

The ISO received comments on the topics discussed at the November 19-20, 2014 stakeholder meeting from the following:

1. Anza-Borrego Foundation
2. Bay Area Municipal Transmission group (BAMx)
3. California Public Utilities Commissions (CPUC)
4. California State Parks Foundation (CSPF)
5. Desert Protective Council (DPC)
6. Duke America Transmission Company (DATC)
7. Pacific Gas & Electric (PG&E)
8. San Diego Gas & Electric (SDG&E)
9. Southern California Edison (SCE)
10. Terra-Gen Power, LLC (TGP)
11. TransCanyon
12. Transmission Agency of Northern California (TANC)

Copies of the comments submitted are located on the *2014-2015 Transmission planning process* page at: <http://www.caiso.com/planning/Pages/TransmissionPlanning/2014-2015TransmissionPlanningProcess.aspx> under the *Phase 2* heading.

For comments and responses related to the Harry Allen-Eldorado 500 kV Project please see the following comment matrix: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=AA275469-95E3-4D33-A177-790C222374CF>.

The following are the ISO's responses to the comments.

No	Comment Submitted	CAISO Response
1	<b>Anza-Borrego Foundation Submitted by: Jimmy Smith</b>	
1a	<p>Anza-Borrego Foundation (ABF) wishes to comment on the Transmission Planning Process Stakeholder Meeting held November 19 and 20, 2014. Although the topic of transmission lines was not specifically addressed in the meeting, ABF is firmly opposed to any transmission lines through, or affecting, Anza-Borrego Desert State Park. Specifically Anza-Borrego Foundation is opposed to Alternatives 5, 1A and 5, 1B as addressed in the Feasibility Study of May 2014 entitled "Transmission Options and Potential Corridor Designations in Southern California in Response to Closure of San Onofre Nuclear Generating Station (SONGS)."</p> <p>Anza-Borrego Foundation is the nonprofit partner of Anza-Borrego Desert State Park. In 2005 SDG&amp;E proposed the Sunrise Powerlink through Anza-Borrego Desert State Park. Anza-Borrego Foundation and many other community organizations fiercely opposed this project and it was ultimately approved outside the boundary of the Anza-Borrego Desert State Park. We are saddened to see SDG&amp;E continue to pursue transmission route options through the park. Should Alternative 5 be chosen as a route in a public application, ABF and its members, donors and partners stand ready to provide significant public protest. Anza-Borrego Desert State Park includes more than 360,000 acres of designated wilderness and ABF will do everything in its power to defend this designation.</p> <p>Anza-Borrego Desert State Park is an important asset to our state. It provides significant recreational and emotional value to Californians, provides a home for wildlife that are important to our ecosystem, and preserves many places that are sacred to Native Americans. Anza-Borrego Foundation urges you to eliminate Alternative 5 as an option for transmission lines in Southern California. Furthermore, we encourage further research on rooftop solar so that no more of our natural areas are disturbed.</p> <p>Thank you for hearing our concerns. Please also add ABF (<a href="mailto:info@theabf.org">info@theabf.org</a>) to your notification list of stakeholders for future meetings.</p>	<p>The ISO has not found a need in this transmission plan for any major transmission upgrades like the Alternative 5 that is referenced in the comment. However, for future planning cycles the ISO appreciates the input regarding the permitting challenges that would be associated with such an alternative. Similar concerns were raised during the ISO's Imperial County Consultation process which was facilitated by the ISO in 2014. Although the ISO is not responsible for reviewing or approving the specific routing of transmission lines, we do generally consider the potential feasibility of alternatives when selecting a preferred alternative.</p> <p>In addition, the ISO is not primarily responsible for selecting resource types and locations. We rely on the renewable portfolio development process managed by the CPUC and CEC.</p>

No	Comment Submitted	CAISO Response
2	<p><b>Bay Area Municipal Transmission group (BAMx)</b> Submitted by: Robert Jenkins, Barry Flynn and Pushkar Wagle</p>	
2a	<p><b>Reliability Projects &lt; \$50 Million</b> <i>General</i> At the Stakeholder meeting, the CAISO did not approve several proposed reliability projects, noting that given the timing of the projects and the currently reliability measures that are in place does not indicate a need for approving a transmission project at this time. BAMx supports the CAISO's efforts to monitor the system and timing of future potential deficiencies so that the timing of project approvals align with reliability need. This not only better manages capital expenditures, but also allows time for consideration of more cost effective solutions, including the ability of Preferred Resources<sup>2</sup> to meet an identified reliability need.</p> <p><b>Mission – Penasquitos 230 kV</b> At the stakeholder meeting, the CAISO described and supported the Mission-Penasquitos 230 kV project to mitigate the need to potentially drop load for a Category C event in the SDG&amp;E area. This upgrade is forecast to cost \$23 million to \$26 million. An alternative mitigation to upgrade a 2-mile section of an existing 138 kV line at one fifth the cost was also identified, but was rejected.<sup>3</sup> While the new CAISO Planning Standards dictate that non-consequential loss of load should not be a long-term solution in this area, BAMx believes that the CAISO should be highly sensitive to cost in selecting the appropriate mitigation for infrequent Category C type events. As such, a higher cost alternative should only be considered where there is either a reasonable concern about feasibility of the lower cost alternative or an economic analysis justifies the higher initial cost. As neither were presented for the 230 kV alternative, BAMx believes that there has not been a sufficient demonstration for selecting the higher cost alternative.</p>	<p>The Mission – Penasquitos 230 kV project is the most cost effective and efficient alternative. Although it has a higher initial cost than the upgrading a 2-mile section of TL13810 Friars – Doublet 138 kV line, in the long run, the ISO expects it will have a lower cost by avoiding additional upgrades in the future.</p> <p>Without the approved Mission – Penasquitos 230 kV project, TL23027 Mission – Old Town and TL23028 Mission – Old Town Tap 230 kV lines would have been loaded as high as 99.9% and 94.2% of their emergency ratings respectively by the year of 2024, and TL6916 Sycamore-Scripps 69 kV would have been loaded as high as 95% of its emergency rating, under various Category C outages in the 230 kV system by the year of 2024. Based on these already high loadings, the ISO expects these transmission facilities to be overloaded in the future (e.g. 2030) without new Mission – Penasquitos 230 kV line. Therefore, upgrading a 2-mile section of TL13810 Friars – Doublet 138 kV line and building additional upgrades would be a comparable alternative to the Mission – Penasquitos 230 kV line. The additional upgrades would probably be a second Sycamore Canyon – Penasquitos 230 kV line or the equivalent with an estimate capital cost of \$111~211 million. The Mission – Penasquitos 230 kV project is a cost-effective and efficient alternative under these circumstances.</p>
2b	<p><b>Long Term Local Capacity Need Analysis</b> BAMx believes the development of a ten-year view of Local Capacity Resource (LCR) needs is highly beneficial in facilitating integrated planning. This time horizon allows for full consideration of supply, demand and transmission options for meeting local reliability needs similar to recent efforts in the Southern California area.</p>	<p>The ISO intends to conduct the long-term LCR assessment every second year as a part of the transmission planning process.</p>
2c	<p><b>Greater Bay Area</b> First, BAMx appreciates the Greater Bay Area (GBA) summary of the available</p>	<p>The ISO acknowledges that with potential retirements of the identified</p>

