Stakeholder Comments
ISO's Draft 2012/2013 Study Plan
February 28, 2012

No	Submitter (Name & Company)	Comment Submitted	ISO Response
1	*Barry Flynn, Bay Area Municipal Transmission Group (BAMx) and City and County of San Francisco (CCSF)*	**1. <u>Need to Maximize Stakeholder Involvement</u>** Our ability to provide meaningful comments on the planning process is highly dependent upon the CAISO's ability to provide multiple interactions with Stakeholders and in providing timely responses to each round of Stakeholder comments. BAMx and CCSF therefore urge the CAISO to respond to Stakeholder questions/comments on the Transmission Study plan prior to finalizing the plan. Also, during the February 28th meeting, the CAISO indicated a stakeholder meeting (during late Q2 timeframe) for 33% portfolio development. We look forward to receiving preliminary versions of these portfolios later this month (March 2012). BAMx and CCSF are encouraged with the CAISO's efforts to have meaningful stakeholder input in the development of 33% RPS portfolios, as we believe it to be the one of the most critical elements of the 2012-2013 transmission planning cycle. We would like to see an opportunity provided to comment on the root assumptions that go into developing the scenarios. One of those important root assumptions is the calculations of the "renewable net short" that the portfolios are developed to meet. The CEC Staff should immediately be requested to make a recommendation on an appropriate renewable net short for the portfolios.	The ISO transmission planning process is a transparent process with opportunities to provide comments at various stages of the process. In regards to the renewable portfolios, the ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.
2	*Barry Flynn, Bay Area Municipal Transmission*	**2. <u>Accounting for Economic Benefit of Reliability Projects</u>** During the presentation at the February 28th Stakeholder meeting, the CAISO presented its method for the first time of the calculation of economic benefits attributed to a reliability project. The examples given were from the	The need for the reliability projects identified in the plan are required to ensure that the performance of the transmission system meets the requirements of the mandatory NERC reliability standards, WECC regional criterion and ISO Planning Standards. Some of the projects will provide additional economic benefits beyond the

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	Group (BAMx) and City and County of San Francisco (CCSF)	last year's plan since the changes to the CAISO tariff had only recently gone into effect. We were surprised that a major economic benefit of a reliability project was not included in the assessment – the increase in customer service value that occurs because of a higher (more reliable) level of electric service. We cannot understand the CAISO's response, that is, the increase in service value was taken into account when the decision was made to approve the reliability project. Our understanding is that reliability projects are approved when the transmission system does not meet a deterministic set of criteria and not because it is justified based upon a value of service criteria. We believe the CAISO's interpretation of economic benefits of a reliability project will severely limit the competition in the construction of new transmission, which is clearly not in the interest of cost containment and will incrementally contribute to rapidly rising TAC rates.	reliability benefits to the system which were determined in accordance with the FERC Order on compliance requirements. The customer value of service is already taken into account by determining that the project is required to maintain the required reliability performance of the reliability standards.
3	*Barry Flynn, Bay Area Municipal Transmission Group (BAMx) and City and County of San Francisco (CCSF)*	**3. <u>Separate Stakeholder Process for the Central California Study</u>** In our (BAMx) comments to the Draft CAISO 2011-12 Transmission Plan earlier this year, we urged the CAISO to establish a separate stakeholder process to study the Central California issues rather than incorporating the large-scale projects like the Midway – Gregg – Tesla 500 kV project into the 2012-13 transmission planning process. We therefore endorse the current CAISO proposal to have a separate Central California study process that would allow stakeholders to be involved in establishing the assumptions used in the Central California Study Plan.	As indicated at the February 28, 2012 stakeholder session, the ISO will be developing a study scope as an addendum to the 2012/2013 Unified Planning Assumptions and Study plan and will provide stakeholders to provide comments on the addendum to the study plan for the Central California study.

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4	*Barry Flynn, Bay Area Municipal Transmission Group (BAMx) and City and County of San Francisco (CCSF)*	**4. <u>Need to Minimize Ratepayer Impact in Analyzing Alternative Methods to Reach Policy Goals</u>** The CAISO should emphasize the need to minimize ratepayer impact as it promotes transmission to achieve policy goals. Although the CAISO attempts to separate projects into three buckets (reliability, economic, and policy driven), almost all projects meet at least two of the three elements. We recognize the CAISO needs to interconnect renewables to meet State policy goals and FERC requirements, but it should determine the least cost method of doing so. In particular, we request the CAISO to model only those GIP-driven network upgrades (NU) that are identified to be "needed" for the specific CPUC resource portfolio. The CAISO has already taken steps in this direction. For example, GIP-driven NUs such as, the *Llano-Kramer 500 kV*, *Kramer Inyokern 230 kV*, *Bishop-Inyokern 230 kV* lines were not found to be needed in any of the four resource portfolios, and therefore were not modeled in the 2010-11 transmission plan. Similarly, the CAISO has indicated that it does not plan to model the *Lugo-Pisgah 500kV* transmission project in the Base Cases for the 2012-13 planning cycle. We therefore urge the CAISO to be consistent with this logic and reconsider modeling the remaining GIP-driven facilities such as, the *Coolwater-Lugo 230kV* and the *West of Devers Reconductoring* projects in in the Base Cases for the 2012-13 planning cycle. These NUs should only be added as needed to mitigate deficiencies that exist to deliver the renewables represented in each portfolio. The CAISO, by progressing in this manner, would assist State siting authorities in their proceedings on the proposed new GIP-driven projects that have never received CAISO Board approval nor been subjected to any	The ISO has a consistent process for modeling transmission upgrades associated with generation interconnection studies. If generation included in the base case requires transmission upgrades to be deliverable, based on previously completed studies, then those upgrades are modeled.

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		cost effectiveness criteria.	
5	*Barry Flynn, Bay Area Municipal Transmission Group (BAMx) and City and County of San Francisco (CCSF)*	**5. <u>Use the CEC's Revised Demand Forecast</u>** The CAISO is proposing to use the **preliminary** *mid-case* California Energy Demand Forecast 2012-2022 released by California Energy Commission (CEC) on August 30, 2011. We strongly encourage the CAISO to utilize the **revised** mid-case California Energy Demand Forecast 2012- 2022 released by CEC in February 2012 for the following reasons. First, the revised forecast provides the latest and the best information available. Second, The CAISO has already included the revised CEC load forecast in the draft Local Capacity Technical assessments that were presented during the March 8th Stakeholder meeting. So, in terms of logistics, the CAISO should easily be able to incorporate this revised forecast as the starting point in the 2012-13 Base Cases. Figure 1 below shows that both for the PG&E and to a greater extent for the SCE planning areas, the 2020 load projections (GWh) are lower in the CEC's revised forecast than in the preliminary forecast. This reduction in the revised load projections is primarily attributed to greater self-generation (including the effects of Self-Generation Incentive Program-SGIP, CSI, and other programs) as well as higher Conservation/Efficiency Impacts amounts in the revised forecast than in the preliminary one. BAMx and CCSF strongly urge the CAISO to consider utilizing the latest CEC demand forecast for the annual, five-year and ten-year Base Cases during the period of 2013-2022. (refer to the comments submitted for Figure 1)	At the time the draft study plan was developed, the California Energy Commission (CEC) had not held the workshop on the Revised California Energy Demand Forecast 2012-2022. The ISO has updated the study plan to utilize the mid-case of the February 2012 revised forecast of the CEC.

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6	*Barry Flynn, Bay Area Municipal Transmission Group (BAMx) and City and County of San Francisco (CCSF)*	**6. <u>Base Case and Load Flow Assumptions</u>** **Renewable Generation Assumptions** The CAISO should discuss the generation assumptions, especially the renewable ones before they finalize the Base Case used for the reliability assessments. BAMx and CCSF seek as much detail as possible on the renewable generation modeling assumptions. The CAISO has indicated that they would utilize the CPUC's discounted core and CAISO's interconnection agreement status as the primary criteria for modeling specific renewable generation for the 2-5 year planning cases. On the other hand, for the 6-10-year planning cases, the CAISO plans to model the generation included in the 2011-2012 baseline scenario. Please expand on these criteria and also the reason to use different criteria for renewable generation assumptions in the 2-5 year versus the 6-10 year planning cases. Please explain what the CAISO means by the CAISO's interconnection agreement status. Would only renewable generation with signed GIAs be included? Also, please elaborate what the CAISO means by the "baseline scenario". **Corrective Action Plans** As per the CAISO tariff, the CAISO identifies the need for any transmission additions or upgrades required to ensure system reliability consistent with all applicable reliability criteria and CAISO planning standards. In making this determination, the CAISO has indicated under the Study Plan that they would, in coordination with each Participating TO with a PTO Service Territory and other Market Participants, consider lower cost alternatives to the construction of transmission additions or upgrades, such as, demand-side management, interruptible loads and storage facilities. We have not	In the section 4.1.8 of Study Plan, the ISO has identified how it will be including generation into the reliability base cases. The reason for the difference in the approach to including generation in the base cases in years 2-5 and years 6-10 is to reflect the uncertainty of what specific generators will proceed to be in-service in the later year while ensuring adequate generation base cases to satisfy RPS and loading requirements. The reference to baseline scenario relates to the base scenario from the ISO 2011/2012 33% RPS portfolios. Table 2-1 of the Study Plan indicates in No. 17 that the Request Window opens on August 15, 2012 and is open until October 15, 2012 as indicated in No 22 of the table. This is the time period where stakeholders would provide input into potential options.

		seen any clear evidence of the CAISO performing these tasks in the earlier planning cycle. Please elaborate on how the CAISO plans to undertake each of these activities in the 2012-13 transmission planning cycle. **Deliverability Assessment Methodology** The CAISO plans to follow the same methodology as used in GIP to perform deliverability assessments in the 2012-13 transmission planning cycle. BAMx and CCSF believe that the CAISO's deliverability assessment process needs to be reformed. The consideration of very restrictive *Category C* contingencies in the deliverability assessment process, in conjunction with the unlikely operating conditions, represents highly unlikely stressed system conditions. We believe that the CAISO deliverability studies should use congestion management to the extent that resources that need to be dispatched down are dispatched only up to their RA capacity. Also, the use of Special Protection Schemes (SPS) for all *Category C* contingencies should be incorporated in the deliverability assessments. Furthermore, the use of load shedding and generation curtailment should be allowed along with SPS for all *Category C* contingencies. BAMx and CCSF strongly urge the CAISO to begin a separate stakeholder process to consider reforming the deliverability assessment methodology and process.	The deliverability assessment methodology was established in 2006 and reviewed and accepted by FERC and CPUC. The methodology was built upon the concept that a generator with the Full Capacity deliverable status should be able to deliver its output for 80% of the peak hours. The historical performance is taken into account in the dispatch assumptions. The deliverability assessment tests output level for a generator up to what is specified in the methodology, not to the full installed capacity. In addition, the deliverability assessment does not simultaneously dispatch all generators to the highest testing level. For overloads under Category B or Category C contingency, SPS may be used to mitigate the overloads in accordance to SPS design guidelines in CAISO planning standards. For details of deliverability methodology, please refer to http://www.caiso.com/Documents/On-PeakDeliverabilityAssessmentMethodology.pdf.
7	*Barry Flynn, Bay Area Municipal Transmission Group (BAMx) and*	**7. <u>OTC Analysis</u>** BAMx and CCSF find the approach the CAISO described during February 28th presentation to perform the Once Through Cooling (OTC) Studies using the OTC Load & Resource Analysis Screening Tool (L&R Tool) to be reasonable. We request the CAISO to share the updated OTC L&R Tool for LCR areas with Stakeholders at the earliest possible time. The CAISO	The ISO is working on the updates of the OTC Loads & Resources Analysis Tool for the Local Capacity Requirements (LCR) areas and will make this tool available to stakeholder as soon as possible. ISO staff appreciates the suggestions from BAMx for considerations in updating the L&R Tool.

	City and County of San Francisco (CCSF)	proposes to use combination of three load levels (Low, Medium and High load) as well as four renewable scenarios in the OTC L&R Tool. The existing Low, Medium and High load assumptions regarding Energy Efficiency (EE), CHP and Demand Response (DR) as modeled in the existing L&R Tool are outdated. As stated earlier, we encourage the CAISO to coordinate with the CEC to use the latest estimates developed under the CEC's revised demand forecast and other elements (EE, CHP, DR, etc.) in its OTC assessment.	
8	*Kenneth Sahm White, Clean Coalition*	The Clean Coalition supports the TPP draft study plan methodology as a thorough and well developed approach consistent with applicable orders and standards, and we have only one recommendation: While the Base Case is clearly the primary reference case, it must be recognized that it does not represent a policy preference or probable future path for development, and restricting analysis to this single scenario inhibits due consideration of primary alternatives recognized in state policy, especially where the ISO's transmission plan is used as the reference case in other policy determinations and proceedings. We recommend that all four CPUC defined scenarios be included for comparison, and in particular that the "high-distributed generation" scenario be given full consideration. We make this recommendation because: o there is a likelihood that actual development will deviate from the Base Case in relation to the Governor's goal for higher levels of DG o potential significant transmission cost reductions may result from greater deployment of DG o future planning and changes in the Base Case may be influenced by	The CAISO performs assessments on all of the identified portfolios not just the base portfolio, including a high-DG portfolio.

		findings for the sensitivity cases The current interconnection study queues already contain active commercial applications for levels of DG consistent with the High-DG scenario, and the Governor has clearly and consistently called for 12,000 MW of DG by 2020 and directed state agencies to incorporate this goal in planning. Further, the CPUC's High-DG scenario incorporates the same cost weighting as the cost-constrained scenario adopted as the Base Case, increasing the likelihood of additional DG development consistent with this scenario actually being deployed.	
9	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***1. 2012-2013 TPP Studies Should Use the Latest Energy Commission Load Forecast and Should Include and Take Into Account Reasonably Expected Incremental (Uncommitted) DSM and supply- and demand-side CHP.*** It is essential that planning assumptions be as up to date as possible, and for that reason the studies should be based on the current than the Energy Commission revised load forecast released on February 21, 2012, and if possible, the Energy Commission's final forecast expected to be released by the end of March. Additionally, assessment of transmission needs ten years out could be significantly influenced by which Energy Commission load forecast is used. CPUC resource planning via the Long Term Procurement Plan (LTPP) process assumes that DSM and CHP programs will continue and not simply terminate or "drop off a cliff" when their currently authorized funding ends. Therefore, the LTPP process "manages" CEC load forecasts to include such "incremental" CHP and DSM reasonably expected to occur. The selected values are modified downward from goals or potential study assumptions to account for uncertainty	At the time the draft study plan was developed, the California Energy Commission (CEC) had not held the workshop on the Revised California Energy Demand Forecast 2012-2022. The ISO has updated the study plan to utilize the mid-case of the February 2012 revised forecast of the CEC.

