

The ISO received comments on the revisions to the ISO Transmission Planning Standards, April 11, 2014 Stakeholder Meeting from the following:

- 1. Bay Area Municipal Transmission group (BAMx)
- 2. California Public Utilities Commissions
- 3. Office of Ratepayers Advocates of the CPUC
- 4. Pacific Gas and Electric
- 5. San Diego Gas and Electric
- 6. Six Cities
- 7. Smart Wire Grid, Inc.
- 8. Southern California Edison

Copies of the comments submitted are located on the Transmission planning standards page at:

http://www.caiso.com/informed/Pages/StakeholderProcesses/TransmissionPlanningStandards.aspx under the Policy development heading.

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



No	Comment Submitted	ISO Response
1	Bay Area Municipal Transmission group (BAMx)	
	Submitted by: Barry Flynn and Robert Jenkins	
1a	Non-consequential load dropping: Category C Contingencies	
	We appreciate the CAISO effort to hold a stakeholder forum on whether	
	the CAISO should have a Planning Standard more stringent than NERC	
	with regard to the non-consquential loss of load for Category C events,	
	and if so, what form such a more stringent Standard would take.	
	onfortunately we are concerned that the CAISO, having already testified	
	Track 4 hearings, may already have a firm position on this important issue	
	Despite this history, we have that the CAISO will be recentive of	
	stakeholder feedback	
	Clarification of Proposal With Respect To Category C Contingencies	
	The Proposal should clearly state the intention about whether the standard	The proposal is focused on contingencies and performance issues on facilities
	applies to all Category C contingencies.2 The confusion arises from the	meeting the NERC definition of Bulk Electric System
	following statement in the Proposal.	
	"The ICO system has anneximately 14 analisis actuation achemics that	
	Ine ISO system has approximately 14 special protection schemes that	
	Two of these SPS will be removed once transmission ungrades that are	
	under development are in-place. The remaining SPS are not relied upon in	
	order to serve load in high population density areas from the high voltage	
	transmission system."	
	Is the Proposal to not allow the non-consequential tripping of load in urban	
	areas for all Category C contingencies on the CAISO controlled grid, or	
	just those that involve facilities > 100 kV? If the latter, more explanation is	
	needed around whether all facilities lost need to be > 100 kV. (This would	
	appear to be the case as there are a number of 60 kV Category C	
	contingencies on the San Francisco Peninsula for which the near and long	
	term mitigation is load dropping.)	



No	Comment Submitted	ISO Response
	Concerns with the Proposal	
	While BAMx supports maintaining the continuity of service to urban and	
	critical loads3 for Category C events, BAMx is concerned about the lack of	
	any foundation presented in support of why a population density of 1,000	
	people per square mile is an appropriate threshold for the application of	
	the proposed higher reliability requirement for urban areas. The material	
	presented and the CAISO stakeholder presentation suggested that such a	
	threshold would limit the application of the Proposal to small portions of	The ISO proposal paper stated that high density urban load is generally
	California with high population densities. However, this is not the case.	considered to refer to an area with population over 1,000 people per square
	Attachment 1 shows the population densities for the largest 100	mile. Diagram 1 of that paper shows nine counties with significant population
	California cities. All of these cities easily meet this threshold, even those	densities and Diagram 2 shows the portions of San Diego County that would
	they may not be in the counties identified by the CAISO. Even	be included.
	communities of much more modest size easily meet this threshold.4 Many	In many and the statistical day many state for many all officiation, the ICO many idea
	of these areas are served by transmission facilities that are currently at	In response to stakeholder requests for more clamication, the ISO provides
	approximation consequential loss of load for category C (and for more modest	the following.
	support the use of population density as an appropriate measure of	Urbanized Areas as defined by the US Census Bureau1 with nonulations over
	"urban" load especially when the threshold is set so low Rather the	one million will be considered high density urban load for purposes of the ISO
	CAISO needs to more specifically define those areas where NERC	Planning Standard This definition is consistent with the ISO proposal paper
	Standards will be exceeded for transmission contingency planning. If the	as shown in this diagram:
	CAISO means that this standard only includes the	
	area impacted by the shutdown of SONGS, it should say so and justify its	http://www.mtc.ca.gov/maps_and_data/GIS/maps/ca_urbanized.pdf
	position. On the other hand, if the CAISO means a wider urban area in	
	California should be covered in these standards, it should list the specific	
	urban areas included in these standards and explain why these urban	
	areas should have planning standards that exceed NERC standards.5 The	
	proposal should also identify the statewide costs and impact on the TAC	
	associated with a standard that exceeds the NERC Standards and how	
	this cost compares with the benefit achieved by avoiding dropping urban	

<sup>&</sup>lt;sup>1</sup> Urbanized Area (UA): A statistical geographic entity consisting of a densely settled core created from census tracts or blocks and contiguous qualifying territory that together have a minimum population of at least 50,000 persons.



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	load.	·
1b	Alternative Proposal	
	At the stakeholder meeting an alternative was suggested for using a MW cap on the allowed nonconsequential load loss. This would be similar to how NERC approached limiting the risk of non-consequential loss of load for single contingencies and the existing CAISO Planning Standards limits the risk of consequential loss of load for single contingencies. If the cap were set higher than the load at risk for either consequential load loss or contingencies on lower voltage systems that may result in load loss, such a method could avoid inconsistent outcomes.	With the clarifications above focusing on the NERC defined BES and the Urbanized Areas over one million, the ISO proposal deterministically considers the factors in this alternative proposal.
	A better alternative would be to use a \$/MWpeak value reflecting the extent to which capital dollars would be expended to avoid non- consequential load loss. If the concern is that such a value would not capture the societial impacts of larger outages, one solution would be to create non-linear value function. In either case, a \$/MWpeak would avoid having more stringent standards than NERC that are insensitive to customer cost.	
1c	San Francisco-Peninsula Extreme Event Reliability Standard	
	BAMx commends and supports the CAISO's efforts to look at the exposure, risk and potential mitigation options for the San Francisco Peninsula. We understand the Proposal does not perscribe what mitigation, if any, would be required, but rather only requires that mitigation be considered.	BAMx is correct in noting that the proposal does not prescribe the specific level of service that should be achieved or the specific mitigation. The ISO is continuing, on a parallel stream of work, the analysis which has been ongoing in both the 2012-2013 and 2013-2014 planning cycles to ascertain the overall most effective mitigation and the benefits of this mitigation.
	Most stakeholders, by simple observation, tend to support that the San Francisco Peninsula merits special attention to its electric service due to its geography and seismic risks. This concern is borne out by the work that has been done by PG&E and the CAISO to assess the risks and consequences of major system disruptions in this area. Unfortunately, the Proposal is so narrowly crafted as to only address San Francisco. BAMx requests that this standard be expanded to provide a framework to better	The ISO's proposed enhancements to the planning standards are not meant to provide a generic and comprehensive framework for advancing the level of transmission standard beyond the existing standards; rather, the purpose is to clarify the specific and unique circumstances in the San Francisco Peninsula such that the standards enable bringing forward specific mitigations in the future. Given the level of consideration into and beyond Category D extreme events, the ISO considers it appropriate to codify these on a case-by-case