No	Comment Submitted	CAISO Response
	<p>generation and 2024 long-term LCR need presented at the stakeholder meeting. This allows stakeholders to more easily understand the reliability margins for the area and anticipate when action should be taken to preserve reliability.</p> <p>Second, considering these tables, BAMx is concerned that the manner in which the material is presented may lead stakeholders to mistakenly believe that there is a surplus of market resources to meet the GBA LCR needs. The CAISO identifies a need in 2024 of 4,133 MW of market generation and a supply of 5,589 MW. However the supply includes the 624 MW Oakley Generating Station<sup>4</sup>, for which PG&amp;E recently announced the termination of the Power Purchase Agreement for the yet-to-be built plant. Also, as noted in the Unified Planning Assumptions and Study Plan, the owner of the 1,311 MW Pittsburg Power Plant has indicated that they will not go forward with the improvements necessary to comply with the Once Through Cooling requirements unless it can obtain long-term Power Purchase &amp; Tolling Agreement(s) (PPTA) with the utilities and requisite CPUC approvals.</p> <p>Subtracting these two plants from the identified supply leaves 3,654 MW (=5,589 – 624 – 1,311) to meet the 4,133 MW of need.<sup>5</sup> BAMx encourages the CAISO to more clearly identify that although Pittsburg may not be needed for reliability of the Pittsburg Sub-Area, it is needed for the GBA reliability. Even if Pittsburg were to utilize the cooling tower of Unit 7 for Units 5 and 6, the increase in capacity would be 629 MW or less.<sup>6</sup> This would bring the supply to 4,283, reflecting a margin of 150 MW. With the Oakland CTs exceeding the 40-year life threshold<sup>7</sup>, loss of their associated NQC of 165 MW could eliminate the thin margin.</p> <p>Therefore, BAMx encourages the CAISO to model the reliability impacts on the GBA in the absence of the Pittsburg Power Plant, to develop alternatives to the Oakland CTs, and to begin in the next planning cycle to look at options for increasing the reliability margin for the GBA.</p>	<p>generators, the margin in the area has reduced. The 2024 LCR Report will be published with the draft transmission plan. The Greater Bay Area 5589 MW refers to market generation only; the total generation studies was 7028 MW and it already assumed Pittsburg retirement. Thus, without Oakley total Greater Bay Area resource would be 6404 MW for a minimum LCR need of 4133 MW.</p> <p>The ISO will continue to assess the reliability needs of the Greater Bay Area and in particular the Oakland area in the 2015-2016 Transmission Planning process as a part of the reliability assessment for the area.</p>
2d	<p><b><i>Imperial Area Deliverability</i></b> BAMx applauds the CAISO staff for identifying innovative ways of increasing the Imperial Area Deliverability above 1,000 MW base RPS portfolio amounts without costly transmission system upgrades. BAMx supports that the amount of generation that can be accommodated (currently 1,900 MW to 2,100 MW for the</p>	Thank you

No	Comment Submitted	CAISO Response
	<p>combined Baja and Imperial renewable zones) to set the upper limit for the planned Deliverability for this area. In the event there is a policy directive for greater amounts of deliverability<sup>8</sup>, BAMx supports reallocating Maximum Import Capability (MIC) from other CAISO interties to the CAISO's interties with the Imperial Irrigation District (IID) to make system Resource Adequacy (RA) counting rights available for resources in the IID BA as previously identified by the CAISO.</p>	

No	Comment Submitted	CAISO Response
3	<b>California Public Utilities Commission (CPUC)</b> <b>Submitted by: Keith White</b>	
3a	<p><b>1. For Each Area and Sub-Area, the CAISO Should More Clearly and Completely Quantify the Amounts and Types of Resource Additions Modeled in Long-Term LCR Studies, as Well as What Magnitudes of Resource Shortfall Below these Levels Would Trigger LCR Deficiency.</b></p> <p>This is necessary to establish not only clear understanding of what amounts and types of resources are being modeled in areas and sub-areas, particular in the LA Basin and San Diego, but also to establish a benchmark against which ongoing procurement, performance monitoring and planning can be evaluated. Reporting of these resource assumptions might be via tables, and should be accompanied by key modeled resource characteristics where these are important and not obvious, such as speed and controllability of demand response, or duration of storage. Furthermore, the CAISO should clarify the implications of a statement on slide 28 that <i>“Addition of the Mesa Loop-in Project, as well as reduction of conventional resources in the Western LA Basin necessitates the expansion of the Western LA Basin sub-area to include the Valley subarea to provide resources to meet its local reliability need.”</i> Does this mean that resources located in the Valley sub-area can substitute for resource needs in the Western LA Basin as previously identified for procurement purposes? Up to what MW level (of displacement) is possible, with what effectiveness factor (such as 1.5 MW of Valley resources displacing 1 MW of Western LA Basin resource need)?</p>	<p>Tables with resource assumptions are provided for each LCR area and major sub-areas (i.e., LA Basin and San Diego areas). Assumptions for types of resources, particularly from the Long-Term Procurement Plan Tracks 1 and 4 for the LA Basin and San Diego areas are also provided. Local capacity requirements (LCR) as well as potential deficiencies, if identified, will be reported. Clarifications regarding the need in the Western LA Basin will be provided.</p>
3b	<p><b>2. In Studying Transmission Options for Accessing Imperial Valley (IV) Resources and Supporting Reliability of Service to Coastal Southern California, the CAISO Should Identify High-Priority Options Focusing Especially on More Modest, Issue- Focused Options Having Relatively Lower Costs and Environmental Challenges.</b></p> <p>CPUC Staff appreciate the CAISO’s effort to consider interacting transmission planning issues regarding access to IV resources <i>and</i> coastal Southern California load center reliability - - in a proactive, integrated manner in consultation with stakeholders. We believe that it is especially important to assess the benefits and interaction of limited, issue-focused transmission solutions having relatively lower costs and environmental challenges, identifying policy, reliability or other developments that would drive such projects. Towards this end, the CAISO should characterize in a clear and consistent manner</p>	<p>The ISO transmission plan will provide detail on the policy driven studies.</p>

No	Comment Submitted	CAISO Response
	<p>various potential Southern California transmission projects in terms of (a) added transfer capability from IV, (b) reduction in LCR need within specific LCR areas and sub-areas, (3) estimated cost, and (4) credible information on timeline and siting/permitting difficulty. This should aid prioritization of such projects for further study.</p> <p>Additionally and more specifically, the CAISO should provide more detail and clarity regarding assumptions and rationale leading to finding 1900-2100 MW of available deliverability-based versus 1700-1800 MW of available reliability-based transmission capability from the IV Area, assuming operational mitigation measures.</p>	
3c	<p><b>4. CPUC Staff Support and Welcome Continued Overgeneration (Frequency Response) Study Refinements Including Exploration of Both Mitigation Measures and Alternative Future Developments Significantly Impacting Frequency Response Issues.</b></p> <p>The CAISO’s overgeneration study examined frequency response to a major outage (both Palo Verde nuclear units), which would drive down west-wide frequency until mitigated via frequency response. Based on AC powerflow and voltage stability studies of conditions derived from a Gridview production simulation for April 7, 2024 (renewables-driven overgeneration), CAISO observed WECC frequency response to be adequate but with the CAISO area not contributing its required (under reliability standards) share and thus “leaning on” the rest of WECC. CAISO stated that study assumptions may have been optimistic in that there was considerable generator headroom (to respond upward) under this dispatch scenario, and behind the meter PV was modeled as load reduction which might disguise some of its problematic electrical and visibility/control issues. CAISO also stated that potential mitigation measures to be explored in future studies include load response, storage response, and building frequency response into inverter-based generation (e.g., PV), at some cost.</p> <p>CPUC Staff appreciate this initial opportunity to learn of these studies that are clearly relevant to both policy and reliability objectives. We look forward to further clarification of the “potentially optimistic” assumptions noted above, and to informative investigation of load response, storage response, inverter-based frequency response or other mitigation measures. It is possible that west-wide</p>	<p>The ISO will be continuing to assess the frequency response associated with potential over-generation conditions and will continue to review and update the modeling and dispatch issues identified.</p>