		through stakeholder processes. For consistency with resource planning and to avoid a narrowly conservative picture of 10-years-out transmission needs, the ISO's 2012-2013 TPP studies should meaningfully assess scenarios that include the above incremental DSM and CHP, and should not identify major 10-year transmission needs without assessing the extent to which those needs would exist under load forecasts that include incremental DSM and CHP.	
10	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***2. The Generation Assumptions Should be Consistent with State Policy and Reasonable Expectations*** The assumptions on generation retirements only include generation units that have announced plans for retirement. A significant number of older plants are subject to the Water Resource Control Board's policy on cooling water intake structures. As such, these plants will require significant upgrades to operate past the policy's compliance dates. Many of the plant owners have indicated they would repower units if they receive a long term contract and will retire the unit if they do not. Previous ISO analysis has indicated that not all the older steam generators will be needed. Assuming none of these plants retire biases the TPP analysis and provides no information on the trade-off between any needed transmission upgrades and new generation or repowers. Furthermore the retirement assumptions should be such that the generation is assumed retired consistent with current Water Resource Control Board policy compliance dates. It is important to note that to the extent these units are needed for proven reliability reasons, the Statewide Advisory Committee on Cooling Water Intake Structures is tasked with making annual recommendations to the Water Resource Control Board on any needed changes to the	As illustrated in section 4.1.8 of the Study Plan, for consistency the ISO relies on new generation and in-service dates from the CEC website under the licensing section (http://www.energy.ca.gov/sitingcases/all_projects.html). Table 4-3 lists new thermal generation projects in construction or pre-construction phase that will be modeled in the base cases. The ISO does not disagree with the observations and statements provided by the CPUC staff regarding generation retirements. In fact, this is exactly what the ISO did in its OTC generation analyses to determine the generation level needed to maintain local reliability in each of the LCR areas that have OTC generating plants. To some extent possible, the ISO included considered feasible and "low hanging fruit" transmission mitigation options that could help mitigate identified reliability concerns and thereby helped reducing generation need for local reliability purposes. These efforts are coordinated with ISO's Renewable Integration studies for help in meeting renewable integration purposes.

		implementation schedule.	
11	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***3. Assumptions Underlying Local Capacity Requirements (LCR) and Once Through Cooling (OTC)/AB 1318 Studies Need to Be Clearly Explained within the Study Plan (and Ultimately within the 2012-2013 Transmission Plan), and Divergence from Planning Assumptions Used by the CPUC and CEC Should Be Justified.*** The draft 2011-2012 Plan referred to external planning materials when describing certain LCR and OTC study assumptions. Combined with a more general need for greater clarity regarding assumptions for these studies, this made it difficult to assess exactly what inputs and assumptions were used. This situation can complicate use and acceptance of the ISO's modeling results in other proceedings, and can impair ability to understand apparent discrepancies across different studies or projections. Therefore, CPUC Staff emphasize the need for clear documentation of LCR and OTC/AB1318 study assumptions, within the 2012-2013 TPP Study Plan, and ultimately within the 2012-2013 Transmission Plan itself.	As with other studies done by the ISO the LCR studies are included in the ISO Transmission Plan and mentioned in the Study Plan. However unlike most other studies the LCR has its own stakeholder process. Every year around November ISO runs a stakeholder meeting to discuss Assumptions, Criteria and Methodology for next year LCR studies. November 10, 2011 was the last time this open stakeholder meeting has taken place. The materials can be found here: http://www.caiso.com/Documents/2013%20LCT%20Study%20Stakeholder%20Meeting%20Nov%2010,%202011 The latest LCR Manual can be found here: http://www.caiso.com/Documents/LCR_ManualFinal_2013.pdf . The documentation regarding Assumptions, Criteria and Methodology is quite extensive and is available to the public. As such the ISO does not see the need to repeat them in the TPP Study Plan. The same applies to the LCR results; they all have 100+ page reports posted for stakeholder consumption. Both the latest short term LCR report (2012) as well as the latest long-term LCR report (2016) can be found at: http://www.caiso.com/planning/Pages/TransmissionPlanning/2011-2012TransmissionPlanningProcess.aspx . The OTC studies utilize the same generation input assumptions (for new additions) as the policy-driven (RPS) study cases. The loads are modeled in the LCR areas are based on the CEC-adopted load forecasts for local reliability areas (i.e., 1-in-10 year heat wave load forecast). The ISO and the CPUC will have a stakeholder meeting on April 2nd, 2012, to review the CPUC's new RPS portfolios. At this forum, stakeholders will be provided updated information regarding RPS portfolios by the CPUC staff.
12	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***4. There Should be Sufficient Description of Any Major Transmission Additions Brought into the Base Case from the Generator Interconnection Process (GIP).*** For several years the ISO, CPUC, and other stakeholders have been pursuing the challenging goal of reducing the role of piecemeal transmission planning via the generator interconnection process and relying	According to tariff Section 24.4.6.5 and in order to better coordinate the development of potential infrastructure from transmission planning and generation interconnection processes, beginning with the 2012/2013 planning cycle, the ISO may coordinate the TPP with GIP studies. In general, Network Upgrades and associated generation identified during the Interconnection Studies will be evaluated and possibly included as part of the TPP. The details of this process are described below.

		more strongly on holistic and transparent planning via the TPP. Recent steps in this direction include Cluster 1-4 deliverability study refinements and the TPP-GIP integration initiative. Thus, it is essential to adequately describe and analyze from a system-wide perspective any major GIP-driven transmission additions that are being imported directly into the 2012-2013 TPP base case. The ISO should explain which executed interconnection agreements result in transmission upgrades and their inclusion or exclusion from the base case and why this determination was made. Furthermore, there should be clear explanation of the correspondence between generation additions driving (or supported by) GIP-driven transmission additions and the study plan's established resource portfolios. The consequences for the Renewable Portfolio Standard (RPS) portfolios if particular GIP-driven upgrades were to be omitted should also be described. The above information would support better understanding of the overall role of the proposed GIP-driven transmission projects. Additionally and importantly, it would inform resource planning and portfolio development. At a minimum, the additional information that should be reported for any GIP driven transmission facilities included in the base case includes the following. · The physical/electrical/economic characteristics of such facilities, including voltage, transfer capability increase, endpoints, in-service date and cost. · The MW and locations of (1) the renewable (and other) generation having signed interconnection agreements for which the GIP-driven facilities are needed and (2) separately, the amount of *additional* generation (beyond that having signed interconnection agreements) that could be accommodated by such added transmission facilities.	<u>LGIP Network Upgrade Criteria for TPP Assessment</u> Beginning with the 2012/2013 planning cycle, GIP Network Upgrades may be considered for potential modification in the TPP if the Network Upgrade: ➢ Consists of new transmission lines 200 kV or above and have capital costs of $100 million or more; ➢ Is a new 500 kV substation that has capital costs of $100 million or more; or ➢ Has a capital cost of $200 million or more. The ISO has a consistent process for modeling transmission upgrades associated with generation interconnection studies. If generation included in the base case requires transmission upgrades to be deliverable, based on previously completed studies, then those upgrades are modeled. Generation interconnection studies are posted on the ISO secure website. All generation projects in the Phase II cluster study have the potential to create a need for GIP Network Upgrades. As a result, the ISO may need to model some or all of these generation projects and their associated transmission upgrades in the TPP base cases for the purpose of evaluating alternative transmission upgrades. However, these base cases will be considered sensitivity base cases in addition to the base cases developed under the Unified Planning Assumptions. These base cases will be posted on the ISO protected web-site for stakeholder review. Study results and recommendations from these cases will be incorporated in the comprehensive transmission plan.

		· Whether the added GIP-driven facilities would be needed for reliability or deliverability purposes. · The modeled 8760-hour utilization of the added facilities under the different RPS scenarios studied. Such utilization should also be reported for other major transmission additions.	
13	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***5. Methodology, Assumptions and Ultimate Planning Role for RPS Resource-Related Reliability and Deliverability Studies Need to Be Adequately Explained and Justified*** This is especially important in light of the anticipated increased importance of the TPP to plan *delivery* network upgrades under TPP-GIP integration reforms. The ISO should clarify the relative roles, in upcoming studies and 2012-2013 Plan development, of on-peak deliverability studies conducted for RPS portfolios versus 8760-hour simulations of potential resource curtailment (dump energy) for those same portfolios. Furthermore, the assumed output levels (relative to maximum capacity) for wind and solar generation should be more fully and quantitatively described than in the past, particularly for major resource areas and under scenarios (and in locations) where transmission additions are identified. It appears that for the 2011-2012 Plan development, deliverability studies set wind and solar output levels somewhere between the 50% and 20% exceedance levels over the Qualifying Capacity (QC) period. This suggests that the amount of transmission capacity required for deliverability under such conditions would exceed what is needed to deliver the resources at their resource adequacy (Net Qualifying Capacity) levels. This should be clarified and justified.	The ISO does not disagree with the comments, but believe that these issues are to be addressed as a part of the planning process. These issues will be addressed in the 2012/2013 Transmission Plan as appropriate instead of the study plan. As an example, the methodology and assumptions for the policy-driven planning study of 2011/2012 cycle can be found in Sections 4.1~4.5 and sub-sections 4.7.1, 4.8.1 and 4.9.1 of 2011/2012 transmission planning report. The ISO deliverability methodology design objective is to ensure that resources in a constrained area are deliverable 80% of the time during summer peak load conditions. If an area consists of 100 percent wind generation then 80% of the time (e.g. 20% exceedance level) during summer peak load hours the expected wind production levels would be deliverable and 20% of the time some of the generation production would not be deliverable. If there were a variety of different types of generation in reasonable proportions in the constrained area then a 50% exceedance level of the wind generation production would be modeled to account for the forced outage rates and unavailability of the other types of generation units. The ISO's understanding of the NQC

		It is unclear, and needs to explained and taken into account when performing and interpreting studies, what should be the role of *reliability* studies conducted for RPS portfolios within the TPP. For example, are such results only informational, in that reliability network upgrades will be planned via reliability studies conducted for specific resources in the interconnection process? Similarly, the relationship between the ISO's standard TPP reliability studies for different parts of the grid (based on North American Electrical Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) reliability criteria) versus reliability studies conducted specifically for RPS portfolios should be made clear. For reliability and deliverability studies: • Differences in assumed wind and solar output levels (deliverability vs. onpeak reliability studies) should be clarified, • The assumed output of thermal generation at risk of retiring by 2022 should be clearly identified and the consequences of including versus excluding this generation in the reliability and deliverability studies should be clearly explained.	methodology is that it is based on a 70% exceedance level for the individual generation facility with a statewide diversity adder. This statewide diversity adder accounts for all summer peak load period production levels at particular sites. Therefore, maximum production levels during summer peak load hours are included in the NQC calculation. With this understanding the ISO deliverability methodology does not require transmission capacity that exceeds the amount needed to deliver resource production levels included in their calculated NQC levels. In regards to the reliability standards that the ISO applies in the assessment of reliability section or the RPS sections of the Transmission Plan they are consistent as identified in section 4.1.3 of the Study Plan.
14	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***6. Key Economic Study Parameters Should be Sufficiently Documented, and Transmission Additions Identified Pursuant to Economic Study Requests Should be Eligible to Substitute for Other Transmission Additions Under Certain Circumstances.*** Transmission costs can be high and can exceed estimates, especially in California and especially when encountering major siting issues. When conducting and reporting on economic congestion studies including the	In regards to transmission costs the ISO acknowledges the comments. The estimated cost of transmission development is an important factor in economic assessment and justification of a proposed project. In the 2012/2013 Transmission Plan, the ISO will document the costs in more detail. In regards to uncertainties and sensitivity analyses, the ISO agrees with the comments. Sensitivity analysis for account for uncertainties is actually one of the fundamental principles of the ISO Transmission Economic

		anticipated multifaceted Fresno/Central Valley study, as well as studies responding to study requests, the ISO should describe the source and rationale for transmission cost estimates. Assumptions and methods used to convert direct capital costs to total ratepayer costs, and to calculate various kinds of benefits against which costs are compared, such as summarized in Section 5.4.4 of the 2011-2012 draft Plan, should be documented and justified. Finally, given the uncertainties in both future circumstances and in appropriate selection of economic parameters, economic assessment of large potential transmission projects should be augmented with sensitivity analysis regarding key assumptions and economic parameters. When an analysis performed for a study request identifies an efficient alternative to previously identified transmission additions, the ISO should evaluate which alternative produces the best value for ISO ratepayers.	Assessment Methodology (TEAM). The ISO did perform sensitivity analysis around the defined base case to account for different possible futures, e.g. higher and lower load, higher and lower natural gas prices. One such example of sensitivity analysis can be found in the ISO Feb 7th presentation "Economic Planning Studies" in the study of the *Delany – Colorado River 500 kV* line. In regards to the study of alternatives, the ISO agrees with the comments related to the need to study alternatives to identify the most cost-effective way of transmission upgrade. This illustrated with the *Delany – Colorado River 500 kV* analysis in the 2011/2012 planning cycle. In addition to the alternative proposed in the study request, the ISO explored other alternatives to the proposal. The ISO also studied the alternative of building the North Gila – Imperial Valley 500 kV line #2 to make a comparison with the proposal from the study request.
15	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***7. Major Identified "Reliability" Transmission Needs Based on N-2 (Category C) Contingencies Should be Adequately Justified*** Transmission planning studies have sometimes identified costly or difficult to permit transmission additions based on N-2 contingencies. NERC, WECC and ISO reliability and planning standards do not require avoidance of load shedding under N-2 contingencies, but provide that transmission additions to address such contingencies may be considered taking into account the specific circumstances of the contingences, consequences and mitigation. If considering major transmission additions to address N-2 contingencies, the ISO should provide substantial, transparent analysis and information regarding the contingencies and their likelihood; the magnitude, duration and costs of load shedding; and the costs and effectiveness of	The ISO agrees that the NERC reliability standards do allow for the tripping of load and generation under Category C contingencies. Per the NERC reliability standards the ISO must mitigate for the contingencies within the performance requirements specified within the standards. The ISO takes this into account along with a number of other factors when determining the need for transmission facilities or special protection systems (SPS) to mitigate for the Category C contingencies. Such as: the nature of and complexity of the SPS requirements as mitigation; the magnitude of load or generation that would need to be tripped; the impact, consequences and durations of potential contingencies; and the effectiveness of mitigation plans.

		alternative solutions.	
16	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***8. Studies of Transmission Additions to Reduce LCR Subareas Should be Conducted*** Due to conflicting OTC requirements and local air emissions requirements, there arises the necessity to perform additional analysis related to compliance that may not just be generation retirement or repowering. Transmission improvements specifically to reduce reliance on OTC plants as well as particular locations in the transmission topology (such as LCR subareas) are required in order to inform compliance alternatives for generating asset owners who have the choice of either retirement inside the current ISO transmission topology, repowering inside the current ISO topology, or undertaking another alternative such as refitting their water intake structures. Most importantly, transmission improvements for a future ISO transmission topology that reduce LCR requirements in sub-areas also needs to be examined, which the ISO has not addressed in a systematic manner. It is critical to be able to evaluate these tradeoffs in order to minimize ratepayer costs and make the most efficient decisions possible about future resource investment.	Through the years the ISO has approved many transmission projects in order to reduce or eliminate reliance on local resources in virtually every area and sub-area in the system. They can be found in every LCR report under the "New Major Project Modeled" list under each local area section. The remaining constraints may also be further decreased by additional transmission projects. The ISO is working through an open stakeholder process with existing PTOs and other market participants in order to identify feasible transmission alternatives before further studies can be conducted. For studies to determine the need of generation at the existing OTC generating sites, the ISO included feasible and "low hanging fruit" transmission mitigation options to help mitigate local reliability concerns, and as a byproduct of this effort, some level of generation need was shown reduced when compared to no transmission alternative.
17	*Keith White, California Public Utilities Commission (CPUC) Staff Comments*	***9. The Generation Assumptions Should be Consistent with State Policy and Reasonable Expectations*** Due to conflicting OTC requirements and local air emissions requirements, there arises the necessity to perform additional analysis related to meeting reliability needs by creating options other than generation retirement or repowering. Transmission improvements specifically to reduce reliance on OTC plants as well as particular locations in the transmission topology	Please refer to the response to 16 above.