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	understand how this could be applied to other areas with high risk factors.	basis rather than attempt to devise a criteria that can be applied generically to
	events. Many of these are located in urban areas where the risk for a large loss of load for extended periods is heightened. Furthermore, the Proposal does not provide any guidance at to what, if anything, should be done for those areas. Even for the San Francisco Peninsula, the Proposal does not describe what standard of service is to be met. As such, the Proposal is not sufficent to justify any specific capital expenditure and provides no guidance as to how much mitigation is sufficient. Therefore, the Proposal as written is more of a study guide than a Planning Standard.6	The ISO is in discussion with the incumbent utility about emergency preparedness, sparing of equipment and service restoration plans – these are the responsibility of the utilities.
	In summary, BAMx requests that the Proposal be expanded to one of more general applicability. BAMx is especially interested as to whether this Proposal may be the genesis of a statewide spare equipment and restoration plan that could also benefit those customers not specifically located in one of the areas of concern.	
1d	<b>Changes in the NERC Transmission Planning Standards</b> The change in the NERC Planning Standards has been approved by both NERC and FERC and is moving into implementation. BAMx supports the CAISO proposal to update the CAISO Planning Standards to reflect the new NERC standard. While effective dates of new NERC Requirements will be phased in over the next 20 months, BAMx recommends that their incorporation into the existing CAISO Planning Standards and into this Proposal for nonconsequential loss of load for multiple contingencies be included in the next draft Proposal. While NERC has provided time to incorporate the new requirements into the PA & TP planning processes, both the Planning Standards and the Transmission Planning BPM should reflect these requirements before the applicable planning cycle begins.	It is the ISOs intention to accommodate the required changes due to new NERC standards through this stakeholder process and present them to the Board for approval even though their effective date would be delayed until the start of the 2015-2016 planning cycle. In essence the ISO Board will approve two versions of the ISO grid planning standards, one effective immediately after Board approval and the second effective starting April 2015.
	Additionally, BAMx views the incorporation of this new NERC Standards structure and especially its treatment of load dropping for single contingencies, as an opportunity to develop a coherent policy as to when capital expenditures would be justified to maintain or improve reliability to	



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	customers. While the policy would have to comply with the NERC Standards, it could also address the gaps in the NERC standards where stakeholders were unable to reach consensus at a national level as well as the seams in the current standards in California. This would include whether to require continuity of service following single or multiple contingenies, whether the interruption was due to a consequencial or non- consequential breaker action. The policy would also be broad enough to address Extreme Events as being discussed for the San Francisco Peninsula.	



No	Comment Submitted	ISO Response
2	California Public Utilities Commission	
	Submitted by: Keith White	
2a	1. The CAISO Should (a) Clarify Treatment of Consequential Versus Nonconsequential Load Loss, (b) Use Impact-Relevant Factors Beyond Overall Population Density for Determining Where Load Dropping May be Allowable in Urban Areas, and (c) Explain How New NERC Standard TPL-001-4 Will Impact Treatment of Load Dropping in CAISO Planning.	
	The existing and new (TPL-001-4) NERC planning standards as well as the CAISO's present review of planning standards refer to non- consequential load loss (load dropping) and where it may be allowed. We understand (and request correction where incorrect) that consequential load loss involves loss of loads directly served by transmission elements that are removed from service due to a contingency, e.g., to isolate a fault, whereas non-consequential load loss results from subsequent additional load loss such as via manual or automatic tripping to limit potential broader harm and maintain overall system reliability. While planning standards and practices address whether and when non-consequential load loss is allowed, there may also be consequential, unavoidable load loss under outage contingencies. Therefore, the CAISO should clarify how both consequential and non-consequential load loss are considered, in assessing need for mitigation.	The ISO intends to make this clear in its revised planning standards.
	The CAISO's straw proposal for this initiative states that non- consequential load loss should not be allowed in high density urban areas, whereas for other areas this would be determined based on a variety of risk factors such as history of fires, history of lightning, common right of way or structures, restoration time, and other factors. It is unclear what granularity1 or threshold level of population density would be applied to identify the "high density urban areas" in question. In any event, CPUC Staff believes that other important factors relevant to load loss probability and impact should also be considered before completely precluding consideration of non-consequential load dropping for an area exceeding	For complex transmission networks which typically serve high population density areas, adequate tools and data are not available to perform accurate calculations of load loss probability and impact. However, industry experience and practice are consistent with the ISO practice to not intentionally shed load for category C contingencies in high population density areas due to the unacceptable impacts.



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	some population density threshold. This is similar to what the CAISO has proposed for areas not categorized as high-density urban (e.g., based on	
	magnitude (MW) of load loss and the composition of that load (e.g.,	
	essential public services, interruption-sensitive activities) should also be included as factors. Such a risk-reflective approach would often, but not	
	always, identify the highest population density areas as being the least	
	permit a more geographically granular determination.	
	Lastly, the CAISO should assess and clarify for stakeholders how new NERC planning standard TPL-001-42 would affect the CAISO's treatment of non-consequential load loss for study and planning purposes including	The ISO intends to make this clear in its revised planning standards.
	how it would affect the concerns and preferences expressed in the CAISO's draft proposal	
2b	<ul> <li>2. The CAISO Should More Specifically Explain Why the San Francisco Peninsula Requires Formal Designation, Via Planning Standards and Board Approval, as Posing Unique Extreme Event Risks Such That Studies of Potential Transmission Solutions Are Appropriate.</li> <li>CAISO staff apparently will seek Board approval for identifying the San Francisco Peninsula as a unique situation requiring special focus in terms of extreme event studies. Extreme event studies are generally required under NERC and WECC planning standards but are not prescribed in detail. The CAISO gives several broad reasons why such a special focus is appropriate, including the dense urban load center, the geography and electric topology, and the large seismic risks combined with challenging restoration times. Discussion during the April 11 stakeholder meeting questioned why some other parts of the grid did not deserve similar focus.</li> </ul>	The ISO expected that stakeholders commenting on the proposed standard modification relating to the San Francisco Peninsula would also be reviewing and taking into account material prepared and available on the ISO's market participant portal relating to the San Francisco Peninsula circumstances. That more detailed material was posted to that site due to Critical Energy Infrastructure Information (CEII) management concerns. The revised draft proposal will explain the need to refer to that material.
	The CAISO should more specifically explain what makes the San Francisco Peninsula uniquely at risk for large electrical and	
	socioeconomic impacts from extreme but credible events, such that focused extreme event studies including consideration of transmission	