No	Comment Submitted	CAISO Response
	<p>developments will diverge from those represented in the TEPPC 2024 Common Case, such as regarding coal plant retirements and penetration of varied nonconventional resource types. It is also possible that evolving market and operational conditions will support more export, and less curtailment, of California renewable generation under “overgeneration” conditions. As the CAISO’s frequency response studies continue, the above possibilities may warrant consideration.</p> <p>Finally, we note that the frequency response study scenario derived from production simulation dispatch showed both substantial CAISO area renewables curtailment (wind, solar, geothermal and bioenergy) and significantly lower than maximum storage recharge (which could absorb renewable generation). We request that the CAISO continue to evaluate the dispatch simulation giving rise to this situation, including whether modeling refinements are warranted.</p>	



No	Comment Submitted	CAISO Response
<b>4</b>	<b>California State Parks Foundation</b> <b>Submitted by: Traci Verardo-Torres</b>	
4a	<p>On behalf of the California State Parks Foundation (“CSPF”) and its 130,000 members statewide, I appreciate the opportunity to comment on the 2014-2015 Transmission Planning Process and the Transmission Options and Potential Corridor Designations in Southern California in Response to Closure of San Onofre Nuclear Generating Stations (SONGS): Environmental Feasibility Analysis (“Feasibility Analysis”).</p> <p>With our 130,000 members, CSPF is the only statewide independent nonprofit organization dedicated to protecting, enhancing and advocating for California's magnificent state parks. Over the last several years, we have provided leadership on statewide efforts to protect state parks from incompatible developments that impact and threaten public access, visitor enjoyment and the economic vitality of California's 280 state parks.</p> <p>CSPF's interest in the 2014-2015 Transmission Planning Process and Feasibility Analysis are related to impacts to California's state parks. Meeting the state's energy and transmission demands is important, but one that cannot be made to be at odds with continued protection of the state's natural infrastructure. California's state park system includes more than 1.5 million acres of park lands throughout California. In Fiscal Year 2011-2012, more than 67.9 million people visited California's state parks. The state park system preserves California's unique natural resources and culturally significant sites. Any decisions should consider the impacts to these extraordinary places.</p> <p>Of specific concern are impacts to parks from routes identified in the Feasibility Analysis. Alternative 5, Imperial Valley to Inland (Overhead AC and Overhead/Underground DC), either Option 1A or Option 1B will have direct impacts to Anza-Borrego Desert State Park (“ABDSP”). The issue of a transmission line through ABDSP is not a new proposal. As acknowledged in the Feasibility Analysis, a proposal to site a transmission line through ABDSP, known as Sunrise Powerlink was proposed and met with resistance. Ultimately a route that avoided ABDSP was adopted. CSPF made numerous objections to the project because of impacts to ABDSP and concerns of the entire environmental review process, which can be characterized as:</p>	<p>The ISO has not found a need in this transmission plan for any major transmission upgrades like the Alternative 5 that is referenced in the comment. However, for future planning cycles the ISO appreciates the input regarding the permitting challenges that would be associated with such an alternative. Similar concerns were raised during the ISO's Imperial County Consultation process which was facilitated by the ISO in 2014. Although the ISO is not responsible for reviewing and approving the specific routing of transmission lines, we do generally consider the potential feasibility of alternatives when selecting a preferred alternative.</p>

No	Comment Submitted	CAISO Response
	<ul style="list-style-type: none"> <li>• Destruction of significant cultural sites</li> <li>• De-designation of State Wilderness Areas—an unprecedented event with significant state implications.</li> <li>• Significant impacts to travel corridors for Peninsular bighorn sheep, other animals and a number of sensitive plants</li> <li>• Recreational impacts, including impacts to Tamarisk Grove campground that would have been a potential economic loss to the park.</li> <li>• Loss of view shed—impacts 50,000 acres—and sense of “timelessness” and tranquility associated with desert open spaces would have been lost.</li> </ul> <p>These concerns remain if any similar proposal were to be pursued. ABDSP supports over 400,000 acres of designated State Wilderness areas. It is the largest state park in the continental United States, with over 600,000 acres of pristine desert and mountain wilderness, hiking trails, and unparalleled vistas. More than 380 land transactions have taken place to accumulate the land mass that is now the park; CSPF itself has participated in eight land acquisitions in the 1970’s and 1980’s.</p> <p>In addition to concerns regarding ABDSP, Alternatives 1, Submarine HVDC Cable in the Feasibility Analysis may negatively impact other state parks, including Huntington State Beach (“Huntington”) and Silver Strand State Park (“Silver Strand”). Huntington is known for surfing, attracting more than a million visitors in Fiscal Year 2011-12, generating almost \$4 million in revenue in that same fiscal year. Silver Strand welcomed more than 440,000 visitors and generated more than \$1.3 million in revenue in Fiscal Year 2011-2012. Transmission planning decisions should consider any negative impacts and remain consistent with the purpose of these state resources.</p> <p>Thank you for the opportunity to comment on the 2014-2015 Transmission Planning Process and the Feasibility Analysis. Please do not hesitate to contact me at 916-442-2119 with any questions regarding this letter or CSPF’s position.</p>	<p>In addition, the ISO is not primarily responsible for selecting resource types and locations. We rely on the renewable portfolio development process managed by the CPUC and CEC.</p>

No	Comment Submitted	CAISO Response
5	<p><b>The Desert Protective Council,</b> <b>Submitted by: Robert Jenkins, Barry Flynn and Pushkar Wagle</b></p>	
5a	<p>We are writing to register our interest and concern related to the topics discussed at the CA ISO stakeholder meetings on November 19 and 20, 2014 as part of the <i>2014-2015 Transmission Planning Process</i>.</p> <p>The Desert Protective Council supports the development of renewable energy. We support renewable energy development in the form of photovoltaic film and solar panels on rooftops, over parking lots and on abandoned industrial sites adjacent to cities and towns where the energy is needed. We assume CAISO is well informed about the stunningly large amount of solar energy that is being generated at the point of use.</p> <p>We look forward to hearing your discussions of the fact that California is easily going to meet the State of California's 33% Renewable Portfolio Standard at your March 2015 stakeholder meetings. We plan to study CAISO's <i>economic transmission need assessment and long-term local capacity-need analysis and over-generation assessment</i>.</p> <p>In light of the current rooftop solar boom, and the feasibility of creating local distributed renewable energy generation; considering the unreliability, inefficiency and vulnerability of long-distance transmission lines and taking into account their deleterious impacts on the beauty of our remaining uncluttered western view sheds, the negative impacts on sensitive wildlife, including birds and non-volent species, the degradation of the quality of recreational and spiritual experiences in nearby federal and state wilderness and other protected areas, the Desert Protective Council questions why the California Energy Commission and the California ISO are still even considering whether to build more of this 20th century infrastructure. All economic assessments of building more transmission lines must analyze the cost to the public of damage and destruction of the public lands, which belong to the entire nation and not just to California.</p> <p>Please add the Desert Protective Council to your email list for all notices of future stakeholder and other public meetings and release of planning</p>	<p>Policy driven transmission analysis and the associated renewable portfolios are part of a framework that includes the ISO Generation Interconnection and Deliverability Allocation Process (GIDAP). Because virtually all generation in the GIDAP process and therefore all generation procured to meet the 33% goal are specified as deliverable generation, the ISO policy driven transmission analysis has the objective of ensuring that the generation in the portfolios will be deliverable. Any shift in this approach would need to be led through the CPUC portfolio development process</p> <p>The ISO routinely sends out notifications regarding ISO operations and markets, alerts and emergencies, and upcoming events. Please visit</p>

No	Comment Submitted	CAISO Response
	documents. Thank you for hearing our concerns.	the ISO's website at <a href="http://www.caiso.com/informed/Pages/Notifications/Default.aspx">http://www.caiso.com/informed/Pages/Notifications/Default.aspx</a> to select your preferred option for receiving future ISO planning process information.

