

Response to Comments on the CAISO's CSRTP-2006 Study Assumptions report

7/13/06

#	Source	Comment	CAISO Response
1.	UCAN	p. 7. The load forecasts for LADWP are substantially higher than LADWP's own load forecast, as shown in its May 2006 draft Integrated Resource Plan (IRP), p. 23.	We have updated LADWP's load forecast accordingly. Please note the updated CSRTP-2006 assumptions posted on our website.
2.	UCAN	p. 7. Imports to SDG&E under light load conditions are the same with and without Sunrise. The CAISO indicated during the 6/22/06 phone call that this is an error. What are the correct numbers and what is the basis for them?	The revised number is 1894 MW and this includes about 600 MW of additional import into SDG&E due to 600 MW of renewable generation (i.e., geothermal) in the Salton Sea area.
3.	UCAN	p. 8. Numerous double line outage contingencies are included in the contingency list, but a double line outage of the Central-Sycamore 230 KV line (which would be two lines on a single tower) is not. It should be added.	Please note the updated CSRTP-2006 assumptions posted on our website.
4.	UCAN	p. 12. The CAISO proposes to omit LADWP's proposed Indian Hills-Upland line. The CAISO should ask IID whether it intends to reinforce its lines to allow interconnection with LADWP or not, by 2015, given IID's public announcements that it does. See http://www.greenpath.us/pdf/map.pdf . It is inappropriate to include some IID-planned transmission line additions and not others. Also, if the CAISO is going to include planned IID additions which do not have or require CASIO approval, it should also include LADWP-planned additions which do not have or require CAISO approval. This would include not only the Indian Hills-Upland line but also the conversion of Victorville-Upland from 287KV to 500KV, and interconnections between Indian Hills substation and the Devers-Palo Verde #2 line, as well as between the Upland substation and the Lugo-Rancho Vista line. All of these facilities are shown in LADWP's May 2005 draft IRP and at http://www.greenpath.us/pdf/map.pdf .	<p>We did NOT "omit" the proposed Indian Hills-Upland line. There are still no certain plans from LADWP or IID to build this line and CAISO has no influence on process of decision making by these two agencies about even initiating firm plans about the line. Furthermore, the latest information about the line from LADWP shows that they have not even finalized the broad configuration for the line let alone its plan of service – which we will need in order to study the line. We have been asking IID and LADWP to provide us with the needed information.</p> <p>Please note the updated CSRTP-2006 assumptions posted on our website.</p>
5.	UCAN	p. 13. The CAISO proposes to model west of Devers transmission upgrades, but not Devers-Valley #2, as part of	Changes in Plan of Service west of Devers for DPV2 have neither been finalized nor approved by the CAISO. Hence, we will not

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		the Palo Verde-Devers #2 project. This flies in the face of SCE's supplemental direct testimony of 6/23/06 in CPUC A.05-04-015 saying that west of Devers upgrades are dead and SCE wants to build Devers-Valley #2.	consider them for this round. If such change in the plan of service is approved by the CAISO before we take recommendation to the board on other segments of the CSRTP-2006 (Tehachapi and LEAPS), we will use them in our studies.
6.	UCAN	p. 14. The CAISO needs to clarify which projects listed in this page are in its base case and which are part of proposed new projects. In particular, are Vincent-Mesa and Vincent-Rancho Vista in the Tehachapi case or in the base case? What about their costs?	Please note the updated CSRTP-2006 assumptions posted on our website.
7.	UCAN	p. 16. The CAISO has listed transmission assumptions for SCE, PG&E and SDG&E, but has no listing for IID transmission additions. This omission is important since the CAISO's IID assumptions appear to differ from the adopted proposals of the Imperial Valley Study group (IVSG) by both excluding some IVSG-proposed lines and by adding a new 230 KV line to the Imperial Valley substation with no known proponent. The CAISO should publish its transmission assumptions for IID.	The figures we have used for the CSRTP-2006 studies have been provided to us as the most up-to-date, and still conservative, figures by the lead members of the IVSG.
8.	UCAN	p. 18. On June 22 nd , the CAISO indicated that the 4500 Mw wind capacity assumption applies to both 2010 and 2015. The CAISO should explain the basis for assuming 4500 Mw of Tehachapi wind generation online in 2010.	This number was provided to us by wind developers in the area and is consistent with the MW of wind resources in the CAISO interconnection queue as documented in the recent CPUC Tehachapi Collaborative Second Report, dated April 19, 2006.
9.	UCAN	p. 18. The CAISO assumes 800 Mw of new geothermal by 2010, even though the CEC shows 215 Mw by 2009 [p. 22, showing 215 mw by 2008, is in error; see http://www.energy.ca.gov/sitingcases/all_projects.htm], and nothing in the licensing pipeline after that (see http://www.energy.ca.gov/sitingcases/all_projects.htm , which lists no geothermal projects under CEC review, or announced, or planned) . The 800 Mw assumption also contradicts the IVSG planning assumption of 645 Mw by 2010 (see http://www.energy.ca.gov/ivsg/documents/2005-09-30_IVSG_REPORT.PDF , p. 6. The CAISO should either correct its current inputs or provide an explanation of why it is disregarding both CEC and IVSG data.	The figures we have used for the CSRTP-2006 studies have been provided to us as the most up-to-date, and still conservative, figures by the lead members of the IVSG.
10.	UCAN	p. 18 . The CAISO assumes 1800 Mw of new geothermal by	The figures we have used for the CSRTP-2006 studies have been