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	solutions are warranted. This explanation should be sufficiently specific such that interested parties could apply the criteria to other parts of the grid to come to a similar conclusion that this particular area is in fact uniquely at risk and deserving of focused study at this time.	
	Furthermore, the CAISO should more fully explain what it means for an area to have this designation as an extreme potential transmission solutions. For example: what kinds of studies and scenarios should therefore be pursued and what kinds of mitigations should be considered, beyond what may be appropriate elsewhere?	
2c	3. Extreme Event Studies Should Contain a Transparent, Complete Chain of Logic and Data from Precipitating Events (e.g., Seismic) to Electrical Contingencies to Socioeconomic Impacts, with Consideration of Mitigation Measures Being Supported by Sufficiently Specific Characterization of Risks Mitigated.	
	For the "extreme event" portion of the present transmission planning standards review initiative, the CAISO has stated the objective as gaining Board approval (perhaps with stakeholder support) for designating the San Francisco Peninsula as representing a unique extreme event situation deserving special focus. While comments were not requested regarding the actual study methodology, the CASIO stated at the April 11 meeting that stakeholders may comment on the study methodology. CPUC Staff thus offers high level comments regarding the study methodology.	The ISO appreciates the comments provided; however these comments are not related to the determination of the unique characteristics of the San Francisco Peninsula area that warrant acknowledgement and consideration of mitigation in the ISO Planning Standards that this stakeholder process is undertaking The comments are related to the ongoing detailed analysis of potential mitigation under consideration within the 2014-2015 Transmission Planning Process and will be considered within that process.
	We recognize that the extreme event situation for the San Francisco Peninsula is very challenging for assessment and for justifying mitigation investments. Dense loads and constrained electric supply circumstances are compounded by a wide range of potential seismic events having varied potential impacts, with imprecise probabilities and locations. The CAISO pointed to the New York City area as being perhaps the only comparable extreme event electric planning challenge in the country. The New York State Reliability Council Reliability Rules3 identify a variety of extreme contingencies to be considered, similar to what has been	



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	identified by the CAISO for the San Francisco Peninsula. However, it	
	appears that the situation in California may be even more analytically	
	challenging. The New York standards identify two types of underlying	
	extreme events for focus: extreme weather events and natural gas supply	
	interruptions. For the San Francisco Peninsula the main extreme event	
	driver of concern is seismic risk, which in terms of both severity and	
	point(s) of maximum impact may be more uncertain and wider ranging	
	than the extreme event drivers receiving attention in New York.	
	For us to grasp this seismic extreme event risk and to consider possible	
	responses, it is essential that the CAISO's study methodology produce a	
	complete, transparent chain of logic and data (with references and	
	assumptions) from seismic risk to electric contingencies to socioeconomic	
	impacts. We understand that this chain will contain considerable	
	uncertainties. However, the chain and the uncertainties need to be	
	transparent and explicit so that stakeholders and decision makers can	
	understand the origin of socioeconomic consequences whose avoidance	
	or reduction might justify substantial investments or environmental	
	impacts associated with mitigation. Also, a complete and transparent	
	which factors and uncertainties are the most important drivers of "results"	
	i.e. drivers of estimated socioeconomic impacts, their probabilities and	
	their need for mitigation	
	In addition, if major risk mitigation projects are to be considered for	
	approval, the extreme event studies must produce impacts and	
	probabilities that are sufficiently specific. That is, while study results will	
	likely contain ranges and uncertainties, and also some relative	
	comparisons (probability or impact B is relatively greater than probability	
	or impact A, where A is better understood), there must ultimately be some	
	absolute anchor or point of reference, for understanding how likely and	
	now large are the impacts for which we may be considering mitigation	
	involving considerable costs and environmental impacts.	
	Furthermore, the assessment framework should provide a clear,	



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	consistent (with the rest of the study) estimate of how much potential damage a mitigation measure might not avoid such as due to being itself potentially affected by the underlying physical event, or due to other components of the system (e.g., loads, distribution) being so damaged that the mitigation cannot become fully effective for a considerable period of time.	
	Lastly, besides characterizing extreme event risk and efficacy of mitigation measures, the assessment should provide meaningful insight regarding what portion of the overall range of credible extreme events of this type would not be protected against, e.g., other Bay Area seismic events having different physical locations or impacts. Are we reasonably confident that we are pursuing the largest and/or most effectively mitigated extreme event risks?	
2d	<ul> <li>4. The CAISO Should Identify How the New NERC Standard TPL-001- 4 Would Significantly Impact the CAISO's Reliability Studies, Particularly Regarding Ultimate Identification of Mitigation Investments.</li> <li>Implementing TPL-001-4 is necessary, not optional. However, implications for CAISO's planning studies and identification of infrastructure needs are unclear. While the new standard appears to require greater conservatism in some respects, it may have a significant impact on practices for some transmission planning areas but not necessarily for the CAISO area. As part of the present transmission planning standards review initiative, the CAISO should clarify which aspects of TPL-001-4 have the greatest potential (or uncertainty) regarding impact on the CAISO's future identification of infrastructure (or operational) needs, and what that impact is. This includes impact on load dropping issues already raised under our</li> </ul>	The NERC Reliability Standards are mandatory based upon their identified effective dates. As such the ISO will be conducting the 2015-2016 TPP assessments apply TPL-001-4. Until the ISO has conducted the assessment it cannot determine what potential infrastructure needs the new standard may require. The ISO has provided an overview of the major changes in the new version of the standard for stakeholders.