No	Comment Submitted	CAISO Response
<b>6</b>	<b>Duke American Transmission Company (DATC)</b> <b>Submitted by: Christopher T. Ellison with Ellison Schneider &amp; Harris</b>	
<b>6a</b>	<p><b>INTRODUCTION</b></p> <p>Duke American Transmission Company<sup>1</sup> (“DATC”) provides the following comments on the California Independent System Operator’s (“CAISO”) November 19th – 20th, 2014 Stakeholder Meeting. DATC appreciates the opportunity to participate in the Transmission Planning Process (“TPP”) and believes wholeheartedly that an open, transparent, and flexible process is essential to properly plan for the needs of the electricity system. A significant part of conducting an open planning process is sharing information and gathering input from stakeholders. In past meetings, study models and detailed results were posted prior to the meeting for review. DATC still has not seen such information related to the material presented at the November 2014 meeting. In addition, DATC was disappointed in the lack of study results provided during this most recent TPP Stakeholder Meeting. DATC is looking forward to the follow-up meeting on reliability in the Peninsula that is to be scheduled for December 2014, and hopes that detailed information will be provided in advance of the meeting.</p> <p>The purpose of these comments is to request that the CAISO do the following as part of the TPP: (1) include off-peak system studies when determining whether or not reliability needs exist on the system; (2) consider projects, like the 500 kV option of the San Luis Transmission Project, that would help reduce the renewable energy curtailments being seen in current studies; and (3) recognize a broader set of policies that can support policy driven upgrades.</p>	<p>Responses to each of the DATC requests are provided below.</p> <p>Models are made available once complete, and after confidential information has been addressed, throughout the annual planning process - which includes a number stakeholder sessions. While timing of the data release may vary throughout each process, models are always made available well in advance of the ISO’s release of the draft transmission plan.</p>
<b>6b</b>	<p><b>1. The CAISO Should Include Off-Peak System Studies</b></p> <p>As the electric system undergoes significant change to meet renewable and clean energy goals, the approach to system planning and development used in the past must also change. The need to alter established paradigms related to the electric system is a frequent topic of discussion and study. Specifically, CAISO has noted the risk of having too much generation at times of low demand. Addressing reliability impacts of over generation is the first priority to maintain a reliable electric system. However, it is also important to address the policy and economic implications of certain approaches to manage the reliability of the electric system within the context of over generation caused by significant</p>	<p>Different forms of off-peak system studies are taken into account in the planning process. The range of load and dispatch conditions studied are discussed in each section of the transmission plan, and often tailored to the specific circumstances of different areas based on load and generation characteristics in the area and the reliability issue being examined. For example, in the ISO’s analysis of frequency response, the load characteristics and generation dispatch studied were derived from hourly production simulation analysis for the entire year 2024 using ABB Grid View software. The hour of the year selected for the</p>

No	Comment Submitted	CAISO Response
	<p>penetration of renewable resources. For example, one way to mitigate over generation is to curtail renewable generation when demand is low and transmission is not available to deliver the generation to where demand exists. While this approach will ensure system reliability, it is contrary to the clean energy and renewable policy goals of the state. By only planning for peak periods, CAISO ignores system limitations that result in curtailing renewable generation. Further, by assuming at the outset that off-peak periods do not present a reliability issue (because generation can always be curtailed), CAISO forgoes the opportunity to assess whether viable, cost effective solutions that allow for less curtailments of renewable generation exist. Further, such solutions likely would have the added benefit of enabling incremental renewable generation development with less total transmission development.</p> <p>Therefore, DATC encourages CAISO to include off-peak scenario studies in the 2014-2015 TPP when assessing the reliability needs of the system. The North American Reliability Council's ("NERC") 2014 Long-Term Reliability Assessment was issued on November 12, 2014 ("Assessment"). One of NERC's three key findings in the Assessment is that "a changing resource mix requires new approaches for assessing reliability."<sup>2</sup> More specifically, the report concludes that a changing resource mix, including the increased reliance on renewable generation, will require a more flexible transmission grid and that the traditional peak load reserve margin analysis may no longer be sufficient for assessing reliability. The Assessment recommends that system planners consider impacts beyond simply those in the peak hours:</p> <p><i>System planners should ensure System Operators have the tools and resources needed to maintain reliability in the midst of this transformation. For example, typical planning approaches focus on ensuring capacity is procured and available to meet the hour of peak demand for each season, perceived as the highest stress on the system. However, stresses during shoulder periods or off-peak hours can introduce a different set of challenges, such as the management of over generation periods when generation exceeds demand; this is generally introduced by an excess of less flexible resources. Additionally, gas generation and other flexible resources need further study to ensure availability to balance load during off-peak and shoulder periods. (Assessment, p.1).</i></p>	<p>detailed transient stability studies was an hour with low load and high renewable generation that usually occurs in spring. Based on the production simulation results, the hour of 11 am April 7, 2024 was selected because it represents a low load high renewable production scenario.</p> <p>The ISO's economic evaluation process also relies on production simulation analysis of entire years, and is not based on single snapshot of a peak load hour.</p>

