertake the following:</p> <ul style="list-style-type: none"> • The CAISO should ensure the new NRS to San Jose B 230 kV Line reinforces the local 115 kV system to maximize the benefits of this solution; • The CAISO should assign the San Jose B 230 kV and 115 kV bus-work, and transformer to PG&E as an expansion of an existing facility and PG&E's Local Transmission System; • The CAISO should carefully consider its approach to the rescope of the Newark to NRS line, including: <ul style="list-style-type: none"> ○ Maintaining the current project sponsor for a substantially rescoped project sets a bad precedent for the market, and the CAISO should consider a FERC-waiver; • ○ Given the substantial scope changes, the CAISO must provide for a transparent and clear path to re-negotiate the APSA with LS Power, including cost containment measures; and • ○ Initiate a stakeholder initiative to make revisions to its Tariff and pro forma APSA to develop and establish a transparent process to ensure stakeholders can reasonably understand and anticipate expected outcomes when competitive project rescoping is necessary in the future. <p>The CAISO Should Ensure the New NRS to San Jose B 230 kV Line Reinforces the 115 kV System</p> <p>As the CAISO described in its presentation, even beyond the proposed rescoping of these two projects, there are still 115 kV and 230 kV facility overloads under various contingency events in the local system that will need to be mitigated with additional upgrades. As part of the development of the new NRS to San Jose B 230 kV line, CAISO should consider connecting the line to other key 115 kV station(s) in the area to ensure the 115 kV system benefits directly from the added capacity.</p> <p>The CAISO Should Assign the San Jose B 230 kV and 115 kV Bus, and Transformer to PG&E as an Expansion of an Existing Facility and PG&E's Local Transmission System</p> <p>PG&E recommends that the CAISO assign what was previously a 115 kV bus, and what would now be rescoped into a 230 kV and transformer, and 115 kV</p>	

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>bus to PG&E. The CAISO should upgrade PG&E's San Jose B Substation, as it has in similar circumstances, rather than building an adjacent and, largely, duplicative substation. PG&E elaborates below.</p> <p>San Jose B Substation is connected to four 115 kV transmission lines and contains four distribution transformers to serve the demand in San Jose. In 2028, once the Metcalf – San Jose B HVDC project becomes operational, the substation will be able to serve an additional 500 MW, making it one of the most critical 115 kV substations in the south Bay Area for serving existing and emerging loads including commercial, industrial, EV charging, electrification, and data centers in the area.</p> <p>The emerging load in the area is expected to require PG&E to build additional distribution bank capacity and 115 kV lines at PG&E's San Jose B connecting to neighboring substations to better serve the local area load and distribute the power injected by the HVDC project.</p> <p>However, PG&E may have trouble developing the existing San Jose B 115 kV Substation as it is surrounded by the Guadalupe River and roads to all but one side. Then the land to the south side of the station, is reserved/owned by LS Power for its portion of the project, including the interconnecting facilities. PG&E believes that the land currently being held by LS Power south of PG&E's San Jose B Substation, if shared, has sufficient room to allow for the new CAISO proposed scope as well as the future expansion of the distribution and 115 kV systems. Furthermore, PG&E believes that if PG&E were to assume the 230 kV and 115 kV scope of the new project, further efficiencies and ability for expansion to serve the local area load could be gained.</p> <p>Finally, CAISO tariff and past practice support the assignment of this work. Projects eligible for regional competition include those that are 200 kV and above except for solutions that are upgrades to existing facilities. [2] In similar circumstances, the CAISO has assigned the associated low voltage bus work to PG&E. For example, in the functional specifications for the Spring Substation approved in the 2013-2014 Transmission Plan, the CAISO noted "[w]hile the low voltage facilities, 115 kV bus-work and termination equipment are not a part of the scope of the facilities for competitive solicitation, the approved project sponsor will be required to coordinate with PG&E...[and] will be responsible to acquire the station land and necessary environmental permits from the applicable siting agency for both the 230 kV and 115 kV yards, and will grant a permanent easement or transfer of ownership of a parcel of land to PG&E for PG&E's portion of the total station equipment." [3]</p> <p>Taking this action would allow the rescope project to be "right sized" to the needs of the San Jose area – a concept emphasized throughout FERC's Order</p>	