No	Comment Submitted	ISO Response
3	Office of Ratepayer Advocates of the	
	California Public Utilities Commission	
	Submitted by: Zita Kline and Traci Bone	
3a	II. DISCUSSION	
	A. Standards for Non-Consequential Load Dropping During Category C Contingencies	
	1. <u>Background</u> The NERC Transmission Planning (TPL) Standards are national requirements setting minimum standards for contingency selection, transmission performance, and criteria determining whether continuity of service to customers is maintained. TPL-003, the current NERC standard for Category C contingencies, addresses the loss of two or more Basic Electric System (BES) elements (such as a major transmission line or generation supply) and requires that the system be stable and within both thermal and voltage system limits during that loss. However planned/controlled loss of demand or curtailment of firm transfers is allowed.	
	The recently approved NERC TPL Standards (TPL-001-4) will replace Category C contingencies with contingency categories P4 to P7., TPL- 001-4 requires that there be no non-consequential load loss for some multiple contingencies, including (1) an extra high voltage (EHV) stuck breaker (P4), or (2) an EHV relay failure (P5). However, the new NERC TPL Standards continue to allow the controlled loss of load either consequential or non-consequential for the overlapping loss of two non- generation transmission elements (P6) or the simultaneous loss of two elements sharing a common structure (P7).	
	NERC allows Regional Reliability Organizations (RROs) or Planning Authorities (PAs) such as the CAISO to establish more stringent standards as may be appropriate for their area. The Straw Proposal proposes a more stringent standard, which will prohibit non-	



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	consequential loss of load using a special protection scheme (SPS) following a Category C event for portions of the CAISO controlled transmission system where the population density exceeds 1,000 people/square mile (the "SPS standard.") SPS could still be used in non-urban areas or as an interim solution. As a basis for this position, the Straw Proposal is described as codifying the "ISO's current practice in local area planning", which "is to not rely upon high density urban load shedding as a long term planning solution for Category C contingencies." The CAISO states that "the need for system reinforcement in a number of local areas is expected to climb due to projected resource retirements, with Category C contingencies playing a material role in driving the need for reinforcement. Relying on load shedding on a broad basis to meet these emerging needs would run counter to historical and current practices, resulting in general deterioration of service levels." The CAISO describes its current practice as not "shed[ding] large blocks of high density urban load for category C contingencies on the 100 kV systems and above" in CAISO's controlled grid. Two of these SPS systems operate in urban areas and both SPS systems have CAISO approved transmission solutions. The Straw Proposal contains two illustrative maps suggesting that the Straw Proposal's SPS standard would be applied in limited areas of California, largely encompassing the greater San Francisco, Los Angeles and San Diego areas.	The highlighted portions of the comment are misquoting the ISO. They appear to be typographical errors and have been corrected as shown. In addition, the ISO has clarified this section of the paper to reflect that the needs created by the projected resource retirements were already identified and addressed in the 2013-2014 ISO Transmission Plan.
3b	<ul> <li><u>ORA Recommendation</u></li> <li>a. The Criteria For Applying the Standard Should Be Adjusted</li> <li>To the extent that the CAISO moves forward regardless, it should not rely on population density as a measure of "urban" load, especially when the threshold is set so low. The Straw Proposal suggests that a</li> </ul>	Please see the ISO responses to similar comments from BAMX above.



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	threshold of 1,000 people/square mile would limit the application of the SPS standard to small portions of California with high population densities. However this is not the case.	
	Attachment 1 shows the population densities for the largest 100 California cities. All of these cities easily meet the CAISO's population density threshold, even cities which may not be in the counties identified as having high population densities in Figure 2 of the CAISO's Straw Proposal. Even communities of much more modest size easily meet this threshold. It is therefore likely that many of these areas are served by transmission facilities that are currently at risk of consequential loss of load for Category C (and for more modest communities, Category B) contingencies. In other words, if the Straw Proposal were adopted, significant transmission upgrades would be needed to make the transmission systems compliant with the CAISO planning standards, planning standards which are significantly more rigorous than those required by NERC.	
3C	b. Robust And Relevant Need and Cost/Benefit Analyses Should Be Prepared To Determine Whether The Standard Is Appropriate For Solving The Identified Problem – Comparisons to Manhattan Are Inapposite	Please see the ISO responses to similar comments from BAMX and the CPUC above.
	As explained above, the Straw Proposal does not specifically identify a problem that needs to be solved, and fails to provide any substantive analysis showing that the proposed standards are the most cost-effective means for solving the purported problem. With regard to the Category C standard, a showing of need would, at a minimum, include a discussion of the frequency of SPS system use for category C contingencies in several base case scenarios. It would also include a showing of duration of outages. Finally, a proper showing would give cost estimates of economic harm resulting from SPS systems used in California's urban and suburban cities.	
	Instead, the Straw Proposal cites very generally to the "potential	



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	(economic and safety) impact" resulting from load shedding, comparing economic consequences in California to economic costs justifying special reliability standards in New York City. Such a comparison is inapposite. Among other things, given the Straw Proposal's analytical reliance on population density, it must acknowledge that economic impacts in New York City, with a population density of 20,000 people/square mile in the borough of Manhattan, would be far more severe than economic impacts in California's highest density areas, where the population density peaks at around 14,000 people per square mile for the 100 largest cities in California. Additionally, only 8 cities out of the top 100 most populous cities exceed population densities of 10,000 people per square mile, with six of those cities located in Los Angeles County. This suggests that the CAISO cannot make a direct comparison of California economic impacts with economic impacts in New York City using population density as its only metric. Further justification of both need and cost-effectiveness, based on relevant analysis, is needed to justify a planning standard more stringent that NERC reliability criteria.	
3d	<ul> <li>c. Historical Practice at the CAISO Suggests That More Stringent Reliability Standards Could Be Selectively Implemented On The Local Level Without A Blanket Prohibition On SPS Load Dropping As A Permanent Solution For Urban Areas.</li> <li>ORA questions the Straw Proposal's representation of historic practices, which suggest that there is more flexibility in determining the appropriate level of reliability following a multiple contingency event. For example, prior to the formation of the CAISO, PG&amp;E had no such blanket prohibition against load shedding for Category C events, whether consequential or non-consequential. Rather each situation was separately reviewed and a mitigation plan developed considering the consequences of the loss of load and the cost of mitigation. This practice is evidenced by PG&amp;E's 2001 Electric Transmission Grid Expansion Plan where in Section 3 – Operating Arrangements, the Plan identifies where PG&amp;E uses either manual or automatic actions to meet</li> </ul>	The ISO research on the number of SPS on the NERC defined BES that rely on load shedding of high density urban load over the long-term horizon found that there were none. In addition, the ISO recalls that there were none in 2001 either.