		(such as LCR subareas) are required in order to inform compliance alternatives for generating asset owners who have the choice of either retirement inside the current ISO transmission topology, repowering inside the current ISO topology, or undertaking another alternative such as refitting their water intake structures. Most importantly, transmission improvements for a future ISO transmission topology that reduce LCR requirements in sub-areas also needs to be examined, which the ISO has not addressed in a systematic manner. It is critical to be able to evaluate these tradeoffs in order to minimize ratepayer costs and make the most efficient decisions possible about future resource investment.	
18	*Wayne Stevens, Critical Path Transmission*	<u>Topic 1: Transmission Base Case Assumptions</u> Slide 13 of Brian Fong's presentation indicates that "ISO-approved transmission projects" will be included in the base case assumptions used for the studies to be conducted in the 2012-2103 planning process. While this slide may not specifically be addressing previously approved LGIP projects, combined with the statement on slide 21 ("ISO's interconnection agreement status will be utilized as criteria for modeling specific renewable generation") these comments lead to the conclusion that all of the specific LGIP projects approved in the 2010-2011 Statewide Transmission Plan are included as transmission assumptions in the base case. CAISO staff have indicated in the past (the 07 February 2012 2011-2012 TPP stakeholders meeting and the 02 February 2012 CPTG Executive Committee meeting) that at least one ISO-approved transmission line (Pisgah-Lugo) is so unlikely to be constructed (due to daunting permitting	Not all LGIP projects listed in the 2010-2011 Statewide Transmission Plan will be included as transmission assumptions in the reliability assessment base cases. For example, the proposed Pisgah-Lugo transmission upgrade will not be included in the reliability assessment base cases. Sensitivity studies may be performed with and without the proposed Cool Water-Lugo transmission upgrade in the reliability assessment base cases to address the uncertainty associated with the permitting approval of this project and the potential impacts on the study results.

		challenges and other issues) that it would not be included in the base case for any future studies. Based on this recognition of likely outcomes, combined with the lack of realistic progress by the project sponsor, it would be counterproductive for the CAISO to base the entire 2012-2013 Planning Process on such a dubious assumption. In fact, it would be in the interest of the CAISO to include in the base case assumptions the more likely scenario that neither Pisgah-Lugo nor Coolwater-Lugo will be constructed. Based on ongoing activities at various state agencies and forums, it becomes the responsibility of the CAISO to proactively justify why either Pisgah-Lugo or Coolwater-Lugo would be transmission elements included in the 2012-2013 base case assumptions. <u>Recommendation:</u> While including generation that may be part of existing interconnection agreements, the CAISO should specifically 1. Conduct the studies in the 2012-2013 planning process assuming that neither Pisgah-Lugo nor Coolwater-Lugo are permitted or constructed. 2. If a robust rational or justification can be made to support the inclusion of Coolwater-Lugo, then the studies should be conducted with two separate assumptions – with neither Pisgah-Lugo or Coolwater-Lugo as base case assumptions and, alternately, with only Coolwater-Lugo as a base case assumption. 3. If a robust rational or justification can be made to support the inclusion of both Pisgah-Lugo and Coolwater-Lugo, then the studies should be conducted under three separate assumptions:	

		including neither of the projects, including only Coolwater-Lugo and including both of the projects. It is essential to the CAISO that the studies conducted over the next year not be found to be invalid or unusable due to the use of assumptions that were known to be suspect from the beginning of the process. Such a miscalculation could essentially set the transmission planning process back a full year. In the past, the CAISO has inadvertently hindered rather than expedited transmission development by not offering alternative projects to state permitting authorities. This "take it or leave it" dilemma at the CPUC during the CPCN process leaves no choice but to approve ill-conceived LGIP projects that have never had economic or environmental evaluation or to explain to elected officials why state policies cannot be achieved. The CAISO now seems to be on the path to a study process that will result in policy-driven transmission elements that are likely to actually be realized. By selecting realistic assumptions, or at the very least conducting studies under a variety of assumed transmission element scenarios, the CAISO can continue on this track to seeing transmission projects actually become a reality. Further, the Phase 2 study plan under this year's TPP offers the perfect opportunity to evaluate true alternatives for Pisgah-Lugo and Coolwater-Lugo, and for the CAISO to achieve compliance with the FERC Order dated 20 October 2011, FERC.	

		As stated by FERC in paragraphs 34 and 35, We grant Critical Path's request for clarification that 2008 and 2009 request window proposals should be considered on a comprehensive basis. *We note that, under RTPP Phase 2, CAISO conducts a comprehensive analysis that considers all elements together to ensure the most efficient and comprehensive transmission plan was developed.* The comprehensive plan includes reliability projects, LCRI facilities, merchant transmission facilities, projects to maintain the feasibility of long term CRRs, and certain LGIP network upgrades. The comprehensive plan also includes policy-driven transmission elements and economically-driven transmission elements… Furthermore, consistent with the RTPP Order, tariff section 24.4.6.5, as proposed in the compliance filing, provides that, if a policy-driven element is identified in Phase 2 of the RTPP, it could supplant the need for LGIP projects that may have otherwise been identified in a subsequent LGIP process. Therefore, under RTPP, CAISO comprehensively evaluates all needs and identifies the most efficient and effective projects to meet those needs, allowing, when appropriate, for a 2008 or 2009	

		request window project to be built by the proposing project sponsor for a policy-driven or economically-driven transmission element while also fulfilling other needs, such as reliability needs identified earlier in Phase 2. As indicated below, we find that proposed tariff sections 24.4.6.8 and 24.4.6.5 in the compliance filing are just and reasonable and therefore accepted. The FERC Order specifically directed the ISO to conduct "comprehensive analysis" to evaluate the system needs and to identify "the most efficient and effective projects to meet those needs". By conducting the studies under realistic transmission assumptions (i.e. no Pisgah-Lugo or Coolwater-Lugo included in the base case), the CAISO can identify more efficient and effective projects, such as the High Desert Power Authority's AV Clearview Project, that can also meet the electrical functionality of the LGIP projects. At the very least, conducting the studies under multiple, alternative base case assumptions, the CAISO can approach the goal of comprehensive evaluation and identifying the most efficient and effective projects.	
19	*Wayne Stevens, Critical Path Transmission*	<u>Topic 2: Renewable Portfolio Assumptions</u> Yi Zhang's slide 3 states "In accordance with tariff Section 24.4.6.6, the renewable portfolios will reflect considerations, including but not limited to, environmental impact, commercial interest, risk of stranded investment, and	In regards to the renewable portfolios, the ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or

		comparative cost of transmission alternatives." Slide 3 also states that "Preliminary portfolios will be shared with stakeholders in March and discussed in a stakeholder meeting." On Yi Zhang's slide 6, regarding Deliverability Assessment Methodology, it states that "Deliverability for the base portfolio and sensitivity portfolios as needed". <u>Recommendations:</u> The CAISO should provide specific information on how they determine both the "environmental impact" and the "comparative cost of transmission alternatives", including what alternatives are considered and how this information will be incorporated into the 2012-2013 transmission planning process. This information should include how the CAISO intends to align their objectives with the objectives of other state agencies and processes, such at the CPUC and DRECP process being conducted under the auspices of the CEC. The CAISO should provide specific information on how stakeholder input on the portfolio assumptions will be incorporated into the 2012-2013 transmission planning process. The CAISO should provide specific information regarding how "sensitivity portfolios" will be selected and used in the Deliverability Assessment.	CPUC and CEC. The selection of sensitivity portfolios will be based on the study results on the base portfolio. If network upgrades are identified as needed in the base portfolio, then the need for those upgrades will be assessed based on the sensitivity portfolios as well. The results are not known at this point of time. Full discussion and explanation of sensitivity studies will be provided first in the draft study report.

Stakeholder Comments
ISO's Draft 2012/2013 Study Plan
February 28, 2012

20	*Kristin Burford, Large-scale Solar Association*	In the 2011-2012 TPP, the CAISO studied renewable portfolios from the California Public Utilities Commission's (CPUC's) Long-Term Procurement Plan (LTPP) proceeding. In last year's process, LSA raised concerns about the terms of CAISO's tariff precluding the use of the CPUC's recommended base case scenario, the out-of-date information included in the scenarios, and the very limited opportunity for stakeholder input on these scenarios, which play a fundamental role in the state's energy and transmission planning processes. However, other than correction of a few errors, the scenarios were largely finalized before the CAISO's stakeholder meeting was held. The broader policy concerns raised by stakeholders simply were not addressed prior to these scenarios being studied in last year's TPP. By a March 9th letter, the CPUC and CEC have provided CAISO with renewable scenarios for use in the 2012-2013 TPP. There has not been an opportunity for stakeholders to provide input on these scenarios; even the limited stakeholder comment opportunity that was provided last year during the LTPP was not available this year. Thus, this year, the only opportunity for stakeholder input on the scenarios will be during the CAISO's TPP. And, as noted above, stakeholder input on the scenarios was largely not addressed in the TPP last year. **LSA urges the CAISO to ensure that stakeholders have a full opportunity to review and comment on the proposed renewable scenarios in the TPP. To fully address stakeholder input and concerns, the TPP schedule should include sufficient time to revise and adjust the scenarios in response to stakeholder concerns and the**	The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The ISO would encourage stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		CAISO, CPUC, or CEC staff, as appropriate, should provide responses to stakeholder comments so stakeholders can understand whether and how the different issues have been addressed. The TPP schedule appears to provide only a single opportunity for stakeholder review of the scenarios and it is not clear how revision of the scenarios in response to stakeholder concerns will be addressed. A full opportunity for stakeholder input on these critical assumptions is necessary - especially in light of the TPP's crucial role in the proposed TPP-Generator Interconnection Process (TPP-GIP) Integration process of determining which upgrades are ratepayer-funded and which are not. As noted in our comments on the renewables scenarios during last year's TPP, LSA supports the efforts of the CAISO and CPUC to coordinate their planning efforts in accordance with the May 2010 Memorandum of Understanding. However, a coordinated effort must not ignore the requirements of the CAISO's tariff with respect to the TPP assumptions. Specifically, according to Section 24.4.6.6 (Policy-Driven Elements) of the CAISO tariff, "[t]he CAISO will create a **baseline scenario reflecting the assumptions about resource locations that are most likely to occur** and one or more reasonable stress scenarios that will be compared to the baseline scenario." (emphasis added) We strongly urge the CAISO to take the following three steps to keep its planning efforts consistent with the CAISO's tariff requirements: • Ensure that the scenarios are based on accurate, up-to-date information about the commercial interest and projected generation development; • Ensure that the scenario designated as base case appropriately	

		incorporates commercial interest and that the other "stress" scenarios also incorporate the core commercial projects; and • Work with the CPUC and CEC to establish a timely process to revisit the scenarios and scoring criteria on an annual basis to provide periodic updates of these fundamental planning assumptions and ensure that the state's planning efforts are based on correct and up-to-date information. The critical role that these scenarios are playing in the transmission planning effort demands that they be subject to thorough stakeholder review, and be both accurate and reflective of the most current information available. Unfortunately, LSA is concerned that, unless the TPP schedule provides time for careful review of the scenarios and the associated revisions, the scenarios will fall well short of meeting these criteria. Given the significant concerns raised in last year's TPP regarding the scenarios, combined with the increased importance of the TPP under the TPP-GIP integration proposal, LSA is dismayed that these scenarios are once again coming late into the CAISO's stakeholder process and that there has not been a more proactive effort to provide additional time for stakeholder review. In closing, LSA requests that the CAISO take the time needed to review these CPUC scenarios, to allow for stakeholder input, and to make any needed updates or modifications to the proposed scenarios to ensure that the scenarios are accurate and up-to-date, are consistent with the tariff requirements, and contribute to the broader goals that the TPP is seeking	

		to achieve.	
21	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	Summary In its transmission planning process and when developing the Draft Study Plan, it is crucial that the CAISO provide for a meaningful opportunity and timeframe for stakeholders to review and provide input on data assumptions used by the CAISO. Specifically, stakeholders must be allowed to review and comment on generation scenarios recommended by the California Public Utilities Commission ("CPUC") as well as other inputs used by the CAISO in its planning process. In several instances discussed below, the CAISO process does not permit Pathfinder and other stakeholders to present such comments here. Accordingly, Pathfinder urges the CAISO to provide a meaningful comment opportunity in the future. Of greatest concern are the assumptions regarding generation portfolios. In planning for future generation scenarios, Pathfinder urges the CAISO to ensure that its transmission planning process focuses not only on least-cost transmission options, but overall costs to ratepayers, taking into account generation costs and different generation options and portfolios. Generation costs play a much more significant role in overall ratepayer costs than transmission costs, and the CAISO should take this fact into account when developing its transmission plan. Specifically, the plan should seek to accommodate a range of possible future scenarios rather than choosing only one or two. Such flexibility recognizes uncertainty and will promote generation options and competition that will reduce total ratepayer costs even if not producing the lowest cost for only the transmission component.	The ISO transmission planning process is a transparent process with opportunities to provide comments at various stages of the process. In regards to the renewable portfolios, the ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC. The CPUC and CEC have identified a base scenario along with three alternative scenarios for discussion at the stakeholder session. The ISO will assess the base scenario along with the alternative scenarios as sensitivity studies in the 2012/2013 planning cycle. In addition, the resource adequacy (RA) program is under the jurisdiction of local regulatory agencies. CPUC has jurisdiction over 90% of the load within the ISO BAA, furthermore the 33% renewable is a state policy goal also under the CPUC jurisdiction. Under the long-term procurement process the CPUC has access and approves RA and energy contracts for all its jurisdictional entities; therefore it has access to already approved contracts as well as intimate knowledge about contractual prices and other details that the ISO does not have. With this it is appropriate that the policy "portfolios" be developed by the CPUC and CEC.