No	Submitting Organization	Comment Submitted	CAISO Response
		<p>1920 to ensure that transmission investments meet multiple needs over the long-term.</p> <p>The CAISO Should Carefully Consider its Approach to the Rescope of the Newark to NRS Line</p> <p>At the September 23, 2024, Stakeholder Meeting, the CAISO indicated it would do four things. It would make substantial and material modifications to the Newark to NRS line; introduce a new line between NRS to San Jose B; maintain the scope for the Metcalf to San Jose B line; and substantially and materially modify the connection point between Metcalf to San Jose B (and now NRS to San Jose B) to a new, 230 kV/115 kV substation. PG&E considers the modifications to both the Newark to NRS line and the 230 kV/115 kV substation to render these essentially new projects and is thus concerned with the CAISO's indication it would directly award it to the project sponsor for the previous, now obsolete project from the prior competitive solicitation.^[4]</p> <p>To elaborate, PG&E sees three interrelated issues: first, the CAISO has no tariff provisions governing modifications to previously identified projects awarded through a competitive solicitation, no set threshold for the level of change that triggers rebidding, and no guidance on how to balance other considerations, like an urgent reliability need. The CAISO Tariff, associated TPP Business Practice Manual (BPM), and <i>pro forma</i> Approved Project Sponsor Agreement (APSA) provide no guidance for this process and, in fact, seem designed to forestall the very modifications contemplated in this instance. Second, the CAISO's actions set a negative precedent for its administration of competitive solicitations; namely, that no amount of modifications to a project justify rebidding. Third, regardless of how the CAISO handles the rescope line, the CAISO has not and must provide for a transparent and clear path to re-negotiate the APSA with LS Power, including cost containment measures, given the substantial scope changes. PG&E addresses each below.</p> <p>Maintaining the Current Project Sponsor for a Substantially Rescoped Project Sets a Bad Precedent for the Market, and the CAISO Should Consider a FERC-Waiver</p> <p>The CAISO tariff and associated Business Practice Manual (BPM) set out a straightforward process to develop the annual Transmission Plan. The CAISO develops a set of unified planning assumptions and study plan (Phase 1) and completes a draft transmission plan and presents it to the CAISO Board for approval (Phase 2). Once approved, all projects included are "deemed approved" and the CAISO provides an opportunity for Project Sponsors to submit proposals to "proposals to finance, own, and construct the Regional</p>	



No	Submitting Organization	Comment Submitted	CAISO Response
		<p>Transmission Facilities subject to competitive solicitation identified in the comprehensive Transmission Plan or supplemental assessment” [5] (Phase 3).</p> <p>However, in contrast, the CAISO tariff and associated BPM provide no process for rescoping projects awarded to a Project Sponsor through a competitive solicitation. In fact, the tariff, BPM, and <i>pro forma</i> Approved Project Sponsor Agreement (APSA) all strongly circumscribe modifications to projects awarded through a competitive bid and do not allow for changes to the Board approved functional specifications. The APSA obliges the Approved Project Sponsor to “design, procure, construct, own and install the Project” with the “Project” containing the functional specifications approved by the CAISO Board in the relevant Transmission Plan. While the Approved Project Sponsor may propose modifications, they must be “in accordance with the original Project criteria and intent” and cannot conflict with the Board approved functional specifications.</p> <p>In the absence of a clearly delineated process, the question is whether the CAISO’s actions would be considered a reasonable use of its authority. PG&E offers two bookends. It is clearly unreasonable to assert that the CAISO may make no changes without requiring re-bid, including changes to the Board approved functional specifications. It is similarly unreasonable to assert the CAISO may make whatever changes it deems fit, rendering the previous project a mere shell for a new solution. With this in mind, PG&E would characterize the extent of changes to Newark to NRS line (especially) and the 230kV/115kV as substantial, rendering these in essence new projects. Thus requiring either a new solicitation or direct assignment to the incumbent. [6] [7]</p> <p>CAISO’s Actions Set a Negative Precedent for its Administration of Competitive Solicitations</p> <p>PG&E takes seriously the CAISO’s contention that a new solicitation is infeasible and it must award the rescope project to the Project Sponsor for the existing, now defunct solution. This, however, would set a negative precedent for its administration of competitive solicitations in the CAISO footprint. The policy purpose of Phase 3, which implements the Federal Energy Regulatory Commission (FERC) Order 1000, is simple: by expanding the number of participants FERC hoped to obtain “new transmission developer market entry, greater innovation in and potentially lower costs of transmission development.” [8] Whether these benefits have actually occurred are a matter of active debate, [9] nonetheless FERC’s intentions are clear. By avoiding a solicitation, CAISO frustrates the clear purpose of FERC Order 1000. It also sets a precedent that no amount of modifications to a project justify rebidding, a consideration the CAISO will find it difficult to not offer to other developers.</p> <p>In summary, if the CAISO believes that there is insufficient time to either rebid, then it should seek a waiver from FERC for its proposed rescoping. Absent a</p>	