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	the planning standards for Category B and C events, as reflected in Attachment 2 hereto. These actions frequently include interruption of customer load.	
	Furthermore, PG&E's analysis of Category C events focused on the loss of double circuit tower lines. For other Category C events, PG&E's planning practices assumed loss of customer load was acceptable. There was no distinction around consequential versus non-consequential load loss as such a distinction has no meaning when the planner is making decisions based upon customer impacts. Similarly, as reflected in the table provided at Attachment 2, which includes excerpts describing PG&E's operation arrangements that were included in the CAISO 2001 Transmission Plan, there is no distinction or blanket prohibition on the implementation of SPS based on load density. In fact, the table includes 22 examples of the use of SPS in the Bay Area that are contrary to the standard in the Straw Proposal.	
	Attachment 3, which identifies the PG&E Planning Criteria for electric transmission capacity into San Francisco, demonstrates that PG&E was capable of developing specialized criteria for areas with special needs. These criteria are reflective of several Category C overlapping transmission and/or generation contingencies as well as the loss of all overhead lines on the peninsula in the vicinity of San Francisco airport.	
	While these criteria were more stringent than PG&E applied to the PG&E system at large, these were specific contingencies that were applicable only to the San Francisco Peninsula and were not applicable to larger geographic areas based on a population density metric. In fact, PG&E's development of a list of overlapping contingencies for San Francisco is evidence that PG&E did not normally plan for maintaining service to load during such events elsewhere in its system.	
3e	d. The CAISO Should Classify The New SPS Standard As A Guideline Until The Cost Impacts Are Better Understood	



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	Like the CAISO's adoption of existing CAISO standards, it is reasonable	The ISO's current practice in local area planning, which is consistent with
	for the CAISO to classify the new SPS Standard as a guideline until the	historical practices prior to and since the creation of the ISO, is to not rely upon
	cost impacts are better understood. The existing CAISO Planning	high density urban load shedding as a long term planning solution for Category
	Standards include requirements in planning for new transmission versus	C contingencies. Codified this practice in the ISO Planning Standards would
	the involuntary loss of load. These requirements generally address the	not increase costs.
	more common single contingency of G-1, L-1 events and include, among	
	other things, that no single contingency result in the loss of more than	
	250 MW of load and that all single substations of 100 MW or more be	
	served from two transmission circuits. Upgrades to service reliability	
	above these levels may be appropriate when justified using a benefit to	
	cost ratio analysis. There is no distinction with respect to urban load or	
	non-consequential loss of load.	
	While the CAISO's existing criteria were developed to limit the amount of	
	load that could be lost for common single contingency events, there was	
	clear concern about the notential excessive cost impacts associated with	
	such a limitation. Due to this concern existing CAISO criteria were	
	initially implemented as a guideline until the cost impacts could be better	
	understood The CAISO should follow a similarly cautious path with the	
	implementation of SPS restrictions.	
3f	B. The San Francisco Peninsula Extreme Event Reliability	
-	Standard	Therefore the community which wells she the ICOs accomment of the Deviser de
	1. Background	Thanks for the comment which reliects the ISOs assessment of the Peninsula
	The CAISO is currently conducting a San Francisco Peninsula Special	area as being unique.
	Study and is "therefore proposing to add to the Planning Standards	
	specific recognition of the unique characteristics of supply to the San	
	Francisco Peninsula and acknowledge that planning for extreme events	
	<ul> <li>including the approval solutions to improve the reliability of supply – is</li> </ul>	
	an appropriate action for the CAISO Board to consider and approve."	
	According to the CAISO, circumstances justifying the Bay Area's unique	
	status include: (1) being an urban center; (2) geographic and system	
	configuration; (3) having a risk of extended restoration times after an	
	extreme event; and (4) potential risks with challenging restoration times	
	restoration times after extreme events (63% high chance of an	



No	Comment Submitted	ISO Response
	earthquake with > 6.7 magnitude or greater occurring in the next 30	
	years).	
	The CAISO is already required to study the San Francisco Bay Area for	
	Category D extreme events under existing NERC standards (TPL-004)	
	and under the new NERC standard (TPL-001-4). However, neither	
	measures	
3g	2. ORA Recommendation	
Ŭ	Given the lack of analytical showing in the Straw Proposal, ORA	The assessments of the San Francisco Peninsula area in the transmission
	questions the need for a reliability standard specific to the San Francisco	planning process have determined that this area is unique and warrant
	to justify the unique status of the San Francisco Bay Area with	consideration for mitigation of the extreme events. The intent of the inclusion of
	guidelines which do not clearly distinguish the San Francisco Bay area	this due to the Peninsula areas unique characteristics is not to establish
	as unique.	but recognizing those within the Peninsula area. If there are situations that
	The CAISO's guidelines creating unique consideration for the San	warrant similar analysis identified through the transmission planning process
	Francisco Peninsula are not required by NERC and are vague and	the ISO is open to considering on a case by case basis.
	inadequate. During the workshop, Southern California Edison Company	
	(SCE) reasonably asked why Los Angeles would not qualify for extreme	
	Francisco peninsula Adopting vague guidelines to designate areas for	
	application of specialized extreme event standards may result in the	
	exception swallowing the whole such that new, more stringent	
	transmission requirements, will apply to nearly every other urban area in	
	Rather than approach mitigation measures for extreme events in a	
	piecemeal fashion with overly broad factors for designating extreme	
	using a systemwide approach based on the following principles:	
	1. Prioritize the adoption of cost-effective mitigation measures	
	which create flexibility in the system and reduce system recovery time,	



No	Comment Submitted	ISO Response
	such as stockpiling replacement parts in areas where the parts may be	
	deployed as needed.	
	<ol><li>Adopt mitigation measures by hardening the existing</li></ol>	
	transmission infrastructure systems and reduce the damage likely to	
	occur as a result of an extreme event.	
	<ol> <li>Adopt mitigation measures which create new infrastructure to</li> </ol>	
	reduce the recovery times of service disruption due to an extreme event.	
	III. CONCLUSION	
	ORA appreciates the CAISO's attention to these comments on issues,	
	new CAISO planning standards exceeding NERC reliability standards,	
	which, if adopted, could have a significant effect on California	
	ratepayers. Consistent with these comments, ORA urges the CAISO to	
	reconsider the Straw Proposal's planning standards until it has	
	developed analytical tools that can address the basic issues of the need	
	for more rigorous planning standards, and the costs to TAC ratepayers	
	of those standards.	
	In an era of raising energy rates, it is imperative that the CAISO take a	
	harder look at its proposals, consistent with its statutory obligation to	
	minimize ratepayer costs.	