		Among the scenarios that the CAISO should plan for is one that assumes a substantial increase in renewable energy imported into California. This is consistent with other California transmission planning efforts. Additionally, Federal Energy Regulatory Commission ("FERC") requirements and the Federal Commerce Clause also require consideration of out-of-state resources in the transmission planning process. Additional issues, inputs, and studies, as described more fully below, should also be considered by the CAISO in its transmission planning process.	
22	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**II. Stakeholder Input is Vital to the Draft Study Plan and the Transmission Planning Process** **A. The CAISO Must Ensure that Stakeholders have a Meaningful Opportunity to Review and Comment on Generation Scenarios and Portfolios Recommended by the California Public Utilities Commission** The Draft Study Plan, as presented, lacks appropriate information and processes to ensure broad stakeholder involvement in the creation of one of the most important assumptions used as an input into the modeling process: selection of renewable generation types, amounts, and locations. Specifically, the generation scenarios and portfolios that the CPUC will recommend to the CAISO are critical assumptions not included in the Draft Study Plan. Accordingly, Pathfinder and other stakeholders cannot comment on this most critical assumption now. Pathfinder appreciates the assurances offered by CAISO staff (and the CPUC staff) at the February 28 workshop that stakeholders will be a given a future opportunity to comment on the portfolios once they are submitted. However, based on experience in the last planning cycle as well as given the schedule of the work plan,	The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		Pathfinder is concerned that this comment opportunity may not truly allow for meaningful amendment of the portfolios, either because the CAISO believes it is bound by them as submitted or because there is not sufficient time in the work plan to develop and consider amendments. Specifically, Pathfinder reiterates its request raised at the February 28th stakeholder meeting that the CAISO process allow sufficient time for stakeholders to meaningfully review and comment on the Commission recommended generation assumptions. For the comment opportunity to be meaningful, the work plan needs to allow for the possible amendment of the portfolios and the CAISO has to be willing to consider such amendments. This last point merits emphasis. The CAISO should not automatically endorse generation and planning scenarios provided by the CPUC, even when the recommended scenarios are based on the CPUC's Long-Term Procurement Plan ("LTPP") proceeding that includes stakeholder input. The LTPP process is not employed specifically for the transmission planning process, but is rather designed to approve plans for utilities to purchase energy in an amount adequate to meet the demands of customers. The CAISO should therefore not automatically endorse the CPUC's recommended generation scenario. To this end, the CAISO should also review and include all LTPP planning scenarios in its transmission planning process, not just the scenario recommended by the CPUC, and allow stakeholders to review and comment on each of those scenarios. Such a methodology is utilized by many other regional transmission organizations ("RTOs") so that multiple input assumptions are used when developing transmission plans.	

		Furthermore, it is particularly important that stakeholders are provided with a meaningful opportunity to comment on CPUC generation scenarios for years such as this year when the CPUC's LTPP proceeding has not yet concluded, or if the CPUC's recommended generation scenario is developed without stakeholder input. Relying on dated assumptions and without the benefit of stakeholder input, CPUC recommendations may not reflect appropriate generation scenarios.	
23	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**B. The CAISO Must Ensure that Stakeholders have a Meaningful Opportunity to Review and Comment on Other Inputs Used in the Draft Study Plan** In addition to allowing stakeholder input on CPUC recommendations, the review and comment opportunity should address many other key assumptions used in the Draft Study Plan, including the following: • assumptions on generation resource additions and retirements; • energy demand; • fuel and pricing; • production cost modeling; and • CAISO's incorporation of resources in the CAISO Generator Interconnection Procedures ("GIP") queue. Furthermore, stakeholder input must be allowed on key environmental assumptions, including some not identified in the Draft Plan. Among the key environmental assumptions are: • The impact of the State Water Resources Control Board's Policy on once through-cooling;	The ISO agrees with these comments. The ISO transmission planning process is a transparent process with opportunities to provide comments at various stages of the process. The purpose of requesting written comments on the draft study plan and having stakeholder meetings to discuss the study plan with stakeholders is to provide an opportunity for stakeholder to comment on all the key factors associated with the development of the study plan. We carefully consider all specific and general input and provide responses to questions. Stakeholder sessions, identified in Table 2-1 of the Study Plan highlight process and times when the identified areas, economic and policy driven projects will be available for stakeholder consultation. .

		• AB 1318 impacts; • California's AB-32 greenhouse gas ("GHG") emission reductions; and • Impacts from the Environmental Protection Agency rules regarding GHG emissions which should also be considered, particularly for long-term planning scenarios. The Plan also needs to consider certain key public policy objectives including: • The impact of increased distributed generation; • Meeting potential renewable goals that are higher than 33%; and • Reducing coal generation. Another overarching issue is that all of the inputs and studies used in the Draft Study Plan should employ the same assumptions. It does not make sense to use one set of assumptions for reliability assessments, a second set of assumptions for economic planning, and a third set of assumptions for policy driven analyses.	
24	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power*	**III. The 2012-2013 Transmission Planning Process Should Seek to Meet Reliability and other Policy Goals at the Least Total Cost to Ratepayers, not just the Least Transmission Cost** The goal of transmission planning should be to meet reliability and other important policy goals at the least cost. However, when considering the "least cost," the CAISO should consider the customer's entire bill, not simply the transmission portion of it. Transmission is a relatively small portion of the customer's bill whereas the generation portion of the bill is typically the largest portion. However, transmission can have a profound impact on generation costs by restricting competition, foreclosing	The ISO TPP process takes into account reliability, policy and economic needs based upon the projected needs of the transmission system based upon the CEC energy demand forecast, CPUC/CEC renewable portfolios and conventional generation development plans. The reliability assessment is based upon a baseline for renewable generation while the policy and economic analysis considers alternatives portfolio development scenarios based upon the suite of portfolios developed by the CPUC/CEC.

	Transmission, LLC	generation options and excluding the least cost generation options. Thus, "getting transmission right" means planning a transmission system that encourages least cost generation and generation competition in a variety of scenarios. If there is one thing certain about forecasts of the future, it is that they are wrong. To select any one generation scenario and put all California's eggs in that basket vastly overstates the ability to forecast variables such as technology breakthroughs, weather, natural and man-made disasters, interest rates, regulatory change, the economy and many other factors that fundamentally impact fuel and other generation costs. Prudent planning recognizes such uncertainties and places a high value on preserving options and maintaining flexibility. Accordingly, the transmission planning process should seek to accommodate—and create competition among—as many generation scenarios as is reasonable. Choosing a scenario that excludes any significant portion of the market limits generation options and risks substantially higher generation costs and overall rates. The CAISO must ensure that its transmission planning process considers sufficient generation scenarios to promote competition and provide customers with the lowest cost bills. The CAISO should not only consider what projects it needs to initiate in the near term, but also consider what generation and associated transmission opportunities are on the horizon to ensure that California's electricity customers can obtain environmentally suitable renewable energy at the lowest possible cost.	
25	*Christopher Ellison &*	**IV. The CAISO Must Consider At Least One Scenario with Significant Out-of-State Imports and Options**	The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios

	Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC	To help ensure that reliability and other policy goals are served at the least cost, the CAISO should consider generation scenarios that include economical renewable resources from outside of California. This issue was raised at the February 28, 2012 stakeholder meeting where it was highlighted that out-of-state generation is frequently more economical. For example, the CAISO should consider increased capacity from the Eldorado Valley delivered to southern California and out-of-state wind resources, such as wind resources from southeastern Wyoming delivered to California via HVDC transmission.	that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.
26	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**A. The CPUC, the CTPG and the WECC Transmission Plans Have All Independently Demonstrated the Value of Out-of-State Imports for California and the West** In developing its 2012-2013 Transmission Plan, the CAISO should consider carefully, and, absent compelling reason, seek to be consistent with, the planning efforts of the CPUC, the California Transmission Planning Group ("CTPG") and the Western Electricity Coordination Council ("WECC"). All three of these entities have identified in their planning substantial benefits from enabling increased out-of-state imports into California. The CPUC 2010 LTPP System Analysis Preliminary Results Study indicates a potential incremental need of between approximately 10-25 terawatt hours ("TWh") from out-of-state resources out of a total of approximately 54 TWh in 2020. The CTPG issued its 2011 Final Statewide Transmission Plan ("2011 Plan") on February 24, 2012.6 The 2011 Plan is intended to identify transmission	Within the ISO's TPP the assessment is focused on the transmission development requirements to satisfy the reliability and policy needs of the ISO controlled grid. The ISO takes into account the forecasted load growth by the CEC and the renewable portfolios developed by the CPUC and CEC to satisfy RPS and other Policies. Within the ISO TPP assessments are done based upon satisfying the established mandatory reliability standards, policy initiatives and economic benefits based upon the ISO Transmission Economic Assessment Methodology (TEAM). In regards to comments on the CPUC portfolios that the ISO utilizes, the ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC. The ISO participates on many inter-regional transmission forums, including WECC committees such as the Transmission Expansion Planning and Policy Committee (TEPPC). As indicated within the studies identified, there a number of factors that are not included and risks associated with the analysis as were identified in 2011 WECC 10-year plan. The assessments that have been identified in the comment also do not address the reliability requirements to satisfy the NERC reliability standards for the regions within the Western

		needs, such as the need to mitigate thermal overloads on the existing transmission system between two substations. The 2011 Plan concludes: Based upon study results in Phase 3 and Phase 4 of CTPG's 2010 study work, the Pacific Northwest Corridor the Northwest Nevada Corridor and the Southwest Corridor have been selected as high potential transmission corridors. These corridors are recognized as ***potential options for the state of California to import power, including renewable energy to meet the state's RPS goals***. Based on further review in 2011, the CTPG has again selected these corridors as high potential transmission corridors. The corridors were selected for the following reasons: • The recognition by other sub-regional planning groups for study as potential WECC transmission system improvements • The potential for geographic, weather, and resource diversity for California's renewable resource portfolio beyond that provided by renewable developed primarily in southern California, • The strong support by federal and state governments required for the completion of the renewable resource projects and transmission improvements that would provide renewable energy throughout the western United States. • Potential access to entities that are currently planning for the development or renewable energy resources well beyond their own needs for potential import into California. Additionally, the 2011 Plan provides: Similar to 2010, the CTPG identified "high potential" transmission	Interconnection. These are issues such as impacts due to loss of single transmission facility, i.e. HVDC line, from a large (3000 MW) isolated generation source. These impacts relate to satisfying performance and reserve requirements at the receiving end of transmission facility to required levels.

		corridors that may provide the State with options going forward. The identification of these transmission corridors is intended to provide transmission planning information ***to assist the California load serving entities' efforts in identifying viable out-of-state renewable resource projects***. By providing high potential transmission corridor options, CTPG intends ***to facilitate a competitive renewable resource development and procurement environment***. The 2011 Plan clearly recognizes the importance of evaluating out-of-state renewable generation options, as such options are important to provide competitive pricing and to ensure that load serving entities can meet renewable procurement goals. The WECC Transmission Expansion Planning Policy Committee ("TEPPC") made similar findings in its 10-Year Regional Transmission Plan – 2020 Study Report ("2020 Study Report").9 Among the scenarios considered in the 2020 Study Report were two involving 25,000 GWh increases in Montana and Wyoming wind production and associated transmission to convey the energy to California. The WECC conclusion on the impact of increasing wind production was: Based on the capital cost estimates prepared for the aggressive wind cases as shown below in Table 4, all of the aggressive wind cases have a cost benefit compared to the PC1 SPSC reference case. The savings are mostly related to the estimated capital costs of the resources.	

		A closer review of the 2020 Study Report reveals the magnitude of the identified savings is substantial, in particular for the Wyoming high wind scenario – a scenario similar to Pathfinder's proposal to deliver wind energy into California. For that scenario, the Report found a net reduction in regional production costs of $1,556 million per year compared to the base case scenario—the lowest production cost of any of the scenarios studied. In the wake of these consistent conclusions reached by three other expert, objective planning organizations, the CAISO cannot credibly refuse to carefully consider one or more scenarios assessing the impact of a significant increase in renewable imports.	
27	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**B. FERC Order 1000 and the Federal Commerce Clause Provide an Independent Basis for Considering Out-of-State Generation Imports** Another reason for the CAISO to include at least one scenario with significant increases in out-of-state imports (or, more specifically, wind from Wyoming per the WECC 2020 Study Report) is that it may be legally required. Both FERC's Order No. 100011 and the Commerce Clause of the U.S. Constitution demand that California not restrict its electricity supply to instate resources. **1. FERC Order 1000** FERC Order 1000 requires transmission planning efforts to look beyond a transmission provider's borders and evaluate regional generation and transmission scenarios. The Order "requires each public utility transmission provider to participate in a regional transmission planning process that produces a regional transmission plan and complies with existing Order No. 890 transmission planning principles." The Order also ensures that:	The ISO participates in planning coordination and study activities through the California Transmission Planning Group as well as through WECC's Transmission Expansion Planning Policy Committee. While these provide effective opportunities for information sharing and coordination which the ISO anticipates continuing with in the future, these mechanisms lack the specificity and binding requirements necessary to drive the approval of projects and related cost allocations. With respect to the interregional compliance filing requirements, the ISO considers that significant additional procedures will be required for the coordination of the planning with neighboring regions to meet this requirement. Public utility transmission providers or ISOs/RTOs in neighboring transmission planning regions must have a common interregional cost allocation method for new interregional transmission facilities that the regions determine to be efficient or cost-effective. The method must satisfy six similar interregional cost allocation principles. Participant-funding of new transmission facilities is permitted, but is not allowed as the regional or interregional cost allocation method.