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		<p>2015, but the IVSG report assumed less based on developer representations, and the current rate of development is slower than the developer asserted. The IVSG report assumes geothermal development of six new 215 Mw facilities, totaling 1290 Mw, by “the end of 2016” (http://www.energy.ca.gov/ivsg/documents/2005-09-30_IVSG_REPORT.PDF, p. 3). Thus, no more than five new plants, totaling 1075 Mw, would be on line by 2015. The CAISO should revise its 2015 assumption for new geothermal generation in the Imperial Valley to be no more than 1075 Mw, consistent with the IVSG report.</p>	<p>provided to us as the most up-to-date, and still conservative, figures by the lead members of the IVSG.</p>
11.	UCAN	<p>p. 18. The CAISO assumes 2700 Mw of total new generation in the Imperial Valley by 2015. This is far more than the IVSG report, which was based on a total of 2200 Mw by 2020, some 5 years later. At the same time that it is assuming more generation than the IVSG report, and sooner, the CAISO includes substantially fewer transmission facilities than were included in the IVSG report, and excludes any LADWP transmission at all. These assumptions are mutually inconsistent. The CAISO should reduce the total new generation assumed for 2015 in the Imperial Valley, or should add the IVSG Phase 2 and 3 transmission facilities and the planned IID-LADWP Green Path facilities.</p>	<p>The figures we have used for the CSRTP-2006 studies have been provided to us as the most up-to-date, and still conservative, figures by the lead members of the IVSG.</p>
12.	UCAN	<p>p. 19. The new generator assumptions that are listed are only for CAISO-area generation. The CAISO needs to clarify what assumptions it is making about LADWP, about other California municipalities (including IID), and about non-California generation? (For example, is IPP 3 included in the 2015 base case? If so, why not the associated STS upgrade? Also, are IID’s planned EI Centro and Niland generators included, and if so why, since they are only in permitting now and thus don’t meet the stated criteria on p. 19)</p>	<p>The generation assumptions included new generation projects that were: (a) filed with the CEC and either received CEC license to construct and/or under construction. The list also includes the generation projects in northern California which have contracts with PG&E. The IGS 3 is a proposed project and the benefit of increased generation will not be realized unless the IPPDC increased path rating is approved by WECC. The EI Centro and Niland generators are provided by and included in the base cases. IID has submitted Small Power Plant Exemption filing with the California Energy Commission. The Commission may exempt thermal power plants from certification if the project is smaller than 100 MW and has no unmitigated adverse on the environment or energy resources.</p>
13.	UCAN	<p>p. 23. The CAISO lists three PG&E contracts for new</p>	<p>We asked PG&E to provide us with the necessary data on the</p>