No	Comment Submitted	ISO Response
4	Pacific Gas and Electric	
	Submitted by: Brad Wetstone	
4a	1. San Francisco Peninsula Extreme Event Reliability Standard	
	PG&E supports the CAISO's proposal to add to its planning standards a specific	The ISO appreciates the comment and at this time is only aware of the
	recognition of the unique characteristics of the San Francisco Peninsula and	New York City reliability requirements.
	acknowledgement that this study area requires the consideration and approval of	
	transmission solutions as mitigation for Extreme Events. The CAISO's Draft	
	Straw Proposal and stakeholder meeting presentation appropriately highlighted	
	the unique risks and circumstances underlying the need for the San Francisco	
	Peninsula to be explicitly recognized as a separate Extreme Event reliability	
	Stanuard. Devolutine fisk of large magnitude seisfild events, the same francisco	
	Peninsula is unique due to the urban load center, the geographic isolation of the	
	restoration times. PG&F supports the CAISO's comparison of the San Francisco	
	Peninsula area to New York City for purposes of recognizing the need to require	
	consideration of mitigation for extreme contingencies. In addition to identifying	
	New York City, it would be informative for this stakeholder process for the CAISO	
	to determine if similar extreme contingency reliability standards have been	
	developed/adopted applicable to other large cities within the United States (e.g.,	
	Chicago, Houston, Philadelphia, Tampa) that have unique geographic attributes.	
4b	<ol><li>Non-Consequential load dropping: Category C Contingencies</li></ol>	
	PG&E is supportive of the CAISO's current and historical practice of not relying on	
	load shedding as a long-term solution to Category C events in local area planning.	Please see responses to BAMX regarding further clarification on what
	However, PG&E believes that the application of the 1,000 people per square mile	is meant by the term high density urban load in the context of the ISO
	criterion will prove to be overly broad in practice and may be difficult to implement.	Planning Standards.
	In lieu of the CAISO's proposal as it applies to local area planning, PG&E	
	value (i.e., increased to reflect a larger number of people per square mile) such	
	that the scope of the load shedding restriction will be limited to the bighest density	
	urban areas within the CAISO footorint. Establishing a tighter restriction on the	
	use of load shedding will allow the CAISO to consider load shedding on a case-	
	by-case basis in areas of the grid where minimal load shedding may prove to be	
	appropriate mitigation for Category C events instead of new transmission or	
	upgrades. PG&E supports the CAISO's risk assessment factors as identified on	



No	Comment Submitted	ISO Response
	slide 17 of the stakeholder presentation and recommends that these factors be	
	considered as part of the CAISO's assessment of load shedding as a viable	
	mitigation option in areas not covered by the restriction. The expected frequency	
	of the need to activate the SPS, the magnitude of the load drop, and the expected	
	duration, in particular, are essential criteria to be factored into the case-by-case	
	assessment. On balance, PG&E believes that adopting a slightly more restrictive	
	definition of "high density urban load" area will provide needed flexibility for	
	CAISO to consider small and targeted amounts of load shedding in areas of the	
	grid where it makes sense while avoiding any adverse safety and economic	
_	consequences due to loss of load in the large urban areas of the CAISO footprint.	
4c	3. Changes to NERC Transmission Planning (TPL) Standards	
	PG&E supports updating the CAISO Planning Standards to incorporate changes	
	from FERC approved TPL-001-4, Transmission System Planning Performance	The ISO appreciates the comments and will be including clarification
	Requirements.	of the application of Footnote 12 of TPL-001-4 in the revised straw
	PG&E has the following comment regarding a reference to the CAISO's	proposal.
	stakeholder meeting presentation at slides 36 and 37:	
	The slides state that after 1/1/2021, "non-consequential load loss" is no longer	
	allowed in Corrective Action Plans for N-1 contingencies.	
	The TPL standard (Table 1, Steady State & Stability Performance Footnotes for	
	Planning Events and Extreme Events, Footnote 12) includes the following	
	"In limited circumstances, Non-Consequential Load Loss may be needed	
	throughout the planning norizon to ensure that BES performance requirements	
	are met.	
	In PG&E's view, the TPL standard does not reflect a blanket limitation for	
	applicable P1 and P2 single contingencies as indicated in the presentation	
	Inaterial. PG&E expects these types of details to be fieshed out further as more	
	details are provided on the specific revisions to be incorporated in the CAISO	
	Planning Standards.	



No	Comment Submitted	ISO Response
5	San Diego Gas and Electric	
	Submitted by: John Jontry	
5a	<b>Non-Consequential Load Shedding for Category C Contingencies</b> Generally, SDG&E approves of the approach taken by the CAISO in the development of the April 4, 2014 draft Transmission Planning Standards. SDG&E agrees that relying on large amounts of load shedding in densely populated urban areas to address credible Category C contingencies on the bulk power system is not an appropriate planning strategy. The correct long-term approach in SDG&E's view is to mitigate Category C contingencies on the BES either through system reinforcements, or by procurement of appropriate generation resources, or by prudent application of demand response and energy efficiency programs.	Thanks for the comments.
5b	Extreme Event Mitigation for the San Francisco Peninsula SDG&E notes that TPL-004 requires the TP and PA to understand the risks and consequences of an extreme event and although it does not require an extreme event to be mitigated, it does imply that extreme events are not to be ignored. As such, SDG&E agrees that it is appropriate to mitigate extreme events under certain circumstances to protect the population from a prolonged outage. With respect to the San Francisco Peninsula, SDG&E does not have a position on this portion of the CAISO standards, except to point out that this is a situation not unlike that of SDG&E's South Orange County load pocket – a large population that is somewhat geographically isolated and reliant on a single source to supply power.	The ISO appreciates the comment and based upon assessments that the ISO undertakes as a part of the annual transmission planning process; if there are situations that warrant similar analysis the ISO is open to considering on a case by case basis.
5c	<b>Changes to NERC Transmission Planning Standards</b> SDG&E recommends that the CAISO make it clear in the revised standards that load shedding to address N-1 or G-1/N-1 contingencies (Category P0 through P4) is not acceptable. The revised TPL-001-4 standard Footnote 12 appears to allow load shedding of up to 75 MW for N-1 and G-1/N-1 contingencies. As noted above, SDG&E believes that long-term reliance on load shedding to meet reliability standards is not appropriate.	The ISO will take your comments under consideration. Currently the ISO planning standards do not have such requirement. The G-1 followed by L-1 standard currently treats this contingency as a single (category B event) however footnote b) still applies. Due to the new standard TPL-001-4 category P3 the ISO intention is to eliminate the current G-1L-1 criteria. The ISO will provide clarification of the changes being proposed in the ISO Transmission Planning Standards associated with TPL-001-4 in the revised straw proposal.