No	Comment Submitted	CAISO Response
	<p>This conclusion is certainly relevant to California, where the off-peak over generation issue has been the subject of considerable concern at CAISO and elsewhere. An analysis of system needs during shoulder periods and off-peak hours therefore makes sense for California. With this in mind, DATC encourages CAISO to consider this assessment in its review of DATC's proposal to include the 500kV option of the San Luis Transmission Project ("SLTP") in the 2014-2015 transmission plan. DATC is confident that such an analysis will confirm that the project offers substantial long-term reliability and system benefits.</p>	
6c	<p><u>2. The CAISO Should Consider Projects to Reduce the Curtailment of Renewable</u></p> <p>Generation Studies performed during the 2014-2015 TPP clearly show that transmission constraints result in curtailments of renewable generation in CAISO. Specifically, slide 8 of the "Assessment of Frequency Response during Over Generation Conditions" presentation show that such curtailments occur in CAISO more than in other BAs. The assessment looked at the 11 AM hour on April 7, 2024. In the Pacific Gas and Electric area, 2,855 megawatts ("MW") of solar is dispatched out of 5,492 MW available with 2,637 MW of gas dispatched. Virtually all of the gas generation could be displaced by solar if proper transmission was built (respecting local voltage and reactive support requirements). This is the case in the Imperial Irrigation District, where 664 MW of solar is dispatched out of 792 MW available, versus 84 MW of gas, and also in Los Angeles Department of Water and Power where 600 MW of solar is dispatched out of 606 MW available versus 37 MW of gas.</p> <p>In the Southern California Edison area, only 5,766 MW of solar is dispatched out of 10,790 MW available versus 3,538 MW of gas. In the San Diego Gas and Electric area, 0 MW of solar is dispatched out of 1,861 MW available, versus 739 MW of gas.</p> <p>Curtailments that occur due to lack of transmission are clearly contrary to meeting California's clean energy goals, including both the use of renewable generation and the reduction of greenhouse gas ("GHG") emissions. Among its many benefits, the 500 kV option of the SLTP can help California to reduce these curtailments and to take advantage of new and existing renewable generation while decreasing reliance on gas generation during on-peak periods.</p>	<p>There were no transmission-related curtailments in the hour selected for over-generation frequency response study – the 11 AM hour on April 7, 2024 selected from the ISO's production simulation results. The reductions were due to the overall generation profile characteristics and system-wide resource requirements. They were not transmission-related.</p> <p>The current basis of the ISO's analysis of the CPUC-provided renewable generation portfolios has been to ensure that sufficient transmission capacity is developed to enable the portfolio generation to receive full capacity delivery status and participate as a resource in the Resource Adequacy program. While this does not ensure there will be zero curtailment, it does materially reduce the amount of anticipated curtailment.</p>



No	Comment Submitted	CAISO Response
6d	<p><u>3. The CAISO Should Broaden Its List of Policy Objectives</u></p> <p>Currently, only two policy objectives are identified by CAISO in the TPP: the 33% Renewable Portfolio Standard and Resource Adequacy. This narrow view of “public policy” requirements is not what was envisioned in FERC Order No. 1000, which requires transmission providers to consider “Public Policy driven” projects.<sup>3</sup> In comments submitted on March 13, 2014 by DATC in response to the February 27, 2014 TPP Stakeholder meeting, DATC provided details on the directives of FERC in Order No. 1000 and how the CAISO responded by codifying Tariff Section 24.4.6.6, which requires the CAISO to evaluate transmission solutions needed to meet state, municipal, county or federal policy requirements or directives.<sup>4</sup> The tariff states that CAISO “will determine the need for, and identify such policy driven transmission solutions that efficiently and effectively meet policies under alternative resource location and integration assumptions and scenarios, while mitigating the risk of stranded investment.”</p> <p>The process outlined in Section 24 of the CAISO Tariff is data-driven and analytical, but also allows the CAISO to exercise discretion in order to align its prioritization of policy-driven transmission projects with the resource planning processes of regulatory agencies, and to use its judgment and experience in making decisions about public policy-driven project priorities.<sup>5</sup> This flexibility and discretion is important for the reasons discussed above. Efficient and effective transmission planning requires both pragmatic consideration of a spectrum of planning assumptions <i>and</i> the ability to balance long and short term options and priorities.</p> <p>In Section 3.1 of the Study Plan, the CAISO reiterates the Public Policy Objectives it relied on in previous TPP cycles: “the state’s mandate for 33% renewable energy by 2020” as the “overarching public policy objective” in the current planning cycle.<sup>6</sup> DATC believes there are multiple policy objectives that the CAISO must take into account during its planning process. Specifically, CAISO should specifically address two additional policy objectives: (a) federal and state policies calling for the efficient use of existing transmission rights of way (“ROW”) and (2) the State’s Greenhouse Gas policies.</p>	<p>Section 24.4.6.6 does not require the ISO to evaluate transmission solutions to meet every federal, state, municipal, and county policy. It states that the ISO shall evaluate transmission solutions needed to meet those policy directives or requirements specified in the Study Plan. The ISO tariff recognizes that the ISO may select some policies for consideration in the current planning cycle and not select others. These are reviewed and discussed at the time the Study Plan is developed for each year.</p> <p>Each of the proposed policy objectives will be discussed in turn.</p>
6e	<p>A. The Efficient Use of Rights of Way Should Be An Explicit Policy That May Support The Selection of Policy-Driven Transmission Projects.</p>	<p>Regarding the use of corridors, the ISO agrees that the effective use of corridors is an important consideration in determining the appropriate solution to identified needs – and this applies to reliability, policy, or</p>

No	Comment Submitted	CAISO Response
	<p>Both federal and California law clearly articulate policies supporting the most efficient use of transmission rights of way. FERC Order 1000 requires ISOs and RTOs to support “more efficient and cost effective transmission facilities.” Similarly, the Bureau of Land Management’s Corridor Policy states that “in order to minimize adverse environmental impacts and proliferation of separate ROWs, the utilization of rights-of-way in common (corridors) shall be required to the extent practical . . .”<sup>7</sup></p> <p>At the state level, California Public Utilities Code section 399.26(b)(1) requires the CAISO to “work cooperatively to integrate and interconnect eligible renewable energy resources to the transmission grid <i>by the most efficient means possible with the goal of minimizing the impact and cost of new transmission needed</i> to meet both reliability needs and the renewables portfolio standard procurement requirements.” (emphasis added) In addition, when the California State Legislature adopted Senate Bill 1059, the legislature found and declared that “to promote the efficient use of the existing transmission system, the state should do both of the following: (1) encourage the use of existing rights of way, the expansion of existing rights of way, and the creation of new rights of way in that order [and] (2) promote the efficient use of new rights-of-way <i>when needed</i>, to improve system efficiency and the environmental performance of the transmission system.”</p> <p>In sum, federal and state policies mandate the efficient use of transmission ROW. CAISO should explicitly recognize that these policies may support the selection of a policy driven transmission project where a planned transmission project can be expanded to more efficiently make use of limited ROW resources.</p>	<p>economically-driven projects equally. However, the objective to use corridors effectively applies when there is an identified need for the transmission – not to simply rationalize that the ISO should approve a project simply to make maximum use of a right of way without a reasonable expectation that there is or will be a need for the additional transmission.</p>
6f	<p>B. Long Term Greenhouse Gas Policies Should Also Be Explicitly Recognized in the List Of Policy Objectives.</p> <p>CAISO does not address what is likely to be one of the key policy drivers for transmission development: California’s GHG reduction goals.<sup>8</sup> Assembly Bill 32 (or “The California Global Warming Solutions Act of 2006”) declared that global warming posed a serious threat to the economic well-being, public health, natural resources, and the environment of California. AB 32 set an initial target of reducing California’s GHG emissions to 1990 levels by 2020. It further tasked</p>	<p>California’s greenhouse gas goals are complex and involve numerous industry sectors, not just the electricity sector. As demonstrated with the 33 percent RPS framework, the ISO considers that the objectives for the electricity sector are being established specifically for the energy sector. The ISO is committed to helping the state achieve those expectations, and is coordinating effectively with the various state energy agencies in that regard.</p>