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		generation, but omits 3 others totaling ~400 Mw. See http://www.energy.ca.gov/sitingcases/all_projects.htm , under "Projects Announced," lines 4, 5, 12.	additional units identified in this question. PG&E informed us about these projects (about 400 MW in Northern California some as far away as Humboldt County). Based on that information, we are confident that these projects will have insignificant impact on our findings and hence we do not intend to repeat our studies based on these generators.
14.	UCAN	p. 24. The CAISO assumes Mohave on line in 2010 and 2015. This is incorrect, as a subsequent e-mail from the CAISO to UCAN confirmed. The base case and all cases except any specific Mohave-sensitivity cases should be corrected to exclude Mohave. For 2010, no case should exclude Mohave, since it will not be possible to restore Mohave to service that soon even if SCE sells the plant to someone who wishes to try to do so.	We have modified all our reliability and economic basecases to reflect the intended permanent retirement of Mohave and repeated all our studies to also reflect this change in assumption.
15.	UCAN	p. 25. The CAISO assumes Ellwood and Mandalay 3 mothballed. The CAISO should check this assumption with SCE.	We have removed Mandalay 3 and Ellwood generating units from the list of Generation Retirement assumptions per confirmation with the plant owners.
16.	UCAN	p. 27. The CAISO assumes IPPDC transfer capability at 1920 Mw, and assumes the south of Lugo constraint at 5900 Mw. If IGS unit 3 is being included as new generation, then the IPPDC line needs to be rerated to 2400 Mw, since such an upgrade is already being proposed even without adding IGS 3 (see LADWP, May 2006, draft IRP). The south-of-Lugo rating needs to be increased to at least 6100 Mw, the figure already used by the CAISO in its 2007 local capacity requirements study. The CAISO should also consider how much the south-of-Lugo figure will be further increased if LADWP upgrades the existing Victorville-Century line to 500 KV from Victorville-Upland, and/or loops the existing Lugo-Mira Loma line into Upland.	<p>Any new upgrade on the IPPDC path from its existing rating will require going through WECC formal path rating approval process. One of the assumptions from the CSRTP-2006 Technical Project Team members is that only path rating that has been granted Phase 3 approval status by WECC is modeled in the studies.</p> <p>Regarding question on the 6100 MW South of Lugo path rating, the CAISO has updated the Path Rating list with this new number. Please note that the South of Lugo is SCE's internal path and not a WECC path. Whether South of Lugo path rating can be upgraded further with LADWP's Green Path project depends on the final plan of service from LADWP regarding this project. At this time, LADWP has not identified a preferred plan of service and is evaluating up to 20 different transmission alternatives/configurations for this project.</p>
17.	UCAN	p. 33. The CAISO should add the "SONGS Heavy" option from p. 34 as an alternative to LEAPS.	We intend to study this Scenario in the future as an alternative to LEAPS.
18.	UCAN	p. 34. The CAISO should include all of UCAN's suggestions from its 4/11/06 letter to the CAISO as part of UCAN's "Mexico Light" alternative to the Sunrise project, not just	We have been in contact with UCAN trying to better understand the Mexican Light alternative in order to be able to properly model it. We are doing this with the full understanding that this solution, if at

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		<p>those shown on p. 34. Specifically, the CAISO should include RAS modifications as part of the Mexico Light option, and add the IID-LADWP (but not IID-SDG&E) Green Path transmission upgrades as shown at http://www.greenpath.us/pdf/map.pdf.</p>	<p>all feasible or beneficial, will depend on the actions of another sovereign nation and may never take place. Furthermore, this solution will play very small, if any, role in helping California meet its RPS goals neither will it help with the economy of system operation. We wonder whether UCAN has studied their proposed solution that they can share with us.</p> <p>We have discussed the subject of IID-LADWP Indian Hills-Upland line in our response to Question # 4.</p>
19.	UCAN	<p>p. 34. During the 6/22/06 phone call, the CAISO clarified that it intends to consider all three of the UCAN-proposed SONGS options. The CAISO should add phase shifters as needed to the three SONGS options. UCAN suggests that the CAISO omit SONGS Medium if necessary to reduce number of options studied. If the CAISO does not follow UCAN's 4/11/06 suggestion that it add the LADWP-IID Green Path option to all of the cases it studies, then it should not add the LADWP-IID Green Path projects to the SONGS cases either.</p>	<p>We still intend to move forward with what we indicated we would study the UCAN SONGS options. At this time, we are trying to get sufficient details from UCAN for this purpose.</p>
20.	UCAN	<p>pp. 36, 41. The CAISO proposes to perform an economic analysis for one year only. The CPUC's proposed decision on transmission modeling calls for at least two years to be studied. See http://www.cpuc.ca.gov/EFILE/PD/57365.pdf, p. 53. The CAISO should extend its economic analysis to at least two years. In the alternative, it should clearly inform its Board that any CAISO recommendations to approve or disapprove specific projects are based on a single year's modeling.</p>	<p>CAISO will repeat the economic studies for 2010 timeframe as well.</p>
21.	UCAN	<p>p. 43. The natural gas prices for December in San Diego are anomalous with regard to month-to-month change, differential with SCE (which gets its natural gas transmission service from the same gas company as SDG&E), and differential with Arizona. The CAISO should reexamine its gas price assumptions and either revise them or provide some explanation for these and any other anomalous assumptions.</p>	<p>We have completely revamped the gas prices used in our studies based on the just released information from SSG-WI (WECC). Please note the updated CSRTP-2006 assumptions posted on our website.</p>