No	Comment Submitted	ISO Response
6	Six Cities Submitted by: Margaret E. McNaul	
6a	The straw proposal highlights the unique nature of the configuration and supply patterns for the San Francisco Peninsula and proposes that this area merits special consideration in the planning standards: The ISO is therefore proposing to add to the Planning Standards specific recognition of the unique characteristics of supply to the San Francisco Peninsula and acknowledgment that planning for extreme events – including the approval of transmission solutions to improve the reliability of supply – is an appropriate action for the ISO Board to consider and approve.	Based upon assessments that the ISO undertakes as a part of the annual transmission planning process, if there are situations that warrant similar analysis the ISO is open to considering on a case by case basis.
	(Straw Proposal at 9.) As articulated in the straw proposal, the recognition for the San Francisco Peninsula that the ISO seeks to include as a broad policy	
	principle in the planning standards does not seem especially well- defined. The Six Cities do not object to the study of Category D Extreme Events and their impacts on the ISO grid pursuant to applicable Reliability Standards. While there may be valid reasons to take certain actions to mitigate the impacts of Category D Extreme Events in this area and/or other areas that constitute urban population	
	centers and/or share comparable, if not identical, vulnerabilities to the San Francisco Peninsula, the ISO should exercise caution in considering whether to establish a categorical policy that may be construed to elevate the approval of transmission solutions to mitigate Category D Extreme Events for any one area, especially without	
	setting any parameters or objectives for mitigation. There could be merit in considering whether such actions would be restricted to San Francisco or would apply to other areas.	



No	Comment Submitted	ISO Response
7	Smart Wire Grid, Inc.	
	Submitted by: Chifong Thomas	
7a	<ol> <li>Section 3.2 of this draft would disallow Non-Consequential load loss for Category C contingencies to provide a higher standard of service reliability only for urban areas with high-density urban load seems arbitrary. In this proposal, the CAISO defines such urban load as "generally refer to an area with population over 1,000 people per square mile".</li> <li>As population density changes over time, non-high-density urban areas in 2014 may evolve into high-density urban areas in 2025. It is unclear which future study year(s) the CAISO would use to determine the boundaries for the high-density urban areas, or if and how the standard or the boundaries would change to accommodate anticipated urban area changes. In any case, the ISO's draft on page 4 mentions two existing SPSs that are being removed pending the implementation of transmission upgrades because they had been installed to shed load in high-density urban areas for Category C contingencies. The existence of these SPSs, on the surface, begs the question as to whether the proposed disallowance of Non-Consequential Load loss in high-density urban areas has been a practice, or whether, their removal is due to changes in the boundaries of high-density urban areas. Understanding the associated supporting information would help shed some light on this issue</li> </ol>	Both of the projects were identified as needed and approved more than five years ago.
	• There appears to be no limit to the amount of Non-Consequential load that will be prohibited to be interrupted for Category C contingencies to maintain reliability of the BES. As written, this prohibition would apply to all the Non-Consequential loads deemed to be within a high-density urban area, such as the example of the 5,000 MW in San Diego. Since BCR type analyses will now only be used to provide additional information, it would seem that the proposed change could lead to decoupling the increased service reliability from the associated	Please see ISO responses to comments from BAMX for more clarification on the definition of high density urban load in the context of the ISO Planning Standards.



No	Comment Submitted	ISO Response
	increased costs for some specific areas.	
	<ul> <li>It is also not clear if the prohibition to such involuntary load shedding would only be applicable to those initiated through SPS or would include load shedding through other means, such as operating procedures, currently applied in planning studies</li> <li>One of the reasons SPSs were installed was to allow planned and controlled load shedding in local areas for both N-2 events, and, N-1-1 events after the second N-1 in the Local Capacity Requirement (LCR) Studies for the Load Pockets. Such Load Pockets include both urban areas, high density urban areas and non-urban areas in the CAISO's LCR Studies as early as 2006, as agreed to by the stakeholders as part of the CAISO LCR Study Advisory Group (LSAG) process (http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=F0F5 3FCA-9168-4ECE-AFB9-93AEAA378C31). It is not clear in this draft if the CAISO's proposed change will be applicable to the LCR determinations (and thus, the Local Resource Adequacy Requirements) going forward.</li> </ul>	The historical practices for long-term planning have been to not rely on shedding in high density urban areas for N-2 or N-1-1 BES contingencies in local areas to meet the NERC Planning Standards. The LCR methodology determines the amount of minimum local generation that LSE's must own or contract. NERC Planning Standards determines the transmission and generation capability that must be installed. In all cases the SPS installed under the LCR methodology simply reduced the amount of minimum contract requirements but was not required to meet the NERC Planning Standards over the long-term. The ISO planning standards would not prevent the installation of SPS pursuant to the LCR methodology to avoid excessive contractual costs.
	If planned and controlled Non-Consequential Load loss is to be disallowed to meet BES performance requirements for Category C contingencies, different methodologies to determinate reasonable limits to Non-Consequential Load loss should be explored.	For long term planning purposes, the ISO will continue to not rely on load shedding in high density urban areas for contingencies and performance issues on the NERC defined BES.
7b	<ol> <li>Slides 36 and 37 of the presentation concern the application of Footnote 12 of Standard TPL-001-4 (http://www.nerc.com/_layouts/PrintStandard.aspx?standardnumb er=TPL-001- 4&amp;title=Transmission%20System%20Planning%20Performance% 20Requirements&amp;jurisdiction=United%20States). Footnote 12 of TPL-001-4 (Page 12) states:</li> <li>"12 An objective of the planning process is to minimize the likelihood</li> </ol>	The ISO appreciates the comments and will be including clarification of the application of Footnote 12 of TPL-001-4 in the revised straw proposal.
	and magnitude of Non-Consequential Load Loss following planning	



No	Comment Submitted	ISO Response
	events. In limited circumstances, Non-Consequential Load Loss may be	
	needed throughout the planning horizon to ensure that BES	
	performance requirements are met. However, when Non-Consequential	
	Load Loss is utilized under footnote 12 within the Near-Term	
	I ransmission Planning Horizon to address BES performance	
	Non Consequential Load Loss meets the conditions shown in	
	Attachment 1 In no case can the planned Non-Consequential Load	
	Loss under footnote 12 exceed 75 MW for US registered entities. The	
	amount of planned Non- Consequential Load Loss for a non-US	
	Registered Entity should be implemented in a manner that is consistent	
	with, or under the direction of, the applicable governmental authority or	
	its agency in the non-US jurisdiction."	
	In addition, TPL-001-4, Section 5, "Effective Date", states, in part, that "For 84 calendar months beginning the first day of the first calendar quarter following applicable regulatory approval Corrective Action Plans applying to the following categories of Contingencies and events identified in TPL-001-4, Table 1 are allowed to include Non- Consequential Load Loss and curtailment of Firm Transmission Service "	
	Taken together, Footnote 12 allows loss of Non-Consequential Load throughout the planning horizon for the Planning Events in Table 1 where Footnote 12 applies. After 84 months (i.e., starting on 1/1/2021), however, the Corrective Action Plan must adhere to requirements in Attachment 1 for the Near-Term Transmission Planning Horizon if involuntary shedding of Non-Consequential load is applied under Footnote 12.	