		…transmission needs driven by Public Policy Requirements are considered in local and regional transmission planning processes…to ensure that public utility transmission providers in every transmission planning region, in consultation with stakeholders, evaluate proposed alternative solutions at the regional level that may resolve the region's needs more efficiently or cost-effectively than solutions identified in the local transmission plans of individual public utility transmission providers." Order 1000 concludes: …that it is necessary to have an affirmative obligation in these transmission planning regions to evaluate alternatives that may meet the needs of the region more efficiently or cost-effectively. The Order continues that without such a regional approach: …transmission providers may not adequately assess the potential benefits of alternative transmission solutions at the regional level that may meet the needs of a transmission planning region more efficiently or cost effectively than solutions identified by individual public utility transmission providers in their local transmission planning process. Additionally, Order 1000 describes the importance of a regional plan for meeting renewable procurement requirements. The Order finds that regional transmission planning is vital to identify solutions to cost-effectively integrate "location-constrained renewable energy resources needed to fulfill…the renewable portfolio standards adopted by many states."16 Order 1000 points out that "some transmission planning processes do not	

		consider transmission needs driven by Public Policy Requirements," resulting in a struggle to "address transmission expansion necessary to…comply with renewable portfolio standards." It is difficult to see how the CAISO's transmission planning process can be said to conform to the intent of Order 1000 if it does not study or consider generation scenarios with substantial increases of out-of-state renewable resources. Indeed, when the CAISO considers public policy objectives in its transmission planning, complying with Order 1000 should be on the list.	
28	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**2. Commerce Clause** Similarly, the refusal to consider such scenarios and the resulting planning of a transmission system that unduly favors in-state resources would violate the Commerce Clause of the U.S. Constitution. The Commerce Clause reserves to Congress the authority to regulate commerce among the states. Although it does not expressly prohibit states from enacting laws impacting interstate commerce, courts have traditionally held that the Commerce Clause implicitly includes such a prohibition. This is commonly referred to as the "negative Commerce Clause" or "dormant Commerce Clause" and is often used to overturn attempts by states to favor in-state interests over out-of-state interests and also to prohibit "economic protectionism – that is, regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors." Accordingly, the Supreme Court has "interpreted the Commerce Clause to invalidate local laws that impose commercial barriers or discriminate against an article of commerce by reason of its origin or destination out of State." As the Commerce Clause is used to attack laws and regulations favoring in-	The ISO TPP process takes into account reliability, policy and economic needs based upon the projected needs of the transmission system based upon the CEC energy demand forecast, CPUC/CEC renewable portfolios and conventional generation development plans. The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC. In addition to the TPP process, generators internal and external to California submit applications to the ISO queue. Generation interconnections are studied in clusters to determine the transmission reinforcements and the allocation of costs to impacting generators for network reliability and deliverability requirements.

		state products or services, the CAISO's transmission planning process should not unreasonably ignore renewable generation options from out-of-state. The Supreme Court has found that "it is difficult to conceive of a more basic element of interstate commerce than electric energy, a product used in virtually every home and every commercial or manufacturing facility. No State relies solely on its own resources in this respect." This is particularly true given that the electric system in most of the United States and portions of Canada and Mexico is an interconnected grid that must be operated in a coordinated manner. Accordingly, the Draft Study Plan must include scenarios for out-of-state imports or risk violating the Commerce Clause.	
29	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**V. Additional Issues to Consider in the Draft Study Plan** It appears that the CAISO's transmission planning process could result in giving preference to projects that provide reliability benefits that are subject to a right of first refusal for the incumbent utilities. By first performing the reliability studies using a different set of assumptions and solving for different timeframes it is difficult, at best, to design a project that would satisfy the reliability issue identified and provide economic and/or policy benefits as well. The CAISO's approach limits the available solutions for the transmission system which ultimately limits the overall usefulness of the system in serving various load and generation combinations. Such limitation affects out-of-state generation options by limiting the ways in which transmission needed to deliver supply to load can be planned and paid for. Essentially, if there is not a need to solve a reliability issue, then transmission will not be planned and built. This ignores important economic and environmental benefits of transmission expansion.	The ISO TPP process takes into account reliability, policy and economic needs based upon the projected needs of the transmission system based upon the CEC energy demand forecast, CPUC/CEC renewable portfolios and conventional generation development plans. Based upon the needs identified through the assessment the ISO considers alternatives to address the identified needs through either upgrading existing facilities or new transmission facilities.

30	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**VI. Additional Studies and Inputs Should Also be Conducted** In addition to considering out-of-state generation resources, the CAISO should conduct additional studies as part of its transmission planning process. For example, the CAISO should consider analyzing the extension of an HVDC line into southern California that would otherwise target the Eldorado Valley. This study should examine whether such an extension would effectively replace the need for additional Eldorado Valley to southern California transmission lines at a lower cost. Similarly, along with its consideration of coincident loss of California's two nuclear facilities, the CAISO should examine the loss of the two Palo Verde nuclear facilities and identify the remedial action schemes ("RASs") and special protection systems ("SPSs") that would be used to manage such outages within WECC and CAISO performance criteria. Finally, as some potential HVDC transmission lines would have a similar capacity as a nuclear facility, when examining HVDC transmission lines delivering into the CAISO BAA, the CAISO should consider the RASs and SPSs coordinated with other BAAs that would be needed in the event of loss of such an HVDC line.	The ISO will take your suggestion, under advisement. There are a high number of study requests from different stakeholder groups and the ISO must prioritize its work relative to overall expectations.
31	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable*	**VII. Request for Economic Planning Study** Pursuant to Section 24.3.4 of the CAISO Tariff, Pathfinder is submitting a request for an Economic Planning Study. Requester Name: Zephyr Power Transmission, LLC Address: Duke-American Transmission Company, LLC c/o Duke Energy Corporation 5555 San Felipe	This comment refers to the large quantities of generation interconnection projects in the Eldorado Valley area. Potential network upgrades are studied in the ISO Generator Interconnection Process (GIP) and make sure generators are reliably connected and that there is adequate transmission capacity to deliver the energy to ISO load centers. The proposed Zephyr transmission project was already studied in the GIP in Cluster 4 Phase I Study and is being further evaluated in the Phase II Study. In the study, the impact of injecting 3000 MW into Eldorado Valley

	Wind Energy, LLC & Zephyr Power Transmission, LLC	Houston, TX 77056 Contact Information: Chris D. Jones (713) 375-0704 cjones@datcllc.com The CAISO recently initiated its stakeholder process for the 2012/2013 Transmission Planning Process ("TPP"). During the initial stakeholder meeting, the CAISO discussed the Draft Unified Planning Assumptions and Study Plan and outlined its schedule and milestones for the upcoming planning cycle activities, which included an opportunity for interested parties to submit Economic Planning Study Requests to the CAISO. According to 2012/2013 TPP schedule and milestones provided at the initial stakeholder meeting, Economic Planning Study Requests are to be submitted to the CAISO no later than March 13, 2013. The CAISO interconnection queue in the Eldorado Valley area currently includes 8,389 MW of proposed generation, including 5,170 MW of generation in the most current Cluster 4 Request Window, as well as 3,219 MW of interconnection requests in prior Cluster groups. The Eldorado Valley area interconnection queue includes projects in both Clark and Nye Counties in Nevada, and San Bernardino and Inyo Counties in California. These projects have interconnection points at the Eldorado Substation or with facilities which are interconnected with the Eldorado Substation, including the Ivanpah, Baker, Mountain Pass, Mohave, Merchant, and Nipton Substations. The transmission facilities extending from Southern Nevada into Southern	area has already been studied. Under the 2012-2013 Transmission Planning process, the ISO will evaluate this economic planning study request and see if the subject aligns with the current study assumptions including this year's renewable portfolios defined by the CPUC.

		California are included within the "Northern System" of WECC's Path 46 (the "West-of-River Path") and include facilities located both within the CAISO's BAA and within the BAA of the Los Angeles Department of Water and Power ("LADWP"). According to the "WECC 2011 Path Rating Catalog" (January 2011): • The Accepted Rating of all of the Path 46 facilities is 10,623 MW; • The Northern System's allocation of the Accepted Rating is 6,637 MW; • The share of the Accepted Rating allocated to the CAISO BAA facilities within the Northern System is 2,754 MW. Based on the above it is clear that the CAISO BAA's allocation of existing Path 46 capacity over the Northern System is significantly lower than the amounts of queued generation in the Southern Nevada area or proposed for interconnection with the CAISO grid in this area. This means that significant system additions will be required to accommodate both existing uses of these facilities as well as the queued generation. This is borne out by information presented in the CAISO's "Queue Cluster 4 Phase I Interconnection Study Report – Group Report in SCE's East of Pisgah Area" (January 2012) which notes that approximately 450 miles of new 500-kV AC lines (with an estimated cost of approximately $4.8 billion) would be required to mitigate congestion and maintain system reliability if the above noted queued generation is on-line. Based on the above, Pathfinder and Zephyr Power Transmission, LLC hereby request the CAISO to conduct an Economic Planning Study to identify the most cost effective method of relieving the congestion between Southern Nevada and the major load centers in Southern California so that	

		queued generation located in the Southern Nevada area or interconnected with the CAISO grid in the Area can be cost-effectively delivered to markets in Southern California. This Economic Planning Study request is intended to address the following items: • The expected increases in transmission congestion over Path 46 (with a particular focus on the Northern System as discussed above) during the planning horizon used in the CAISO TPP; • The transmission upgrades required to most cost effectively integrate new generation resources currently in the CAISO's interconnection queue and facilitate that delivery of such to load centers in Southern California; and • A potential reduction in the need for Local Capacity Resources in the eastern portion of the Los Angeles Basin.	
32	*Christopher Ellison & Jedediah Gibson on behalf of Pathfinder Renewable Wind Energy, LLC & Zephyr Power Transmission, LLC*	**VIII. Conclusion** Pathfinder and Zephyr Power Transmission, LLC appreciate the opportunity to submit these comments on the CAISO's 2012/2013 transmission planning process and the Draft Study Plan. For the reasons articulated herein, it is crucial that the CAISO provide for a meaningful opportunity and timeframe for stakeholders to review and provide input on data assumptions and generation scenarios used by the CAISO in its transmission planning process. The CAISO must also be sure to focus on overall costs to ratepayers, taking into account generation costs and different generation options and portfolios. In accordance with CPUC, CTPG and WECC studies, as well as pursuant to FERC Order 1000 and the Commerce Clause, the CAISO must consider generation options and scenarios from out-of-state resources. Additional issues, inputs, and studies	Please refer to response to comments 21 to 31 above.

		should also be considered by the CAISO in its transmission planning process. Finally, for the reasons described above, the CAISO should perform an Economic Planning Study to identify the most cost effective method of relieving the congestion between Southern Nevada and the major load centers in Southern California.	
33	*Jason Yan, Pacific Gas & Electric (PG&E)*	PG&E supports the study plan, its objectives, and its scope. The CAISO's separate processes for analyzing projects needed to maintain reliability, reduce congestion, and to comply with state energy policy assure that each objective is met within the plan. In an effort to improve the process, PG&E offers the following two comments: 1. More cost effective solutions might be found if the CAISO added one more step after the completing the individual analysis to look at the combined net benefits of each proposed solution. We suggest language below that can be added in Section 4 of your Study Plan to describe this work. 2. The Study Plan does not include a description of what PG&E understands to be the entire scope of the 2012-2013 planning cycle studies, which would include a complete study of the need for, scope and timing of a Central California transmission project. This is a project that requires the multiple benefit analysis process described above. PG&E looks forward to working with the CAISO and stakeholders on development of the 2012-2013 Transmission Plan	Please refer to response 33 and 34 below.

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34	*Jason Yan, Pacific Gas & Electric (PG&E)*	**The Study Plan Should Look For Opportunities to Solve Multiple Needs With Each Transmission Solution** The comprehensive nature of the CAISO's Annual Transmission Planning process should allow for the identification of transmission solutions that provide multiple benefits simultaneously. Without a comprehensive look at the multiple benefits that a project is able to provide, it is possible that effective transmission solutions might be overlooked in favor of a less efficient, piecemeal plan that is less cost-effective for transmission customers, accommodates fewer of the possible resource portfolio scenarios, requires more use of land, longer and more expensive permitting, and longer implementation time. PG&E recommends that the following language be inserted in the CAISO Study Plan on page 9 as a new last paragraph to the Section 4. Technical Studies *To increase the cost effectiveness of our next plan, the CAISO planning process in 2012 / 2013 will look for opportunities to solve multiple needs with a single transmission solution. For example, a project that solves a reliability problem, decreases congestion, and increases the ability of the grid to integrate renewable resources might be more cost effective than addressing each issue separately.*	The ISO TPP process takes into account reliability, policy and economic needs based upon the projected needs of the transmission system based upon the CEC energy demand forecast, CPUC/CEC renewable portfolios and conventional generation development plans. The reliability assessment is based upon a baseline for renewable generation while the policy and economic analysis considers alternatives portfolio development scenarios based upon the suite of portfolios developed by the CPUC/CEC.
35	*Jason Yan, Pacific Gas &*	**The Central California Study Plan Should Be Acknowledged as a Part of the 2012-2013 TPP Study Plan**	Section 4.8 has been added to the Study Plan to identify the Central California study that will be undertaken in

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	Electric (PG&E)	PG&E appreciates that the CAISO has recognized that an individual study plan for the proposed Central California Study is needed to identify potential project(s) that might have multiple attributes such as reliability, economic, renewable integration, and policy benefits. PG&E believes that the potential Midway-Tesla feasibility study would warrant such a study plan. Even though the timing of the more detailed Central California Study Plan will not be ready in time to finalize the 2012-2013 TPP Study Plan the CAISO should acknowledge the Central California Study as part of its scope. PG&E understands that once the Central California Study Plan details are ready for issuance, the CAISO plans to add it to the 2012-2013 TPP Study Plan as an addendum. The 2012-2013 Study Plan should confirm that intent up-front, even before the addendum has been added.	the 2012/2013 planning cycle. A study scope will be developed for this assessment and will an addendum to the Study Plan.

36	*Jason Yan, Pacific Gas & Electric (PG&E)*	**Specific Requests Related to the Central California Study Plan**
		PG&E respectfully urges the CAISO to begin developing the Central California Study Plan as soon as possible given the complexity of the contemplated study. Additionally, PG&E respectfully suggests that the CAISO consider incorporating:
		
		• 10-year study cases that:
		  ○ Capture the following scenarios:
		  ▪ Fall/Winter Season: in which there is a relatively small amount of hydro generation being generated in northern California.
		  ▪ Summer peak and Partial Peak Periods: What is critical from a reliability perspective is to assess dry hydro conditions for hydro-projects feeding into the Fresno Area in Summer peak
			The ISO appreciates the suggestions and will include as appropriate in the study scope for the Central California Study. The ISO will provide stakeholders with an opportunity to provide comments on the study scope.

		and partial peak periods. ▪ Spring Low Load period. This period is operationally challenging with moderate loads and high generation production (hydro, wind, solar, and qualifying facilities), which can results in periods of over-generation. A study of this period could provide valuable insights into the potential benefits of the Central Valley Project to allow flexible resources to respond to periods of high system variability and over-generation conditions. ○ Anticipate a delay in renewable resource development combined with both with a high load growth (consistent with either the 1 in 10 high load projection or the 10 percent increase in 2020 high load case being used in the CAISO renewable integration analysis) and the low hydro case as described above. ○ Account for the significant addition of renewable generation resources in Southern California to meet RPS goals. Given the long lead time for development of generation resources with projected commercial online dates extending to the 2017 – 2020 timeframe, some of these potential projects may not yet have reached significant enough milestones to be included in the TPP base case. To account for the uncertainty around which projects will ultimately reach commercial operation, a greater number of potential renewable generation resources may need to be modeled conceptually in a manner that is incremental to the generation portfolios contemplated in the main 2012/2013 transmission study plan. • The critical importance of Helms Pump Storage Plant for integrating	

		renewable resources and supporting reliability of the greater Fresno Area. • Policy-driven projects that reduce CAISO ratepayer risks in a number of different categories. These categories include lowering the price of peak period energy, decreasing the cost of procuring capacity (RA and AS) and reducing curtailment risk for renewable projects in central and southern California. These benefits should be considered in the project evaluation. • Finally, PG&E believes that at least a portion of the Midway to Tesla project resolves a local reliability need that could be triggered by higher load growth in the Fresno area.	
37	*Jason Yan, Pacific Gas & Electric (PG&E)*	**General Comments on the Portfolio Assumptions for the Policy Driven 33% RPS Transmission Plan Analysis** **Transmission Development is Needed to Accommodate Interconnection and Integration of Multiple Resource Scenarios in Order to Promote a Robust and Competitive Market for Generation Resources.** PG&E urges the CAISO to define the Base Portfolio for its 33% RPS Transmission Plan analysis more broadly to accommodate interconnection and delivery of potential resources under multiple portfolio scenarios. A consequence of the CAISO relying solely on a single Base Portfolio could be that the CAISO's transmission plan to meet 33% could be insufficient to actually accommodate the resources that ultimately get built, or could limit procurement to certain areas where resources are more expensive, thereby raising costs for ratepayers. PG&E believes that greater transmission availability enables competitive	ISO's policy driven transmission planning analysis adopts a comprehensive approach to identify the transmission need to meet the RPS goal. The approach consists of portfolio development, portfolio modeling in power flow and production cost models, simulation of power flow and production cost, and deliverability. In addition, it is an annual process such that the portfolios and study assumptions can be fine tuned in a continuous basis to track the changes on policy, forecast, economy, environment, etc. By doing so, the transmission need for the long term policy goal is monitored closely and identified.