No	Comment Submitted	CAISO Response
	<p>the California Air Resources Board (“CARB”) with “monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases.”<sup>9</sup> Pursuant to Executive Order S-3-05, California has a longer term GHG goal of 80% below 1990 levels by 2050. CARB is currently developing a broad framework for measures to meet this goal.<sup>10</sup> CARB calls for significant energy-related emission reductions, coupled with electrification of the transportation sector. Moreover, a recent study by Lawrence Berkeley National Laboratory (and supported by CARB’s Research Division) showed that in order to reach California’s 2050 GHG goal, the state would need to achieve greater than 40% renewable generation by 2020, or 51% by 2030.<sup>11</sup> Thus, rather than a singular focus on California’s 33% RPS, the CAISO should consider the policy-driven impacts of the much higher levels of renewable generation required to achieve California’s long term GHG goals.</p>	
6g	<p><b>CONCLUSION</b></p> <p>In order to plan for California’s changing energy landscape, DATC urges CAISO to include off-peak scenarios in its system studies. Such scenarios can reveal reliability issues that should be addressed in order to maintain a stable transmission system. DATC also asks that CAISO consider projects, like the 500 kV option of the San Luis Tracy Project, that help reduce the number of renewable energy curtailments being seen in current studies, which are clearly contrary to current California policies. Finally, as discussed above, specific enacted policies have been excluded from the study plan. The CAISO must include consideration of these policies in its planning process. Such consideration will result in the approval of additional facilities necessary to meet the policy goals.</p>	<p>As discussed above, the ISO already considers off-peak scenarios in its system studies and performs hourly production simulations over the entire study year to identify potential congestion and renewable integration issues.</p> <p>These studies have not identified a need for the 500 kV option of the San Luis Tracy Project. Nonetheless, the ISO will continue to examine the need for this project in the next planning cycle (2015-2016 TPP).</p>

No	Comment Submitted	CAISO Response
7	<b>Pacific Gas &amp; Electric</b> <b>Submitted by: Justin Bieber</b>	
7a	<p><u>Economic Planning Studies</u> PG&amp;E supports CAISO's efforts on the economic planning studies to identify economic projects and areas of high congestion to be evaluated in the future. In particular, PG&amp;E encourages the CAISO to consider a detailed economic assessment for Path 26 and the Path 15 Corridor identified in the meeting as Top 5 Congestions for future TPP cycles. Additionally, as described in PG&amp;E's 2014-2015 TPP Economic Study Requests, the Greater Fresno Area and North of Tesla area should also be evaluated as a part of the economic planning studies.</p> <p>PG&amp;E also supports potential modeling enhancements as noted in the summary of the preliminary benefits. As California's supply of intermittent renewable energy resources continues to grow, the transmission system will need to support more flexible system operations with rapid ramp requirements. Modeling enhancements can help evaluate a wider range of conditions and assess an array of benefits including optionality, flexibility to meet rapid ramp requirements, and avoidance of uneconomic curtailment of generation in non-peak periods.</p>	<p>These comments and suggestions will be considered in the development of the 2015-2016 transmission planning study plan.</p>
7b	<p><u>Over Generation Assessment</u> PG&amp;E appreciates the CAISO's attention to the matter of over generation and efforts to identify next steps for further evaluation. The CAISO Duck Curve discussed at the meeting illustrates changes in the net load pattern that will bring about significant challenges in managing the grid. While this assessment is a good start towards evaluating potential over generation consequences, it is narrowly focused and further robust analysis must continue to prepare for all of the upcoming impacts of over generation.</p> <p>The CAISO's analysis shows that there will be adequate response from the WECC system; however the CAISO will not have adequate governor response to satisfy its frequency response obligation per Bal-003-1. Furthermore, as suggested in the stakeholder meeting, the study was based on an optimistic view of resource capabilities and reality could lead to worse result. The changes in study assumptions could significantly impact the outcome of the study.</p>	<p>The ISO will be continuing to assess the frequency response associated with potential over-generation conditions and will continue to review and update the modeling and dispatch issues identified.</p>

No	Comment Submitted	CAISO Response
	<p>Therefore PG&amp;E supports CAISO's plan to further evaluate the impacts of over generation and encourages the CAISO to work closely with WECC entities to review and update the modeling assumptions and expand the analysis to encompass a more comprehensive scope.</p>	
7c	<p><u>Long Term Local Capacity Need Analysis</u> PG&amp;E would like to see clarification through the TPP on plans for further consideration to be given to the risk of unrealized forecast assumptions for energy efficiency, demand response and lower than authorized procurement. It would be particularly helpful to gain insight into how LCR needs will be impacted versus the need for transmission upgrades.</p> <p>Additionally, PG&amp;E would like to reiterate its concerns regarding LCR methodology regarding Qualifying Facilities. According to the 2016 Local Capacity Requirements Study Manual, regulatory must-take and similarly situated units, like Qualifying Facilities (QFs)/Nuclear/State/Federal resources are assumed online at Net Qualifying Capacity (NQC) or historical output values by the CAISO. PG&amp;E believes such assumptions should be vetted annually to ensure accurate study results for resource adequacy and energy procurement needs. In particular, contracts for several QF units in PG&amp;E's service territory are set to expire in 2015. Some of those units play a key role in supplying power and maintaining the required level of reliability for local load pockets. It is important for the CAISO to review the capability and status of all QF units and identify which units are needed to meet local capacity requirements.</p>	<p>The long-term LCR studies included in the base case assumptions per the ISO Study Plan are consistent with the CPUC LTPP assumptions. In future long-term LCR studies, the ISO may consider sensitivity studies which assess the impact of these future uncommitted assumptions not materializing. Unrealized load forecast assumptions, including energy efficiency, will have an effect on the overall results and will depend on the magnitude and locations of these assumptions and in general they may have the same effect as overall load increase. Unrealized demand response and lower than authorized procurement will have little to no effect on the LCR results because they are resources and they will be replaced by procurement of other resources in the area.</p> <p>The generation retirements were consistent with the assumptions used in the annual LCR studies and the ISO study plan based upon the TPP / LTPP alignment assumptions. The assumptions in the annual LCR studies, such as the 2016 Local Capacity Requirements Study Manual are provided to stakeholders for review and comment as a part of the near-term (1 and 5 year) process.</p> <p>QF status of existing resources is reviewed and updated periodically by the ISO. However the ISO does not have the expiration dates of all QF contracts; they reside with LSEs. The ISO would be willing to make use of such data if made available to the ISO by the LSEs. The ISO estimated that the use of this data, if made available will have little to no effect on the LCR results since ISO studies for most part already identify which QF are needed to meet local capacity requirements.</p>
7d	<p><u>Policy Driven Assessment Results</u> In light of the Imperial County Deliverability Consultation, PG&amp;E is reassured to see that overall deliverability from the Imperial area can be restored to pre-Songs retirement levels without significant additional transmission</p>	<p>The comment has been noted.</p>

No	Comment Submitted	CAISO Response
	reinforcement.	

No	Comment Submitted	CAISO Response
<b>8</b>	<b>San Diego Gas &amp; Electric Submitted by: Lisa Olson</b>	
<b>8a</b>	SDG&E requests replication of the monthly multi-year ISO Duck Curve for each month of the year. The example of March 31 is found on Presentation Day 1 slide deck slide 9 (page 22). Access to this information for each month of the year, forecasted renewable production and resulting net load, will be helpful to stakeholders for prudent portfolio planning and evaluation of how outage management decisions may have to change. The selection of the appropriate month for outages and proper outage coordination cannot be planned for without the requested monthly Duck Curves. If this is not the proper stakeholder process to respond to this request, please forward SDG&E's request to the correct CAISO stakeholder process.	As noted in the comment, the request is not associated with the annual transmission planning cycle. The comment is being referred to the appropriate operations group.