No	Comment Submitted	ISO Response
8	Southern California Edison	
	Submitted by: Ying He, Garry Chinn and Karen Shea	
8a	I. <u>Category C Load Shedding</u>	
	The Straw Proposal states that the CAISO is intending to provide further clarity in the CAISO Planning Standards regarding when load shedding through Special Protection Systems ("SPSs") is considered an acceptable means to address planning needs for Category C contingencies. In particular, the CAISO intends to not rely on high- density urban load shedding as a long term planning solution for Category C contingencies. The Straw Proposal states that the CAISO's approach of avoiding urban load shedding in high density areas is consistent with the general approaches of the other ISOs and RTOs.	Please see ISO responses to similar comments from BAMX regarding the need for more clarification on what the term high density urban load means in the context of the ISO Planning Standards.
	SCE supports the CAISO's initiative to examine what criteria changes may be necessary to the current practice of using load-dropping SPSs for Category C contingencies. However, much more time and thought will need to be put toward such an initiative, particularly given the potential cost implications related to lost import capacity and transmission upgrades. For example, the Straw Proposal defines a "high density urban load" area as "an area with population over 1,000 people per square mile." The Straw Proposal also considers population density on a countywide basis. SCE believes that more analysis is needed to define an urban load area, including consideration of a more granular definition than countywide (e.g., city or zip code). A more granular definition will likely lead to a higher density level or other load considerations than that of 1,000 people per square mile.	
	The United States Census Bureau, for example, describes population density as a function of census tracts and blocks. Thresholds for population densities are not necessarily used to generally describe whole counties. There are a considerable amount of census blocks in San Diego County, with many well below and some well above 1,000 people per square mile. Additionally, Urbanized Areas are defined as	



No	Comment Submitted	ISO Response
	densely developed territories that contain at least 50,000 people. Given that there are numerous other possible interpretations of statistically "dense" locations, more analysis should be performed, especially given the importance of the issue at hand.	
	SCE is willing to support such additional analyses, but believes that the amount of time required to perform such analyses is greater than provided in the Straw Proposal's draft schedule. SCE recommends that the CAISO revise its Board presentation until November to allow at least another month in the stakeholder process. Also, SCE recommends that the CAISO allow time for the stakeholder	The ISO does not expect that the continued use of this criterion will trigger major
	process to develop criteria that meets the CAISO's goals and considers options based on stakeholder feedback. Given that, it would be best if the CAISO considers the formal revision for the load shed standard to be implemented in the 2015-16 transmission planning cycle.	
8b	<u>Transfer Capability Needs to Be Defined</u> SCE supports the CAISO's proposal to exclude mechanisms that are in place to enable transfer capability of major transmission paths across California and the West to access lower cost generation.	
	As described in Section 3.3 of the CAISO Straw Proposal, system planning is characterized by broader geographical size, with greater transmission import capability and most often with resources that can be procured at lower cost than in local area resources. Reliance on non-consequential load drop for double contingencies is used to increase the transfer capability of major transmission paths across California and the West to the benefit of all and with rather rare occurrences of outages. For the reasons described above, the CAISO is not proposing to eliminate existing system-wide SPS schemes that include some non-consequential load dropping for common corridor double contingency events.	
	SCE appreciates the CAISO including the exclusion described above	



No	Comment Submitted	ISO Response
	for SPS's that support an ability to import more power. It appears that a number of existing SPSs in SCE's area would meet this exclusion. However, this CAISO proposal needs to be better defined so that it can be determined which existing SPSs would be allowed to continue in operation under the new planning standard.	The ISO does not expect that the continued use of this criterion will trigger major new projects or eliminate any existing SPS in the current planning cycle
8c	Economic Off-Ramp Should be Developed for Low Likelihood Events Regardless of the specific standards adopted regarding urban load shedding, there should be an economic impracticality test applied by the CAISO to avoid pursuit of high-cost transmission upgrades that have low overall value to the customers who pay for these upgrades. In a value of service study conducted in 2000, SCE estimated the cost of a four hour summer weekday outage across its service area as between \$378 and \$944 million. While these are large figures, the likelihood of triggering a SPS in a particular year is typically very small and would typically affect a limited number of customers. The key point is that value of service can be quantified, and used to perform a general assessment as to whether it is appropriate to rely on SPSs to address contingencies with low probability of occurrence when the cost of upgrades is significant. The CAISO standard should include a provision to allow SPSs in urban areas where it is economically impractical to pursue transmission upgrades.	There are many options for meeting this criterion in addition to new transmission upgrades. New preferred and conventional resources would also fill potential future needs triggered by this criterion.
8d	<ul> <li>II. Extreme Events Mitigation for San Francisco Peninsula Area</li> <li>To better understand the CAISO's reasoning in proposing the San Francisco system as a unique area for Extreme Event analysis and potential implications on reliability for all electricity users in the CAISO footprint, SCE request the CAISO to provide the following:</li> <li>a. Objective criteria to determine unique Extreme Event study areas in the CAISO footprint (e.g. earth quake probability threshold and/or post Extreme Event restoration duration time).</li> <li>b. Guidelines to determine the accepted level of system performance</li> </ul>	The assessments of the San Francisco Peninsula area in the transmission planning process have determined that this area is unique and warrant consideration for mitigation of the extreme events. The intent of the inclusion of this due to the Peninsula areas unique characteristics is not to establish guidelines for determining unique characteristics in other areas but recognizing those within the Peninsula area. If there are situations that warrant similar analysis identified through the transmission planning process the ISO is open to considering on a case by case basis.



No	Comment Submitted	ISO Response
	under Extreme Events (e.g. Category C system performance where	
	load shed is permitted to stabilize the system or Category B where load	
	shed is not permitted).	
8e	III. Updating to NERC Transmission Planning Standards (TPL)	
	SCE requests that the CAISO consider implementing the changes that	The ISO intentions are stated under 1d above, however the ISO is willing to take
	are codified and adopted in this stakeholder process all at the same	the suggestion under consideration as an alternative.
	time, starting in the 2015-16 transmission planning cycle.	