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22.	UCAN	p. 45. LADWP not part of the CAISO; the LADWP energy and peak loads don't match LADWP's own numbers, as shown in its draft IRP.	We have modified this information per LADWP draft IRP. Please note the updated CSRTP-2006 assumptions posted on our website.
23	UCAN	p. 47. To properly calculate consumer surplus, CAISO needs to know which generators are utility-owned or have cost-of-service ratemaking so that profitability changes flow to consumers and not producers (see, e.g., p. 50). The CAISO needs to provide a listing of which generators in 2010 and 2015 it assumed would contribute to consumer surplus.	TEAM methodology fully accounts for the fact that profitability of units owned the CAISO member utilities flows to consumers and not producers. A list of CAISO member utility owned generation is added to our final set of assumptions posted on our website.
24.	UCAN	p. 51. The variability in the level of new generation in the Tehachapis and Imperial Valley is a much more key variable than hydro production. The CAISO should model that instead.	We intend to do that.
25.	UCAN	Where will the cost estimates for new transmission lines come from? Is CAISO using LADWP's value for Indian Hills-Upland, which is \$268 million for LADWP and \$335 million total (LADWP, "Accelerated RPS Action Plan Status Report, 4/18/06, p. 11). Where will the CAISO get costs for transmission facilities with no known proponent, such as the 230 KV line included in the "Sunpath" case to deliver solar generation to Imperial Valley substation. What costs are being used for each of the alternative new facilities?	<p>Given the state of development of LADWP Indian Hills-Upland line, we cannot be confident of any cost estimate provided to us on that line.</p> <p>The 230 kV IID system upgrade is considered as part of the pre-project basecase and not part of the Sun Path project. Citizens Energy/IID does not intend to include the cost of such upgrades in their portion of the cost of the Sun Path project.</p>
26.	UCAN	How are capital costs annualized, or benefits extrapolated to other years?	<p>For life-cycle cost/benefit analysis:</p> <p>1) The annual revenue requirements are provided by the project sponsors. These annual revenue requirements are present-valued and then multiplied by the appropriate capital recovery factor to determine the annualized capital costs.</p> <p>2) Benefits for years 2010 and 2015 years are first calculated using the TEAM Methodology. Benefits for interim years (between 2010 and 2015) are calculated by interpolating the benefits between these two years. Benefits beyond 2015 are calculated by extrapolating the benefits in 2015 using an escalation rate that mainly reflects the real rate of increase in fuel price. We will then levelize the benefits over the life of the project.</p>
27.	UCAN	UCAN requests that the CAISO publish updated an version	Please note the updated CSRTP-2006 assumptions posted on our

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		of its planning study assumptions document so that people can see what changes were made, including both changes in response to public comments (e.g., Mohave) and changes in response to inputs from the TPT or others (e.g., changes to dispatch/import assumptions for low-load case).	website.
28.	UCAN	When will first publication of draft or final results occur?	We intend to publish our draft results the week of July 17, 2006.
29.	UCAN	Have TPT participants been seeing draft results as they go along? Who are the TPT members? As the proponent of at least two alternatives being studied by the CAISO (p. 34), why was UCAN not invited or allowed to be part of the TPT?	CSRTP-2006 was not intended as a stakeholder process but as an arena in which CAISO could receive all necessary information about the projects from the project sponsors and impacted transmission owners in the most expeditious fashion. CSRTP-2006 participant list is included in the attached. CAISO has on multiple opportunities has shared information about CSRTP-2006 process and approach with all stakeholders and will do the same with the results before presenting them to our board.
30.	UCAN	If economic analysis precedes reliability analysis (p. 31), where do the flow constraints in the economic analyses come from, and what are they for SCIT, SDG&E SIL/NSIL, IID exports to SDG&E, IID exports to SCE, etc.?	We are using the flow limits based on currently WECC and CAISO published numbers. In cases of flow constraints that are directly impacted by the new projects, we have performed reasonable reliability studies (or relied on the studies of the impacted transmission owners) to come up with an educated estimate of the updated limit.
31.	UCAN	pp. 8-11 should add contingency analysis for export lines from Imperial Valley, just like the contingencies already included for Tehachapi export lines. Particular contingencies that should be included are: Bannister-San Felipe, Coachella-Mirage, Coachella-Devers, Coachella-Mirage and Coachella-Devers DLO, San Felipe 500/230 KV bank, Imperial Valley 500/230 KV bank, EI Centro-Imperial Valley (single and double both?), and perhaps phase shifter failure at Imperial Valley-EI Centro.	These will be included for analysis, except for the Imperial Valley phase shifter since this is not modeled due to IID's removal of the EI Centro 230/161kV transformer in the base cases.
32.	UCAN	Will the CAISO analysis test and report on deliverability, modeling how much of the new generation associated with proposed new T/Ls would have to be curtailed under various operating conditions or contingencies? If not, why not, since a key purpose of the new generation is to deliver renewable generator output to loads?	Generation deliverability for new renewable generation will be performed in a separate effort associated with Large Generator Interconnection Process.