		markets by providing procurement flexibility in the most competitive resource areas. The CAISO should help ensure this flexibility by allowing transmission constraints identified in the stress cases to provide the basis for Category 1 approval of upgrades used to relieve those constraints. Because transmission is often a relatively small cost compared to the cost of renewable procurement, even a small percentage of reduced cost in the procurement market could justify significant transmission upgrades. As such, the CAISO should embrace the concept of "least regrets" transmission planning, as opposed to a "no regrets" transmission plan. "Least regrets" planning should identify projects for development that satisfy multiple needs, including delivery of large amounts of renewable resources, system reliability, and renewable integration, while addressing current and future reliability and resource procurement needs. Least regrets planning should also take into account the possibility that today's forecast of commercial generation development will not align with the actual development by 2020. If and when such errors become clear, it will be too late to adjust the transmission plan and implement the needed infrastructure to accommodate the new information. Lack of transmission should not be the reason that the state fails to meet its renewable procurement goals.	
38	*Jason Yan, Pacific Gas & Electric (PG&E)*	**The CAISO's 2012-2013 Process Should Provide Ample Opportunity For Stakeholders To Provide Meaningful Input Into the Formation of the RPS Portfolios and Selection of the Base Portfolio** In the 2011-2012 Transmission Plan the CAISO utilized a slightly modified portfolio from the recommended "modified cost-constrained"	The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		portfolio developed and recommended by the CPUC staff. The underlying scenario is based upon resource development meeting particular criteria, including an executed power purchase agreement (PPA) with a California IOU as of June 2010. The CAISO should consider stakeholder comments in determining the composition of the RPS portfolios to be used, the choice of the base portfolio and any suggested adjustments to the base portfolio intended to make the base portfolio more robust and meaningful, including but not limited to, projects with PPAs executed after June 2010. PG&E requests that the CAISO provide ample time and due consideration to such stakeholder comments in the 2012-2013 transmission planning cycle, particularly given its increased importance through TPP-GIP Integration Initiative with respect to generator deliverability and cost responsibility of network upgrades. As a guiding principle, the CAISO should strive to utilize as a base case a resource portfolio that best approximates a likely and realistic development scenario, so that the resulting transmission plan can facilitate the achievement of the state's renewable procurement goals. To accomplish this, the CAISO should designate a renewable resource portfolio in its base case that provides the most appropriate weighting between cost, commercial realities, and environmental impact. As PG&E stated in its comments on the 2011/2012 TPP Renewable Portfolio Assumptions, the Trajectory Case provided the most balanced weighting of these considerations.	
39	*Jason Yan, Pacific Gas &*	**The CAISO Should Use More Discretion in Determining Which Generation Projects Should be Modeled As Available in the Various**	In the section 4.1.8 of Study Plan, the ISO has identified how it will be including generating into the reliability

	Electric (PG&E)	**Planning Cases** PG&E understands that for thermal generation, the CAISO relies primarily on the CEC website (http://www.energy.ca.gov/sitingcases/all_projects.html) to determine the status of projects in construction or pre-construction phase. The Draft study plan implies that thermal generation in the pre-construction phase will be assigned to Level 2. Given that Level 2 projects are modeled as being available as a non-wire mitigation option in the 2-5-year Planning Case and modeled as on-line in the 6-10 year Planning Cases, PG&E suggests that an additional filter be used to qualify a generation project as Level 2. PG&E suggests that this filter be that the project has a signed PPA with a LSE. With this criterion, PG&E believes that, for example, the Avenal project should not qualify as a Level 2 generation project. With respect to renewable generation, the draft study plan indicates that criteria for modeling near term (2013-2017) generation (page 17) will utilize "CPUC's discounted core and ISO's interconnection agreement status." It is not clear if this will be based on one of the resource scenarios recommended by the CPUC in the last transmission planning cycle and if so, whether that information will be updated to reflect the most up-to-date information. Since the development of the modified scenarios in July 2011, there have been several changes to PG&E's RPS portfolio, including execution of new PPAs, termination of few PPAs, and projects which have since come online. PG&E recommends that the CAISO solicits stakeholders to provide current information useful in this planning process. Much of this information relevant to IOUs can be updated from publicly	base cases. The reason for the difference in the approach to including generation into the base cases in years 2-5 and years 6-10 is to reflect the uncertainty of what specific generators will proceed to be in-service in the later year while ensuring adequate generation base cases to satisfy RPS and loading requirements. The reference to baseline scenario relates to the base scenario from the ISO 2011/2012 33% RPS portfolios. In addition analysis will be conducted in the section 4.2 Policy Driven 33% RPS Transmission Plan Analysis based upon the portfolios that will be presented for stakeholder comment by the CPUC and CEC on April 2, 2012.

		available information. Last week, PG&E filed the March 2012 Renewables Portfolio Standard Project Development Status Report (PDSR) with the CPUC. The PDSR provides current information on the development and regulatory approval status of IOU projects under development.	
40	*Jason Yan, Pacific Gas & Electric (PG&E)*	**Specific Recommendations On Section 4.2: Policy Driven 33% RPS Transmission Plan Analysis** PG&E has a number of recommended additions to sections 4.2.1 and 4.2.2 of the 2012-2013 TPP Study Plan that will enhance and clarify the study activities related to meeting the 33% RPS Policy Goal. Recommendations for Section 4.2.1 on page 30 1. There is a typo in the third bullet of Item 3. *Change "PLSF" to "PSLF"* 2. Delete the last sentence which reads: *In the 2012/2013 planning cycle, the same methodology will be used to identify the transmission need to meet 33% RPS in 2022.* Recommendations for Section 4.2.2 on page 31 3. Modify the first bullet to read: *Develop ISO 2022 power flow base cases starting from the 2022 reliability base cases to model the seasonal peak, partial peak and off peak conditions as required.* 4. Append the following to end of the second bullet *These portfolios would be designed to accounts for the significant addition of renewable generation resources in Southern California to 1) meet policy goals around RPS and 2) the associated desire for in-state*	1. Agreed 2. We can change the word same to similar. 3. Agreed 4. We cannot agree to commit to studying portfolios that were not developed in the stakeholder process. 5. We are considering this comment with regard to how it can be implemented. 6. Sensitivity studies will be performed as needed. 7. Agreed 8. Agreed 9. Sensitivity studies will be performed as needed. The ISO needs to consider the extent to which adverse hydro data is available that is consistent with load data, and if it is reasonable to expect significant changes in results.

		development of renewable generation in high-potential areas. Given the long lead time for development of generation resources with projected commercial online dates extending to the 2017 – 2020 timeframe, some of these potential projects may not yet have reached significant enough milestones to be included in the TPP base case. To account for the uncertainty around which projects will ultimately reach commercial operation, a greater number of potential renewable generation resources may need to be modeled conceptually in a manner that is incremental to the generation portfolios contemplated in the main 2012/2013 transmission study plan. 5. Add the following bullet after the fourth bullet: *Incorporate resource and dispatch requirements to integrate renewable resources into production simulation model.* 6. Append the following to the end of the fifth bullet *To broaden our investigation of possible impacts on major transmission paths in California, the production simulations cases will consider adverse hydro conditions in northern California and the Pacific Northwest with each of the generation portfolios with transmission path constraints "on" and "off." For example high Path 15 flows could result with adverse hydro in northern California and renewable resource development in southern California during off peak periods of the year.* 7. Modify the sixth bullet to read: *Analyze stressed power flow models for seasonal peak, partial peak and off-peak and other scenarios, if needed. . These should capture conditions for the Western Interconnection that production simulations show result in the greatest path flows including cases possibly in non-*	

		summer seasons. (The peak load scenario uses CEC 1-in-5 coincident peak load.) 8. Append the following to the seventh bullet *To the extent network upgrades are required to support the output of the renewable resource portfolios, consider the upgrades presented in the CTPG transmission plan.* 9. Append the following to the eighth bullet: *For example, if not evaluated earlier a Fall or Winter partial peak base case with high levels of renewables and adverse hydro in northern California and the Pacific Northwest will be among the cases considered.*	
41	*Jason Yan, Pacific Gas & Electric (PG&E)*	**Comments on Section 4.3: Local Capacity Requirement (LCR)** The CAISO should consider using a different level of imports in its long-term LCR study. The changing landscape of generation in the future may affect the amount of imports into various areas.	The level of Imports into the ISO BAA are consistent with RA Import Allocation process including forward looking increase as required by Reliability Requirement BPM in order to assure that policy goals are met. The scope of the LCR studies (within the ISO BAA) is to maximize imports into each one of the local areas.
42	*Jason Yan, Pacific Gas & Electric (PG&E)*	**PG&E Requests Clarification on Section 4.4: Economic Planning Study** PG&E recommends that this subsection be expanded based on our suggestion regarding multiple benefits above: *The CAISO has traditionally used production simulation modeling to estimate the economic impact of new facilities on energy prices and ultimately its transmission customers using its TEAM approach. As described above, in this next cycle, the CAISO will add an additional step to its economic analysis to look at the combined net benefits offered by projects. The net benefits will be expanded to include*	Under the ISO Transmission Economic Assessment Methodology (TEAM), all types of economic benefits, wherever quantifiable, are calculated. In the Study Plan, the economic planning study simply refers to the TEAM. In the transmission plan report, the description of the study approach is provided. For example, it is stated in the economic planning study section of the *2011-2012 Transmission Plan* report: "In addition to the economic benefits computed by production simulation, any other benefits — where applicable and quantifiable — can also be included. For example, an upgrade of in-state transmission facilities may lead to reduction of local capacity requirement in an area. In this case, the transmission upgrade yields local capacity

		system RA as well as LCR, congestion, losses, impact on generators, impact on AS prices, and changes in renewable integration costs. Further, PG&E requests clarification on the use of and/or modification to the TEPPC 2022 Common Case indicated as the starting point of their database platform in the February 28, 2012 stakeholder presentation.	benefits. In another example, an upgrade of import transmission facilities may lead to a reduction of ISO system resource adequacy requirements if out-of-state resources are less expensive to procure than in-state resources. In this case, the transmission upgrade yields system capacity benefits."
43	*Jason Yan, Pacific Gas & Electric (PG&E)*	**Reliability Assessment Study Scenarios** Table 4.1 should be changed to reflect a full set of scenarios that include: • North Valley – Summer Peak and Summer Off-Peak • Central Valley – Summer Peak and Summer Off-Peak • Greater Bay Area – Summer Peak, Summer Off-Peak, and Winter Peak (SF and Peninsula) • San Joaquin Valley – Summer Peak, Summer Off-Peak, and Summer Partial-Peak	Table 4.1 of the Study Plan has been modified to reflect the comments.
44	*Jason Yan, Pacific Gas & Electric (PG&E)*	**Reliability Projects Requiring Additional Analysis** PG&E looks forward and is committed to working with the CAISO staff during the 2012/2013 planning cycle to complete the necessary analysis to reach a decision on the projects submitted during the 2011 request window that were deemed to require further analysis. PG&E considers these projects important because they enable both PG&E and the CAISO to be compliant with North American Electric Reliability Corporation (NERC) standards under certain outage conditions and because they have a tremendous impact to the reliability of electric customers in locations where	As a part of the ISOs annual planning process the ISO will continue to assess the performance of the transmission grid and develop corrective action plans to meet the forecasted needs of the system.

		entire cities may be at risk of service interruptions. Such is the case of the proposed Northern Fresno 115 kV Area Reinforcement, Ames-Palo Alto 115 kV Line, and Morro Bay - Mesa 230 kV Line which would help reliably serve customers in Fresno, City of Palo Alto, and the Los Padres area.	
45	*Mark Etherton, Southwest Transmission Partners, LLC*	Our comments are related to the economic analysis that was conducted for the Project along with a comparison to the Delaney-Colorado River Project. The analysis appears to correctly account for the revised capital cost assumptions, however the Total Cost may still be overly inflated (by approximately 25%). The analysis also concludes that both projects are not meeting the criteria for the benefit/cost ratio and we would argue on the detailed assumptions for the resources continue to focus primarily from CA resources, and not from AZ resources. In addition to the Agua Caliente (290MW), the Mesquite (125MW), Arlington Valley II (200MW), there are several other projects in western and southern Arizona that are prepared to move forward in a timely manner. The Town of Gila Bend, AZ is promoting several solar projects and have set a goal to permit solar projects in 8 weeks or less to provide certainty to solar developers (currently, the Town of Gila Bend has permitted the Solana Project (250MW), the Palomas Project (17MW) and the Cotton Center Project (18MW) all for APS and have been completed or under construction. The assumptions for AZ renewables should be increased in one of the scenarios to approximately 3000MW. The analysis also does not show or discuss the reliability benefit of either (or both) projects for the southern system, and should also include a long term plan to tie the two transmission systems together, preferably from the	For proposed transmission concepts, the ISO requires the proponent to provide computed total cost (i.e. revenue requirement) on top of the capital cost. During the 2011-2012 transmission planning cycling, the ISO requested but did not receive the estimate of the total cost in calculated revenue requirement. In such a situation, a default cost assumption was used. In the 2012-2013 transmission planning cycle, the proponent of the Delany – Colorado River 500 kV line is committed to providing revised total cost. In regards to the identified projects and potential for development of renewable in Arizona, the ISO transmission planning process is a transparent process with opportunities to provide comments at various stages of the process. In regards to the renewable portfolios, the ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC. The CPUC and CEC have identified a base scenario along with three alternative scenarios for discussion at the stakeholder session. The ISO will assess the base scenario along with the alternative scenarios as sensitivity studies in the 2012/2013 planning cycle. Both Delany – Colorado River and North Gila – Imperial Valley were analyzed in the 2011/2012 transmission plan.. The ISO will continue to assess these projects in economic analysis of the 2012-2013 planning cycle..