No	Comment Submitted	CAISO Response
9	<p><b>Southern California Edison</b> <b>Submitted by: Karen Shea</b></p>	
9a	<p><b><u>I. SCE Supports the CAISO's Recommendations to Increase Deliverability out of the Imperial Valley Area</u></b></p> <p>SCE commends the CAISO for its detailed analysis to identify solutions that would provide for additional deliverability of renewable generation in the Imperial Valley area. Specifically, SCE supports the following operational measures identified in the CAISO's presentation to increase deliverability out of the Imperial CREZ by 1,700-1,800 MW:</p> <ul style="list-style-type: none"> <li>• By-pass series capacitors on ECO-Miguel 500 kV and ECO-Suncrest 500 kV lines</li> <li>• Modify IV SPS to include generation tripping following Miguel 500/230 kV transformer N-1 outages</li> <li>• Rely on 30 min emergency rating of 500/230kV banks at IV and Suncrest</li> </ul> <p>SCE believes these measures will make significant strides in meeting the goal of increasing deliverability from Imperial Valley.</p> <p>Additionally, SCE supports the CAISO's preliminary study efforts in assessing transmission projects to increase delivery to ensure the deliverability of the entire portfolio amount in the Imperial Zone, including a scenario that includes an increase of 2,500 MW in the Imperial Zone. The CAISO has performed a spectrum of studies that includes SCE recommended Midway to Devers 500 kV Transmission project and IID's STEP project. The Midway to Devers project is estimated to be less costly when compared to the STEP project and has a likelihood of successful permitting identified as, "possible but challenging". SCE supports the CAISO's analysis and the CEC/Aspen report and notes the CAISO indicated it is favoring the Midway to Devers project during the stakeholder meetings.</p>	<p>Thank you</p>
9b	<p><b><u>II. CAISO Should Clarify that the Boundary of the LA Basin-San Diego Area is Not Changing</u></b></p> <p>At the November 19, 2014 CAISO stakeholder meeting, on slide 144 of the Day 1 presentation, the "Western LA Basin Sub-area" is expanded to include</p>	<p>The ISO confirms that the boundary of the combined LA Basin/San Diego area is not changing. The ISO may include refinements of the sub-areas for the Eastern LA Basin regarding their local capacity needs, but the overall LA Basin-San Diego area boundary is not</p>

No	Comment Submitted	CAISO Response
	<p>resources in the Valley sub-area. The “Western LA Basin Sub-area” is defined by the critical contingency of Mesa–Lighthipe 230 kV followed by Mesa–Redondo 230 kV line. SCE requests that the CAISO clarify that this expansion does not alter the boundary of the “LA Basin – San Diego Area” as described in slide 132. The “LA Basin – San Diego Area” is driven by a different critical contingency, the loss of Ocotillo–Suncrest 500 kV followed by ECO – Miguel 500 kV line and therefore the effectiveness of resource locations to address the loss of SDG&amp;E 500 kV lines is not the same as those defined for the “Western LA Basin Sub-area”.</p>	<p>changing. The ISO is in agreement with SCE’s statement that the combined LA Basin/San Diego area is driven by a different critical contingency in southern San Diego area (i.e., loss of either Ocotillo–Suncrest followed by ECO–Miguel 500kV line, or vice versa), and the effectiveness factors for resources to meet the reliability concerns due to this overlapping contingency are different than those that were used for a different outage (i.e., overlapping N-1-1 south of Mesa substation), as mentioned here, for the Western LA Basin sub-area. The outage caused by the overlapping N-1-1 contingency of 500kV lines south of San Diego area is the primary constraint for the combined LA Basin–San Diego area.</p>
9c	<p><b>III. <u>SCE Supports the CAISO’s Management Recommendation for the approval of the Laguna Bell Corridor Upgrades</u></b></p> <p>During the CAISO stakeholder meeting the CAISO presented a summary of its study and findings on the Laguna Bell Corridor upgrades. As a result of this study the CAISO is recommending the Laguna Bell Corridor upgrade project which is an under \$25 million project. SCE understands that CAISO management plans to formally approve this project in December 2014. SCE supports this CAISO recommendation.</p>	<p>The comment is noted.</p>

No	Comment Submitted	CAISO Response
<b>10</b>	<b>Terra-Gen Power (TGP)</b> <b>Submitted by: Dinesh Salem-Natarajan</b>	
<b>10a</b>	<b>LEFs for Thermal Loading Constraints:</b> The detailed methodology presented by CAISO for these constraints, along with the numeric example, covers the entire gamut of the process involved. TGP commends the CAISO for the succinct presentation of the LEF calculation methodology for the Thermal Loading Constraints.	Thank you
<b>10b</b>	<b>LEFs for Voltage Stability Constraints:</b> The detailed methodologies presented by CAISO for determination of LEFs for Voltage Stability Constraints, while very informative with the numeric illustrations, are missing 4 key elements itemized below. TGP commends the CAISO for presenting the framework and requests the CAISO to include the step-by-step processes associates with the missing elements. TGP believes that CAISO's documentation of these study procedures would enable the stakeholders to understand the baseline assumptions and limitations inherent to these studies.  A. Nodal Analysis 1. Step-by-Step Process: While the CAISO acknowledges the potential for a nodal analysis, the description of the potential study types for the nodal analysis and the associated step-by-step processes are missing. TGP requests CAISO to include the missing details on the potential study types (like, P-V, Q-V or reactive margin analysis) from the CAISO toolkit that are candidates for determining the LEFs. Further, if the selection of the study type is constraint-dependent, then TGP requests the CAISO to include the selection criteria as well.	For post-transient voltage assessment, based upon the WECC Transmission System Planning Performance WECC Regional Criterion TPL-001-WECC-CRT-3, Requirements R1.3 specifies that voltage stability is identified by maintaining " <b>positive reactive power margin</b> " meeting the following criteria: [TPL R6]  1) All P0-P1 events <b>solve</b> at a minimum of 105% of transfer path flow or forecasted peak load,  2) All P2-P7 events <b>solve</b> at a minimum of 102.5% of transfer path flow or forecasted peak load.  Therefore, based on the above, positive reactive power margin is met provided that the power study cases are able to obtain convergence. P-V, or Q-V curves are not required per the WECC standards above for meeting "positive reactive power margin" requirement. Convergence of power flow solutions under the post transient contingency analyses meets the WECC requirements above. QV and/or PV curves are useful, but oftentimes are intended for other applications such as determining the need for additional reactive support at specific bus (QV curve), or to evaluate the potential transfer path capability prior to voltage collapse concern (i.e., PV curve).
<b>10c</b>	B. Zonal Analysis 2. Creation of New Sub-Areas: The CAISO presentation includes methodological details on a zonal analysis for an LCR area that <i>already</i> consists of sub-areas; however, the criteria and	