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33.	UCAN	On p. 7, the import level shown for SDG&E with the Sunrise project in service in 2010 are >3800 Mw. Does this exceed the SIL for SDG&E? What is the SIL for SDG&E for this and the other cases shown on p. 7? How did the CAISO determine SIL levels to be used in the various cases? For the economic analysis, what NSIL values were used for SDG&E for the various cases studied? If SDG&E SIL/NSIL values are not inputs, will they be outputs, and if so how will they be calculated?	With Sun Path Project on-line, SDG&E's total import capability has been estimated at around 4000 MW. The new power flow case has 2807 MW for SDG&E Import. Because of ever-changing nature of the basecases, the final numbers will be reflected in the final report. Without Sun Path or LEAPS Project, the SDG&E's simultaneous import level (SIL) is 2850 MW. The NSIL, without Sun Path Project, is 2500 MW. With Sun Path Project, it has been estimated at 3500 MW. The SIL/NSIL are output values, with the total import being the summation flow into SDG&E of these transmission facilities: Miguel 500/230kV transformers (2), Tijuana – Otay Mesa 230kV line, 4-230kV lines South of SONGS, Central 500/230kV transformers (2) (with Sun Path Project), and Camp Pendleton – Camp Pendleton 230kV PST (or lines) if LEAPS Project is modeled.
34.	UCAN	p. 7. Imports for SDG&E with Sunrise in 2015 are <3400 Mw. Why do SDG&E imports with Sunrise decline from 2010 to 2015 even though SDG&E loads grow over that period?	These numbers are from old power flow cases (see response to #33 above). The updated power flow case has 3264 MW (an increase of 457 MW).
35.	UCAN	Internal generation for SG&E is different in 2010 and 2015. Is the CAISO assuming any resource additions internal to the SDG&E system between 2010 and 2015? Why is the CAISO assuming 0 Mw for AMI impacts, given that SDG&E's AMI application depends upon demand reductions for its cost-effectiveness?	<p>No resource additions are planned in the internal San Diego system between 2010 and 2015. Internal SDG&E generation in the 2010 and 2015 cases was different because of the different dispatch needed for reliability studies. For reliability studies based on WECC/CAISO standards, San Diego generation dispatch was modeled in such a way that the import would be at its limit. Import into San Diego is limited, and maximum import is the most critical case. From the equation: load + losses = internal generation + import, internal generation would be equal to import minus load, minus losses. If import is modeled the same (equal to the import capability limit) in both 2010 and 2015 cases, the internal generation dispatch would depend on the San Diego load and losses. The difference in the generation dispatch (total internal generation) in the 2010 and 2015 cases is equal to difference in San Diego load + losses for these two cases.</p> <p>Regarding the AMI impacts and demand reduction, we don't have a forecast for AMI, so we assume that it will be no demand reduction.</p>
36.	UCAN	p. 7. Generation and import numbers - In general, what is the basis for the generation and import numbers on this page?	Regarding generation and import numbers for SDG&E - see the response to the previous question. Since the San Diego area has