		Highline to Devers corridor. We would suggest that a longer-term plan, similar to the approach that STEP took several years ago, be developed in 2012/2013 that examines the longer term (20 years plus) to ensure that near-term decisions are taking into account the possibility of long-term needs (like an interconnection initially to the Highline substation to allow for a longer term connection to the PV-Devers system). Given recent outages on either the Hassayampa-North Gila-Imperial Valley-Miguel lines, additional facilities to strengthen this system over the long-term should be reviewed. The Arizona Corporation Commission also required that the jurisdictional utilities perform a study of the potential of exporting renewables from AZ, the study concluded that BOTH the Delaney-Colorado River and the Hassayampa-North Gila-Imperial Valley Projects provide a significant delivery benefit to the transmission of renewables from Arizona; and can provide a tremendous certainty (and security) for meeting the renewable resources for the region. The Final Report is attached for your review and consideration as well. In support of the North Gila – Imperial Valley #2 Project, the interested parties will also be preparing a detailed report that will examine a wide variety of scenarios that could provide a more clear picture of the need for the Project, and provide flexibility for long term resource procurement requirements to economically and reliably serve the customers of southern California and southern Arizona.	
46	*Huang Lin,*	1) On Draft Study Plan Page 6: Table 2-1: SGE&E recommends that	

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	San Diego Gas & Electric (SDG&E)	CAISO add "one-on-one discussions/review of preliminary findings and/or mitigations in mid-cycle of the study". These may be either conference calls or face to face meetings, but it would be helpful to review results mid-course instead of waiting until the end. (Not included in stakeholder meeting presentation "Study Plan Overview& Reliability Assessment" Slide 3: Schedule and Milestones)	The ISO will consider this suggestion.
47	*Huang Lin, San Diego Gas & Electric (SDG&E)*	2) On Draft Study Plan Page 10-11: Regarding the resources close to ISO BAA that can claim RA credit, please clarify study methodologies and provide a link to the document. Also, we need clarification to the paragraph: "…This particular sub-objective requires a different study approach than that required for the previous sub-objective…" (Not discussed in Stakeholder Meeting)	'Business Practice Manual for Reliability Requirements', section 5.1.3.5.1 explains the process for supporting RA deliverability status for needed renewable resources outside ISO BAA. This section explains the determination of target Expanded MIC (Max Import Capability) and describes the study to test if the transmission system can support the target expanded MIC. https://bpm.caiso.com/bpm/bpm/version/000000000000155
48	*Huang Lin, San Diego Gas & Electric (SDG&E)*	3) On Draft Study Plan Page 16: Please add minimum load cases (approximately 30-35% of peak load) to be studied for the whole system, or Northern California/Southern California areas. (Not included in stakeholder meeting presentation "Study Plan Overview& Reliability Assessment" Slide 15: Study Scenarios; however, CAISO staff is considering studying two minimum load cases: one for short term study and another for long term.)	Study scenarios and study years have been modified in the Study Plan.
49	*Huang Lin, San Diego Gas & Electric (SDG&E)*	4) On Draft Study Plan Page19: Based on our previous conversations with the CAISO, SDG&E is going to use the CAISO renewable base case for the 2022 year cases. CAISO will send SDG&E a confirmation about the WECC case which CAISO used for their BASE Case renewable study. (Pending CAISO response)	SDG&E was notified that the ISO used the 2021 local cases supplied by SDG&E as a starting input for creating the 2021 consolidated renewable cases. These cases were then used to create the 'Base' portfolio case.

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50	*Huang Lin, San Diego Gas & Electric (SDG&E)*	5) On Draft Study Plan Page19, CAISO requires that only generators in Level 1/Under construction to be modeled. On page 20, however, indicating "…modeling renewable generation for 2013 through 2017, CPUC's discounted core and ISO's interconnection agreement status will be utilized as criteria for modeling specific generation". Please clarify the discrepancy of modeling criteria. (Not discussed in Stakeholder Meeting)	The former comment applies to conventional generation; the latter comment applies to renewable generation.
51	*Huang Lin, San Diego Gas & Electric (SDG&E)*	6) Anticipated fossil generation (Product 2) should be studied as a sensitivity case for part of the OTC and renewable integration studies (similar to what was done in the 2011/2012 TPP cycle). (Not discussed in Stakeholder Meeting; Not included in stakeholder meeting presentation "Study Plan Overview& Reliability Assessment" Slide 22:New Thermal Generation)	New generation development plan submitted to the CPUC by the Load Serving Entities (LSEs) will be included in the OTC generation analyses.
52	*Huang Lin, San Diego Gas & Electric (SDG&E)*	7) On Draft Study Plan Page 26: Table 4-5 shows additional caps at Bay Boulevard in 2012 but this sub is not scheduled for completion until 2014. Also, need to modify the title of the Table 4-5 to "Key capacitors" so that the small capacitors in SDG&E's east county can be excluded from this table. (Not discussed in Stakeholder Meeting)	Will be modified in the study plan document
53	*Huang Lin, San Diego Gas & Electric (SDG&E)*	8) On Draft Study Plan Page 29 Table 4-8, since the table is to list "Key" SPS, the 69kV SPS should to be removed from the list. (Not discussed in Stakeholder Meeting)	Will be modified in the study plan document

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54	*Huang Lin, San Diego Gas & Electric (SDG&E)*	9) On Draft Study Plan Page 33: "…For the subsequent study years a power factor of 0.990 to 0.992 will be used", should be just 0.992. (Not discussed in Stakeholder Meeting)	The draft study plan reflects the comment provided.
55	*Huang Lin, San Diego Gas & Electric (SDG&E)*	10) On Draft Study Plan Page 34: LGIP Network Upgrade Criteria for TPP Assessment section. SDG&E recommends that CAISO include wording to clarify that any projects identified as delivery network upgrades in the GIP process are not precluded from being considered as reliability projects. (Not discussed in Stakeholder Meeting)	Projects identified as delivery network upgrades may be considered as reliability solutions depending on the specifics of the reliability need and the scope of the project.
56	*Huang Lin, San Diego Gas & Electric (SDG&E)*	11) On "Study Plan Overview& Reliability Assessment" Slide 13: Base Case Assumptions, for the reliability studies it was indicated that the transmission assumptions shall include "Transmission upgrades to interconnect new modeled generation". It was not clear if this statement is referring to the LGIP reliability network upgrades only or the deliverability network upgrades also?	All the upgrades (RNUs and DNUs) triggered by new generation will be modeled for the near-term cases. For the 10th year case, the upgrades will be modeled for the earlier year projects. But no upgrades will be modeled for the 'extra' projects modeled only in year no. 10. In certain special cases, sensitivity studies may be done with and without the upgrades.
57	*Huang Lin, San Diego Gas & Electric (SDG&E)*	12) On "Study Plan Overview& Reliability Assessment" Slide 21: Generation Assumption, it was indicated that "Retired generation is modeled in appropriate study areas"; should be clarified as "Retired generation is modeled in appropriate study areas *until its expected retirement year*".	Retired generation will be modeled until the expected retirement year.
58	*Huang Lin, San Diego Gas &*	13) On "Economic Planning Studies" Slide 3: it was indicated that the Production Cost Model will use "CAISO 2012/2013 transmission assumptions". The question was raised in the stake holder meeting as to	In the economic study planning, the ISO include some transmission projects expected to be approved in the same planning cycle. During the course of reliability planning and other studies, the development of proposed

	Electric (SDG&E)	whether the statement meant "the same transmission assumptions CAISO intends to use during the 2012/2013 reliability planning cycle", which would only include the projects approved by the 2011/2012 reliability planning cycle. CAISO answered that's not the case: the economic modeling will include "transmission projects expected to be approved in the current 2012/2013 reliability planning cycle" and maybe even the "transmission projects identified through LGIP" process. Please provide clarification in the study plan: i) this is what's going into the Economic Planning Model; ii) how this base model, which included transmission projects expected to be approved, impact the benefit/ disbenefit of other potential transmission projects that are being evaluated under the Economic Planning process.	transmission upgrades are followed. We identify those transmission projects that have high impact on transmission flows or projects in the vicinity of known congestion. If any of those projects seem to have a high likelihood to be approved, it is taken as an assumption and modeled in the economic planning study database. This provides an appropriate balance of forecasting expected system conditions to provide reasonable results for the economic analysis.
59	*Huang Lin, San Diego Gas & Electric (SDG&E)*	14) It is our understanding that CAISO intends to use data from a couple of "stressed hours" from the GridView simulations as the base on which to build the reliability power flow cases. The snapshot of the renewable and fossil generation dispatches along with the system loads of these hours will be translated into the reliability load flow case. Please clarify in the study plan: i) how the "Stressed hours" were defined and selected; ii) how the generation was adjusted to achieve the load/ resource balance, as the Production Cost Model, by definition, uses 1in 2 forecasted load; while the reliability cases use 1in10 forecasted load. What additional generation is being dispatched in power flow cases: Fossil? Renewable? Or both?	The "stressed hours" are normally selected from hours of peak and valley loads. The "stressed hours" may also target at operating points of peak or valley renewable output. From the created snapshots from production simulation, generally the MW schedules are used as-is for the significant capacity of renewable resources. For fossil-fueled power plants, the MW output are used not 100% as-is. Rather, thermal generation are adjusted (typically according to cost merit-orders) to meet the load (e.g. 1-in-5 load) to achieve resource-load balance.
60	*Huang Lin, San Diego Gas & Electric*	15) It is our understanding that CAISO intends to make two series of peak-load cases for each year's reliability evaluation: one with high renewable dispatches and the other with low renewable dispatches. What is the targeted dispatch level for each scenario? When does CAISO expect to	The ISO may look at a ' high' and a 'low' renewable dispatch scenario for peak cases in specific study areas. The dispatch details will be provided to the PTOs.

	(SDG&E)	release the Capacity Factors to PTOs?	
61	*Huang Lin, San Diego Gas & Electric (SDG&E)*	16) WECC is moving toward using "Dynamic Load Modeling" to better evaluate the system voltage issues. It was not mentioned in the study plan if (or when) CAISO intends to move in the same direction?	WECC continues to work on the load modeling as indicated in the comment. The load model, along with the modifications to the WECC Regional Criteria to determine performance levels have not been finalized. The ISO continues to monitor and participate with WECC on the development of the models and criteria and will incorporate into the ISO's planning studies when finalized. Even if composite load model will be used by WECC, it is not planned for use in 2012 except for using long ID for loads that may be included in the WECC cases. Long ID for loads will be used in the ISO cases. Studies with composite load model are being performed by the ISO on a trial basis.
62	*Huang Lin, San Diego Gas & Electric (SDG&E)*	17) WECC board has approved the TPL-001-WECC-CRT-2 — System Performance Criterion which defines that: for two Adjacent Circuits with voltage level >300KV, if the circuits maintain Minimum separation (center-to-center) of 250 feet (with 3 mile total exemption), the simultaneous outage should not be categorize as a "Category C.5 event". Therefore, beginning 2012/2013 study cycle, the simultaneous N-2 outage of SWPL and SRPL should be categorized as "Category D" by definition, while N-1-1 of these two lines with system readjustment between each line outage should still be considered a Category C contingency.	Thanks for this information. It will be incorporated into our studies accordingly.
63	*Huang Lin, San Diego Gas & Electric (SDG&E)*	18) On "2013/2013 ISO LCR studies" Slide 4: CAISO resolves performance criteria by statement "Any relevant contingency can be used if it results in a local constraint." However, the next-year time frame of the LCR studies does not allow much time for fine tuning of RA and/or development and implementation of other mitigation measures. SDG&E supports CAISO's view of performing long term LCR studies to identify procurement need, and	Thank you for your support. The ISO practice already includes the use of long-term LCR studies and results as another platform for wires and non-wires options and alternatives.

		encourage CAISO to use the outcomes of these studies as additional justification for wires alternatives to the non-wires options identified in reliability or other policy-driven studies.	
64	*Huang Lin, San Diego Gas & Electric (SDG&E)*	19) For the transmission projects that can be effective wires alternatives to the non-wires options in term of meeting the LCR requirement, SDG&E encourages CAISO to develop an evaluation mechanism to quantify the "avoided cost of the incremental LCR requirement". The cost savings made available by such projects should be included as part of overall economic benefit(s) of the transmission project.	The ISO already has an evaluation mechanism in place. There have been a few wires alternatives approved in the past based on this type of evaluation.
65	*Shawn Bailey, Sempra US Gas and Power (Sempra USGP)*	The comments relate to the renewable resource capacity being developed east of California and available to the California market, and the capacity value used to assess the benefits of transmission upgrades. The renewable capacity assumed to be available east of California in the previous 2011-2012 transmission planning cycle was significantly under estimated. Based on the 12/8/2011 CAISO stakeholder meeting presenting the 2011-2012 transmission plan, the renewable capacity assumed to be available from Arizona in the transmission planning base case was 290 MW. The 290 MW is presumed to represent the Agua Caliente solar project. However, this figure neglects an additional 307 MW comprising Sempra USGP's Mesquite Solar 1 project and LS Power's AVSE solar project, both of which have CPUC-approved renewable energy contracts (with, respectively, PG&E and SDG&E). Construction of Mesquite Solar 1 is well underway and deliveries to PG&E have already commenced. Construction of the AVSE project could commence this year. Beyond these	Thanks for these comments. The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC. Regarding the capacity value assumptions the ISO will internally review these assumptions and look forward to further discussions with stakeholders during upcoming stakeholder meetings in 2012.

		two projects, additional renewable capacity with approved transmission interconnections at the Palo Verde Hub include an incremental 530 MW expansion of the Mesquite Solar facility and a 125 MW second phase of the AVSE project. On this basis, the renewable capacity assumed from Arizona should total between 597 MW and 1252 MW. Reflection of this missing capacity will increase the congestion benefits of transmission upgrades from the Palo Verde hub to California and should be included in the 2012-2013 assessment of transmission upgrades east of California. Further, the transmission interconnection queues of contiguous transmission systems should be evaluated by the CAISO and the CPUC in the developing the renewable portfolios considered in the transmission planning process. The capacity value used in the economic assessment of transmission upgrades is $5/kW-yr. This value is far lower than the CAISO's recent analysis of renewable integration capacity needs would suggest. The CAISO has indicated that it has a need for on the order of 4600 MW of incremental ramping capacity in 2017, and has proposed to make a capacity payment to prevent the near term retirement of the Sutter plant to avoid further increasing this capacity need. The proposal would pay Sutter the Capacity Procurement Mechanism (CPM) price (increasing over time from $55/kW-yr to $70/kW-y) for the balance of 2012 and possibly future years to prevent such retirement. This would suggest that incremental ramping capacity made available through the increasing the transfer capability from Palo Verde to California to access incremental ramping capacity could be far in excess of $5/kW-yr. The CAISO should incorporate these latest findings in the capacity value assumed in the economic	

		analysis of transmission upgrades during the 2012-2013 planning cycle.	
66	*Save the Foothills Coalition (STFC)*	**Assessment of Reliability Projects for Economic Benefit:** Slide 4 of the February 28, 2012 presentation titled: *Unified Planning Assumptions & Study Plan/Transmission Planning Process* refers to a FERC Order on compliance. It also refers to CAISO tariff revision establishing a ten percent threshold when the economic benefits that reliability (and longterm CRR) projects are found to provide, will subject the project to competitive solicitation as economic or policy-driven projects. While we understand the intent of the FERC directive and the CAISO tariff revisions, the STFC feels that whenever a reliability project provides economic benefits amounting to ten percent or less of the project cost, it should be seen as a red flag, cautioning an inadequate regard to costs. Furthermore, it should give impetus to identifying economical alternatives in mitigating the identified reliability need.	The need for the reliability projects identified in the plan are required to ensure that the performance of the transmission system meets the requirements of the mandatory NERC reliability standards, WECC regional criterion and ISO Planning Standards. Some of the projects will provide additional economic benefits beyond the reliability benefits to the system which were determined in accordance with the FERC Order on compliance requirements.
67	*Save the Foothills Coalition (STFC)*	**Central California Study:** The STFC supports the CAISO's commitment to develop an individual study plan for Central California, as outlined on slides 7 & 8 of the presentation titled: *Unified Planning Assumptions & Study Plan--Study Plan Overview & Reliability Assessment.* The STFC notes that the presentation describing the Central California study plan lists "Renewable Integration" as one of the potential benefits of modifications to the ISO controlled grid in Central California. Because of the manner in which it is listed, it is not clear whether the CAISO considers "Renewable Integration" a new category of transmission project or a benefit that would fit into the recognized categories. Nevertheless, renewable	Thank you for your support. The ISO considers "renewable integration" a potential benefit as well as a requirement for meeting the state policy needs not a new category of transmission project. The ISO plans to coordinate with stakeholder before Central California studies are initiated and plans to present results through the regular TPP stakeholder meetings as much as possible.