No	Comment Submitted	CAISO Response
	<p>procedures involved in subdividing a large LCR area to create new sub-areas is missing. While the procedures and processes employed for creating new sub-areas for the purpose of determining LEFs for Thermal Loading Constraints is well documented by the CAISO, the same is not the case for creating new sub-areas for the purpose of determining LEFs for Voltage Stability Constraints.</p> <p>Relative to creation of new sub-areas for the purpose of determining LEFs for Voltage Stability Constraints, TGP requests the CAISO to include the detailed methodological process and evaluation criteria used to (i) identify the need to create new sub-areas, and (ii) determine the appropriate number of new sub-areas to be created. Further, to enhance stakeholder understanding and appreciation of any process complications involved, TGP requests the CAISO to use illustrations, either generic or the scenario relevant to the creation of 3 new sub-areas within the Western LA Basin LCR area<sup>1</sup>. Providing this missing information should directly contribute to eliminating one of the disadvantages that the CAISO has acknowledged for the zonal analysis.</p>	<p>The ISO is reviewing this request whether to add more details for creating new “groups” for the purpose of determining LEFs for Voltage Stability Constraints to the methodology paper included in the draft Transmission Plan. Typically, in an LCR technical report, the ISO includes the LEF discussion for the most critical contingency. The LEFs provided will be relevant to the studies performed as part of the 2014-2015 Transmission Plan.</p>
10d	<p>3. Sub-Area Assignment for Nodes: CAISO’s presentation is missing the detailed methodological process and evaluation criteria used to determine (i) the electrical boundary of the new sub-areas and (ii) assign existing LCR nodes to the newly created sub-areas. TGP requests the CAISO to include this missing detail along with either generic illustrations or the scenario relevant to the assignment of 27 nodes from Western LA Basin to the 3 newly created sub-areas within the Western LA Basin.</p>	<p>The LCR process and reports do not provide boundaries for any sub-area and the ISO does not envision providing them for groups either. They can change from year to year based on new transmission or resource projects added to the grid. The ISO is reviewing this request to determine whether it is realistic and practical to include the LEF calculations at each node for post-transient voltage stability purpose. To the extent that it is impractical nor feasible to include several thousand MW of capacity to mitigate voltage instability constraint that affects a large region such as the LA Basin/San Diego areas, it may be not be realistic or practical to perform this exercise for all 27 nodes in the Western LA Basin.</p>
10e	<p>4. Allocation of Additional Capacity Need (MW) among Sub-Area Nodes: While the illustrations used by CAISO for the simple zonal analysis is helpful, it is missing key details associated with the process and procedures used to allocate incremental sub-area capacity among the nodes within a sub-area. TGP requests the CAISO to include this missing detail and, for illustration, use the scenario relevant to allocation of incremental sub-area capacity to any of the 3 newly created sub-areas in the Western LA Basin LCR area. If the</p>	<p>As described in the LCR manual when an area or sub-area is deficient, its deficiency is calculated by using the most effective resources. In this planning cycle, the ISO evaluated the LCR needs and whether an area/sub-area is adequate based on the latest information from the Load Serving Entities’ selected procurement, as well as authorized</p>

No	Comment Submitted	CAISO Response
	allocation of the incremental sub-area capacity to the nodes is scenario-dependent, then TGP requests the CAISO to include the criteria used for such scenario-specific allocation.	procurement from the CPUC.

No	Comment Submitted	CAISO Response
11	<b>TransCanyon</b> <b>Submitted by: Jason Smith</b>	
11a	<p>TransCanyon appreciates the CAISO's significant efforts in the development of the 2014-2015 Transmission Plan. We are in agreement with and support the results and conclusions presented during the stakeholder meetings held November 19th and 20th to present an overview of the CAISO's policy-driven and economic assessments.</p> <p>We encourage the CAISO to continue the analysis of potential contingency plans for addressing the LA Basin/San Diego Area reliability needs considering the CAISO's acknowledgment of the significant uncertainty of the ability of the IOUs to procure the authorized preferred resources and the ability of the region to realize other forecast assumptions including energy efficiency, distributed generation, and load growth.</p> <p>We also encourage the CAISO to continue to monitor generation projects moving forward in the Imperial County Area in order to ensure that there are sufficient timely transmission reinforcements planned and approved to mitigate deliverability limits into the CAISO from the Imperial County Area. This will allow the CAISO grid to accommodate sufficient renewable resource development in this area in order for California to meet its existing and future policy objectives for renewable energy and greenhouse gas emission reduction.</p> <p>We agree with the CAISO that there is significant and complex interaction between these two objectives:</p> <ol style="list-style-type: none"> <li>1. Ensuring adequate reliability in the LA Basin/San Diego Area</li> <li>2. Providing for sufficient deliverability from the Imperial County Area</li> </ol> <p>We further agree with the CAISO's proposed strategy of looking at a combination of options that can address either or both of these objectives with flexibility in the order they would be addressed. One possible project portfolio was presented by the CAISO as (1) Midway to Devers SOOkV and (2) Valley to Talega SOOkV, which TransCanyon supports further pursuing as a viable solution.</p>	<p>Thank you. The comments have been noted.</p>

No	Comment Submitted	CAISO Response
	We look forward to continuing to work with the CAISO and other stakeholders in the TPP to further vet the benefits and needs of these projects.	



No	Comment Submitted	CAISO Response
<b>12</b>	<b>Transmission Agency of Northern California (TANC)</b> <b>Submitted by:</b>	
<b>12a</b>	<p><b>Economic Studies</b></p> <p>The CAISO economic studies continue to show a surprisingly low level of congestion for the COI; just two hours of congestion in 2019 amounting to just \$3,000 of congestion costs and no congestion in 2024. These results do not correspond to reality in that, as shown in the following table, the congestion costs over the COI have been over \$340 million and the COI has been congested 20% of the hours during the past five years (since the start-up of MRTU). In 2014 alone there has been over \$85 million of congestion costs on the COI and it has been congested about 35% of the hours [see comments for table].</p> <p>TANC understands that the modeling methodology used for the economic studies assumes that everything is online and all transmission is operational. In other words it is an extreme “best case” scenario. TANC does not necessarily argue against this approach, but feels it lacks any historical and operational context for how the COI facilities have actually been utilized. Given the millions of dollars of congestion costs over the COI in the recent past, TANC feels it would be worth the effort for CAISO to investigate possible issues and remedies to the ongoing congestion problem at COI and whether there are reasonable solutions to help mitigate these costs and limitations. Furthermore, we believe that the CAISO TPP and all stakeholders would benefit if the CAISO were to model additional cases and/or contingencies that would model the market and COI based upon historic norms. Whether the proper forum for this is the Transmission Planning Process or a separate process that more actively involves the other parties on the COI, is up to the CAISO. However, we would recommend some discussion within the Final Transmission Plan that explains how the CAISO reconciles its modeled congestion on the COI (and other paths) with the historical congestion.</p>	<p>As described in the ISO outage and DMM reports in the last few years the congestion has been greatly exacerbated due to extended maintenance on the 500 kV transmission system in order to replace equipment. This situation is abnormal, and the ISO does not envision this to occur again in the next 10 year planning horizon.</p> <p>The production simulation takes into account the transmission capability and transfer limits as well as potential forced outages of generation on the system. The flows on COI are based upon the forecast load and generation development on the system, including the renewable portfolios, to assess the anticipated transfers in the study years (2019 and 2024) which may not be the same as the historical flows due to the identified system changes.</p>
<b>12b</b>	<p><b>Assessment of Frequency Response During Over Generation Conditions</b></p> <p>Information on slide 7 of the CAISO’s presentation on this matter indicates that north-to-south flows on the COI would be only 1,170 MW on April 7, 2024. As above this is far from what is seen historically on the COI. In fact, during the past two years there have been no hours during April when the COI flows have been below 1,170 MW (in April 2012 there were only three hours that were</p>	<p>The flows on COI were based upon the production simulation taking into account the forecast load and generation in 2024, including 33% RPS generation in California. The production simulation was based upon the TEPPC 2024 common case.</p>

No	Comment Submitted	CAISO Response
	below this threshold). TANC's concern, as above, is that the CAISO's modeling of the COI may be deficient, or if the CAISO believes its own assessment than an explanation of the discrepancy should be included in the final plan.	