No	Submitting Organization	Comment Submitted	CAISO Response
		<p>FERC waiver, the CAISO's approach sets a precedent and reasonable expectation that the original sponsor in a competitive bidding process will automatically be awarded all rescope work associated with the project after it is awarded.</p> <p>The CAISO Must Provide for a Transparent and Clear Path to Re-Negotiate the APSA with LS Power, Given the Substantial Scope Changes</p> <p>Regardless of how the CAISO handles the rebidding, the CAISO will need to pursue changes to the existing APSA with LS Power. The CAISO has not and must provide for a transparent and clear path to re-negotiate the APSA with LS Power, given the substantial scope changes.</p> <p>For example, the fundamental changes to the projects will undoubtedly impact their cost. The CAISO's proposed rescoping of the Newark-NRS project from a DC to an AC solution should provide significant cost reductions and, yet the CAISO has not indicated it is seeking a corresponding change to the cost cap.^[10] Rescoping the Projects without adjusting the cost cap for each project may impose unnecessary costs on customers by disconnecting the project sponsor's original cost cap from the project scope; a narrower rescope project (such as Newark to NRS) should be accomplished at less cost. Here, LS Power originally agreed to binding cost containment measures—one of the CAISO's enumerated selection factors when evaluating competitive bids^[11] and the selection factor that LS Power outperformed other bidders on as denoted in the CAISO project selection reports^[12]—yet the CAISO now appears prepared to directly award the rescope (and narrower) Projects without a commensurate adjustment of the cost cap, leaving customers to possibly bear added and inappropriate costs. It is also concerning to PG&E that LS Power indicated that the project costs have increased relative to their initial bid, suggesting that this rescoping would enable them to revise their costs upwards to the detriment of CAISO ratepayers.</p> <p>CAISO Should Initiate a Stakeholder Process to Establish a Transparent Process for Rescoping Competitive Projects</p> <p>The CAISO should now initiate a stakeholder process to amend its <i>pro forma</i> APSA and its Tariff to establish a transparent process for rescoping competitive projects going forward, and to articulate clear criteria for when a competitive project must be rebid versus renegotiated with the original winning bidder. CAISO stakeholders must have clarity about how circumstances like this—which are likely to recur—will be handled going forward so that they can set reasonable expectations. The CAISO should initiate a stakeholder process or make a filing at FERC under Federal Power Act section 205 to clarify how it intends to handle these situations in the future.</p>	

No	Submitting Organization	Comment Submitted	CAISO Response
		PG&E appreciates the opportunity to provide this feedback and looks forward to working with the CAISO on a transmission plan for the South Bay.	
7J	Regenerate California Coalition	<p>The Regenerate California Coalition is new to CAISO stakeholder engagement for the Transmission Planning Process. We appreciate the amount of information that was conveyed during the September 23-24 meeting. We would like to schedule a meeting in the near future with CAISO staff to better understand how we can participate effectively in future meetings. Also we would be interested to learn how CAISO can host meetings with constituents in affected disadvantaged communities</p> <p>We appreciate the opportunity to submit these comments and look forward to continued participation in the 2024-2025 Transmission Planning Process.</p>	The comment has been noted. The CAISO will reach out to Regenerate California Coalition to schedule a discussion.
7K	San Diego Gas & Electric	<p>In the Stakeholder Meeting held on September 23, 2024, CAISO staff stated that due to a reassessment the 2021-22 Transmission Plan's load forecast for the San Jose Area as well as representations made by the Approved Project Sponsor concerning costs for high voltage direct current (HVDC) equipment, CAISO is considering a package of re-scoped existing projects and new projects. Included among these are re-scoping the previously competitively bid Newark to NRS HVDC Line to a 230 kilovolt (kV) alternating current line. CAISO staff indicated the re-scoping would be implemented following CAISO Board approval and, while not entirely clear, SDG&E presumes that it would be necessary for CAISO and the Approved Project Sponsor to execute an amendment to the existing Approved Project Sponsor Agreement (APSA) for the HVDC project.</p> <p>SDG&E does not take a position on the merits of the proposed re-scoping, the other project changes CAISO described in the Stakeholder Meeting, or the local area needs driving them. SDG&E notes, however, that CAISO's tariff does not appear to include provisions that explicitly address CAISO re-scoping of projects that were subject to competitive solicitation. Given that, SDG&E suggests that CAISO convene a stakeholder process to consider possible tariff and/or Business Practice Manual revisions to address circumstances in which, as here, CAISO believes it is necessary to re-scope or otherwise modify a project that had already been subject to competitive solicitation.</p> <p>Stakeholder processes afford CAISO and a diverse range of stakeholders the opportunity to identify and debate the merits of possible reforms. To cite an example of an issue that could be examined in a stakeholder process, the <i>pro forma</i> APSA addresses the issue of modifications to a project that was previously subject to competitive solicitation, but that language may merit revisiting to ensure that it will function as intended. SDG&E believes the outcome of a stakeholder process would provide needed transparency and certainty going forward, and SDG&E would welcome the opportunity to participate in that discussion.</p>	<p>Thanks for the comment! Yes, the ISO intend to amend the APSA for HVDC projects.</p> <p>The ISO agrees that additional clarity provided proactively would be helpful, and is intending to consult with stakeholders regarding augmenting our tariffs or business practice manuals to provide this clarity.</p>
7L	Silicon Valley Power (City of Santa Clara)	No comment	