		integration is a broad topic and the 33% RPS integration needs are being determined in various jurisdictional venues. Clarifying ambiguities on how renewable integration needs in Central California are determined should be prioritized. The STFC requests the CAISO consult with all stakeholders in the development of assumptions and methodology in determining renewable integration needs for Central California Study.	
68	*Save the Foothills Coalition (STFC)*	**Consideration of operational flexibility of the Helms pumps:** While the Helms pumped storage plant is a useful resource, it is not the only resource or method for integrating diverse portfolios of renewable generation. Furthermore, we have not seen evidence that the frequency of "over generation" from renewables will warrant providing for the constant simultaneous operation of all three pumps at Helms. Moreover, extensive grid modifications that can provide for the always available and simultaneous operation of all three pumps at Helms may not be the most economical and widely beneficial approach for integrating renewables. Assuming additional operational flexibility in Central California is determined to be needed, the STFC requests the evaluation of alternative approaches that may adequately provide for system needs yet do not require extensive transmission upgrades. As one example, the STFC concurs with the CEC staff's call at the February 28 meeting for the appropriate consideration of the dispatchable flexibility that can be provided by demand side resources. Additionally, in contrast to studying extensive grid modifications that presumably support the utility's pumps access to low cost off peak generation, STFC urges the CAISO to consider if geographically dispersed dispatchable loads (i.e. plug in vehicles) should also have access	One of the objectives of the Central California study will be to quantify the benefit in accessing one or more pumps at Helms in order to economically integrate renewable resources. The ISO will take you suggestions under advisement in the development of the Central California Study Plan.

		to excess off peak "over generation" from renewables, and if such resources can also cost effectively provide additional needed capacity and net additional environmental benefits. The STFC looks forward to the development of the 2012/12 Study Plan and the parallel Central California study and request that our concerns be addressed in the processes.	
69	*David Smith, TransWest Express LLC*	**Policy Objectives** CAISO will be doing extremely important work during the course of the 2012/2013 Transmission Planning Process (TPP). Correctly executed, this TPP will identify the projects and investments needed to assure a reliable and economically efficient transmission grid for consumers who are served by CAISO and the Participating Transmission Owners. The February 21, 2012 Draft of the CAISO 2012/2013 Transmission Planning Process Unified Planning Assumptions and Study Plan (Draft Study Plan) lays out a comprehensive set of studies to evaluate and assure the continued reliability of the CAISO transmission grid. However, TransWest believes the Draft Study Plan falls short in its approach to considering economic issues. As further explained in the comments that follow, TransWest believes that CAISO should be evaluating future additions to the grid based on three primary policy objectives: 1. Providing the lowest delivered cost of power to consumers. The delivered cost of power in this context includes generation and transmission costs and capital and operating costs. 2. Providing a sufficiently robust grid so that vigorous competition can take place among generators to cost-effectively serve the needs of consumers. 3. Providing sufficient optionality within any Transmission Plan that clearly	The ISO Transmission Planning Process (TPP) assesses the system to assure the reliability of the grid based upon forecasted load and generation scenarios. In addition the TPP takes into account and plans for identified Policy initiatives as well as the potential developments that provide economic benefits based upon the ISO Transmission Economic Assessment Methodology (TEAM). In assessing the requirements to satisfy the 33% RPS requirements the ISO utilizes the portfolios developed by the CPUC and CEC. The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		states the primary targeted transmission investments and a set of contingency or secondary investments that have sufficient flexibility to become the primary investments if certain assumptions that formed the basis for the primary investments change materially. TransWest recommends that these objectives be included in Section 3.1 of the Draft Study Plan either in place of or in addition to the policy objectives currently listed in that section.	
70	*David Smith, TransWest Express LLC*	**Policy Driven Transmission** Policy Driven and/or economic transmission projects that were identified within the Draft 2011/2012 Transmission Plan have represented approximately 10 times the level of investments identified for reliability projects. This trend in spending on these RPS enabling and policy driven projects over the reliability projects is likely to continue on a per year basis as California transforms approximately 15% of its generation portfolio over the next eight years. The cost for this transmission is significant and requires appropriate scrutiny by the CAISO to ensure the consumers receive adequate benefit for all transmission investments made. <u>Resource Portfolios</u> Section 4.2 of the Draft Study Plan outlines a process for developing sufficient transmission to enable compliance with California's 33% RPS. This process relies on resource portfolios being developed by the California Public Utilities Commission (CPUC). While TransWest respects the role played by the CPUC in California energy policy matters, including but not limited to the siting of transmission lines, we believe CAISO is obligated	The Policy Driven and/or economic transmission projects that were identified in Table 1 within the Draft 2011/2012 plan represent the transmission identified between 2006 and 2011. In other words, this transmission was identified over six years of planning cycles, and was provided for informational purposes only. None of these Policy Driven and/or economic transmission projects were actually identified and approved during the 2011/2012 planning cycle. The reliability projects identified in and approved in Table 2 of the draft 2011/2012 plan were all identified and approved during the 2011/2012 planning cycle. The amount of investment in reliability projects identified over the last six planning cycles is comparable to the amount of policy and economic projects identified. In the last two years, the ISO has not identified any significant investments needed for economic or policy projects, but has identified almost $2 billion in reliability project needs over that time frame. The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		through Section 24.4.6.6 of the OATT to not rely exclusively on CPUC as the sole source for resource portfolios. There are a number of specific elements the CAISO must consider within the process as outlined in Section 24.4.6.6, not all of which are required within the CPUC process. In addition, Stakeholders should be encouraged to provide alternative resource scenarios. WECC and the California Transmission Planning Group (CTPG) have encouraged and accepted stakeholder input on resource assumptions that has resulted in useful insights from their transmission planning efforts. In addition to considering resource portfolios submitted by stakeholders, CAISO must assure that there is a meaningful opportunity for stakeholders to review and comments on the CPUC's proposed resource portfolios.	
71	*David Smith, TransWest Express LLC*	Economic Efficiency The process outlined in the Draft Study Plan does not include an assessment of delivered power costs to consumers. The process seems to assume that the resources included in the CPUC's resource portfolios combined with whatever transmission CAISO determines is necessary to deliver these resources will result in an optimal solution for consumers. However, this will not necessarily be the result. In developing its resource portfolios, CPUC make assumptions about what transmission is needed for delivery of certain resources. In the past, the CPUC's models have selected predominantly resources that are assumed to need little or no new transmission investment. To the extent that these resources actually do require new transmission investments, particularly consumer funded transmission investments, the original assumptions under which they were selected for the resource portfolio are incorrect. CAISO should perform its own independent total delivered cost analysis rather than deferring to	The ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		CPUC in this important area.	
72	*David Smith, TransWest Express LLC*	Least Regrets Approach The process outlined in the Draft Study Plan and in the presentation at the February 28 stakeholder meeting seems to contemplate a future in which enough transmission is developed to deliver only the resources that are included in the CPUC's base portfolio and, perhaps, also in one or more of the CPUC's sensitivity portfolios where different weights are applied to the same data sets. This "least regrets" or "lowest common denominator" approach to transmission planning may serve to minimize new transmission investment. However, this approach provides only a single path to meeting the 33% RPS requirement and effectively eliminates competition among generators to cost-effectively serve the needs of California consumers. Absent a more proactive transmission planning philosophy, load serving entities will continue to consider only a limited range of resource options. This will lead to the selection of additional high-priced resources similar to many of the resources included in the "discounted core" that is expected to be hard-wired into the CPUC's resource portfolios. TransWest's analysis indicates that the current resources included in the discounted core will cost California consumers approximately $800 million per year more than other viable alternatives. Historically, 'stranded investments' as cited by the CAISO in the transmission capacity historically has been very rare. 'Stranded investments' in generation resources is more common as underlying market fundamentals change, such as industry restructuring or required changes in resource mixes. The CAISO should seek to optimize the existing underutilized capacity to	Within the ISOs TPP the assessment is focused on the transmission development requirements to satisfy the reliability and policy needs of the ISO controlled grid. The ISO takes into account the forecasted load growth by the CEC and the renewable portfolios developed by the CPUC and CEC to satisfy RPS and other Policies. Within the ISO TPP assessments are done based upon satisfying the established mandatory reliability standards, policy initiatives and economic benefits based upon the ISO Transmission Economic Assessment Methodology (TEAM). In regards to comments on the CPUC portfolios that the ISO utilizes, the ISO will be holding a stakeholder session on April 2nd where the CPUC and CEC will present the portfolios that they have recently issued to the ISO. The portfolios and development assumptions have been posted for discussion at the stakeholder session. The ISO encourages stakeholders to participate in the stakeholder process for the renewable portfolios and provide comments to either the ISO or CPUC and CEC.

		the greatest extent possible to invest in transmission capacity with a solid economic foundation to ensure any new capacity is fully utilized. Building regional transmission capacity to rich renewable resource areas has been proven in the past to increase in value over time. Because transmission has longer lead times than many renewable resources, it is imperative that CAISO identify transmission additions that will facilitate multiple resource options in the 2012/2013 TPP.	
73	*David Smith, TransWest Express LLC*	**Economic Transmission Studies** Section 4.4 of the Draft Study Plan takes a very narrow view of economic transmission studies. The suggested approach would compare the total cost (capital and operating) of new transmission projects to savings in production costs resulting from the new transmission facilities. This "congestion" focus is very unlikely to result in new transmission investments. **New long-distance transmission investment is justified by providing access to lower-cost resources, not by congestion relief.** For the renewable resources needed to meet the 33% RPS, the costs are predominantly capital costs which will not be accounted for in the congestion analysis contemplated by the Draft Study Plan. The requirements of SB 2 (1x), which have placed limitations on the level of renewable resources that do not have access to transmission capacity to schedule delivery into a California BA, makes the 'congestion' mitigation focus of these economic analysis meaningless for renewable resources.	Here, there are perhaps some misunderstandings of the ISO study process, including the economic planning study. For long-distance transmission investment to access remote resources, the potential low resource cost and relatively high transmission costs are both considered in the CPUC comprehensive analysis of resource portfolios. Where applicable, significant amount of low-cost remote resources may trigger a long-distance transmission as a policy-driven project. However, in the first place, the amount of resources shall be included in the resource portfolio that is optimized by consideration of both generation and transmission. Furthermore, Zephyr, as a proposed inter-regional transmission line, is currently in the WECC TEPPC study plan.

		TransWest notes that a study request by Zephyr within the 2011/2012 Transmission Planning Process was not analyzed in part because there was 'no appreciable congestion between Wyoming and California'. While a lack of congestion may be demonstrable, this condition does not mean that wind resources could be delivered in accordance with California's RPS requirements between the subregions nor does it mean that such transmission would not be economic. Further study by the CAISO on these regional solutions to determine the relative economics of these alternatives is needed to ensure that the consumer interests are being looked after.	
74	*David Smith, TransWest Express LLC*	**Regional Transmission Planning** Except for a discussion of the Conceptual Statewide Transmission Plan in Section 3.2, the Draft Study Plan makes no mention of coordination with regional transmission planning efforts being undertaken by WECC and the sub-regional transmission planning groups in the Western Interconnection. There is a perception among some participants in these regional transmission planning forums that CAISO and other California transmission planning entities are internally focused and do not place a high priority on coordinating with others. However, at the same time, several California entities have contributed significantly to the WECC 10-Year Regional Transmission Plan and have continued to focus on how to improve the regional transmission planning process to better support the California planning entities. Although CAISO has been expending more effort to participate in regional planning activities in recent	The ISO participates in planning coordination and study activities through the California Transmission Planning Group as well as through WECC's Transmission Expansion Planning Policy Committee. While these provide effective opportunities for information sharing and coordination which the ISO anticipates continuing with in the future, these mechanisms lack the specificity and binding requirements necessary to drive the approval of projects and related cost allocations. Within the ISOs TPP the assessment is focused on the transmission development requirements to satisfy the reliability and policy needs of the ISO controlled grid. The ISO takes into account the forecasted load growth by the CEC and the renewable portfolios developed by the CPUC and CEC to satisfy RPS and other Policies.

		months, the absence of any discussion about regional coordination in the Draft Study Plan should be rectified and addressed.	
75	*David Smith, TransWest Express LLC*	**TransWest Study Requests** The 2011 WECC 10-Year Regional Transmission Plan identified four proposed high voltage direct current (HVDC) transmission projects with the potential to produce substantial savings for California consumers by delivering low-cost renewable resources (primarily wind) from Montana, Wyoming and New Mexico. All of these HVDC projects are proposed to terminate in the Eldorado Valley in southeastern Nevada. The analysis conducted by WECC indicated that the existing California transmission network was sufficient to deliver this energy into California. In response to stakeholder input, CTPG included a scenario in the development of the 2011 Conceptual Transmission Plan with heavy renewable energy imports into southern California. This analysis also indicated that the existing California transmission network was sufficient to deliver this energy into California. TransWest requests that a study be done by CAISO to confirm the WECC and CTPG results. Specifically, CAISO should add a scenario with 3,000 MW of wind resources delivered by an HVDC line into southeastern Nevada replacing an equivalent amount of energy from the lowest ranking resources in the CPUC's base 33% RPS portfolio. The objective of the study would be to assess the ability of the existing California transmission network to accommodate delivery of these imported resources along with RA deliverability. This study would address an important regional transmission planning	Please refer to the technical analysis of the ISO GIP Cluster 4 Study for the technical impact of 3000 MW injection to southeastern Nevada. Regarding renewable resources, the ISO recommend to align with the CPUC developed renewable portfolios that are based on a comprehensive analysis in consideration of overall cost and environmental impact.

		question much like the Central California Study described during the February 28 stakeholder meeting.	