No	Submitting Organization	Comment Submitted	CAISO Response
7M	Southern California Edison	<p>SCE appreciates the challenge faced by the CAISO to address a reliability need in the San Jose region given the significant load forecast increase from 2,100 MW to 3,400 MW in the base scenario and the need for an in-service date by June 2028. However, the CAISO's September 23 stakeholder presentation does not include any references to CAISO's tariff or other authority under which the CAISO is proceeding to recommend a revision to the scope of the San Jose Area HVDC Projects approved in the 2021-2022 TPP, including direct awarding a portion of the revised project to LS Power and re-bid a portion of the revised project. Given the presentation's reference that LS Power has indicated potential cost increases related to the HVDC equipment, the ability of LS Power to meet its cost cap commitments that were an influential selection factor in its winning bid for the San Jose Area HVDC Projects (as originally scoped) may also be a concern. With the proposed revised scope of the projects, it isn't clear from the presentation how customers will continue to receive the benefit of the competitive process that led to the initial project sponsor selection. SCE expects that CAISO will be able to make it clear that the changes in the awarded solution's costs for the rescope solution were done in a fair manner that fully considers the resultant changes to the project costs such that CAISO can explain clearly the rescope project's effects on the Transmission Access Charge.</p> <p>SCE also recommends the CAISO begin a stakeholder process to consider how to address issues like this in the future. A stakeholder process to consider revisions to the CAISO's tariff language should address the following questions:</p> <ul style="list-style-type: none"> • When does a project modification become significant enough that it must be rebid? • What does a project modification do to the existing APSA and all its binding provisions on the Approved Project Sponsor because of that project modification? • At what point does a cost change of an awarded project become so dissimilar to the cost of the project awarded, that the matter should be rebid or analyzed through a new stakeholder-type process? 	<p>Thanks for the comment!</p> <p>The ISO agrees that additional clarity provided proactively would be helpful, and is intending to consult with stakeholders regarding augmenting our tariffs or business practice manuals to provide this clarity.</p>
7N	Terra-Gen, LLC	No comment	
		Reassessment of Project Scopes	
7O	California Public Utilities Commission	<p>Several projects experienced changes in project scopes or timelines, such as the above-mentioned Newark-NRS and Metcalf-San Jose projects. Other projects have experienced both a scope change and significant delays since their initial CAISO Transmission Plan approval, such as the above-mentioned</p>	<p>Thanks for the comment!</p>



Stakeholder Comments
2024-2025 Transmission Planning Process Stakeholder Meeting
September 23-24, 2024

No	Submitting Organization	Comment Submitted	CAISO Response
		<p>OCEI project. CPUC Staff request that CAISO make improvements to the Transmission Planning Process, potentially in an upcoming initiative. CAISO would create a standard and transparent process with clear thresholds whereby project rescoping or reconsideration can be performed with a proper consideration of cost changes. This new standard and process should be applied to any future re-scoping of projects that were approved in prior TPPs. CPUC Staff welcome dialogue on this recommendation.</p> <p style="text-align: center;"><i>TPP Timeline</i></p> <p>Reliability analysis results were released on August 15, 2024. Base case and other modeling files were posted in the MPP on August 23, 2024. This gave stakeholders approximately 4 weeks to conduct analysis of the proposed projects. Given the magnitude and scale of the transmission grid needs, CPUC Staff request that the CAISO provide stakeholders with additional time to review the analysis results and requests, especially for the upcoming review of the preliminary policy and economic study results. CAISO should make every effort to provide the relevant information and files as soon as possible, even if this includes a staggered rollout by region.</p> <p style="text-align: center;"><i>Transmission Modeling Files</i></p> <p>Market Participant Portal users are required to have the opportunity to validate the data results that the CAISO uses as the basis for recommendations in the TPP. CPUC Staff believe a guidance document that explains to MPP users how to replicate the CAISO's results would be beneficial for stakeholders. Such a guidance document would include the list of base/sensitivity cases for each study area, the list of .otg files per base/sensitivity case, power flow solution option settings, and information on whether any ancillary software or supplemental RAS files were used. Stakeholders also need to be provided the opportunity to validate the CAISO-released contingencies to ensure that corresponding network elements exist for each companion base case.</p>	<p>Comment noted.</p> <p>Comment noted.</p>