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		Are they calculated from something, assumed as stress cases, random, or what? What is their relationship, if any, to numbers used in the economic analysis?	limited import capability, the most critical case is import to San Diego at its limit. In assumption of a certain load forecast, for the heavy load cases, the generation dispatch is adjusted so that import into San Diego would be at its maximum value (import capability limit). Regarding the question if the generation and import are calculated, the import capability limit was calculated in detailed studies performed by SDG&E and there are firm numbers for the import capability. The load is assumed from the SDG&E load forecast. So generation is the difference between load plus losses (which are also calculated) minus import. The question about relationship these numbers to economic analysis: economic analysis uses load curve (load for each hour of the year) instead of one load number. Generation is dispatched by the market simulation program in the most economic way (to reduce total WECC production cost) using security constraints. Import capability into San Diego is one of the constraints. Therefore, generation dispatch, load and import in the cases for economic studies will be different from the power flow studies. Power flow studies model the worst case, and the economic studies model average load year with the most economic generation dispatch considering the network constraints.
37.	UCAN	What capital costs are being included in the CAISO analysis for the new generation associated with various scenarios? If none, why not? If none, does that mean the LEAPS scenario sensitivity cases have the same capital costs with 0, 500, or 750 Mw of generation? If capital costs are included, where do they come from, and what are they?	We will only include the capital cost of LEAPS power plant as its sponsors intend to have this plant, pursuant to provisions of EPACK2005, treated as an advanced transmission asset and, hence, rate based.
38.	UCAN	The CAISO says that its economic analysis will use the TEAM methodology (p. 36). The CAISO has previously testified to the CPUC that its TEAM methodology requires that at least two years of operations be studied. See http://www.cpuc.ca.gov/EFILE/PD/57365.pdf , p. 53. The CAISO should clarify that its economic analysis is NOT using the TEAM methodology insofar as it is based on only one year of economic operations analysis.	As we indicated earlier, we will present the economic assessment for two years: 2010 and 2015.
39.	LS Power	Based upon the information shared during the market participant call to review the study assumptions, it is apparent	We do intend to study the impact of the re-powered South Bay in our 2015 case.

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		<p>that the generation assumptions, especially the treatment of generation located in key areas, will have a major impact upon the technical and economic benefits of all three transmission projects under consideration. We do not agree with CAISO's decision to only include generation that is either under-construction, has received a CEC license, or has a long term contract with one of the LSE's. We believe that these assumptions will produce a study case that could result in sub-optimal or erroneous results. As you know several generation projects, which have a CEC license, and which would be included in your study under the foregoing assumptions, that are either on-hold or have been formally cancelled. Additionally, there are projects that are either in the Interconnection Study Phase, and/or are in the CEC licensing process, that have a very high likelihood of completion. We believe such projects should be included in the Study assumptions. Inclusion of such projects is especially important when they are located in areas where they would have a major impact upon the results of the planning study and are either repowering or replacement projects.</p> <p>Our South Bay Replacement Project is an example of such a project. This Project is a replacement for the existing South Bay Power plant, has filed an AFC application with the CEC, and is in the final stages of completing the Interconnection Study. The CAISO's study assumption that the existing South Bay Power Plant will retire in 2009-2010 time frame without any replacement generation at this site is inaccurate. The retirement of the South Bay Power Plant is dependent on a number of factors including the existence of Replacement Project. We believe that the decision to exclude the South Bay Replacement Project and assume the premature retirement of an existing unit is unrealistic and inaccurate. We urge the CAISO to include either the existing unit or its planned replacement in the generation assumptions for the</p>	

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		2010 base case.	
40	LS Power	As we indicated during our conference call last week, SCE has issued a press release indicating that they do not plan to re-power Mohave generating facility. In light of this information we believe that Mojave should be removed from the base case.	Please note our response to Question # 14.
41	LS Power	On page 7, the generation level for SDG&E area in pre and post Sun Path case is exactly the same. To us, that appears to be an error.	Please note our response to Question # 2.
42	LS Power	On page 15, there seems to be an error. The dates for relocation of South Bay substation is listed as 06/2009, however, according to the MOU that SDG&E has with Chula Vista county, the substation will be relocated after the retirement of South Bay power plant that is expected to occur after 1/2009.	So far as the date of South Bay substation relocation is before 2010, which is the case here, the date of relocation will have no bearing on our study results for 2010 and beyond.
43	LS Power	On page 29 the LEAPS drawing indicates the new 500 kV is path of the Sun Path project. Is this an error?	Please note the updated CSRTP-2006 assumptions posted on our website.
44	LS Power	On page 30 the Green Path drawing makes no mention of the IID 230 kV upgrades. Are they included?	IID 230 kV upgrades are included within the basecase and they are present with or without the Sun Path project.
45	Shell Trading	<p>Slide 12 - INDIAN HILL substation - There is no point in including the LADWP Indian Hills substation. It would not make sense to include this substation without also including all of the 230 kV upgrades on the IID system as described in the IVSG Report posted on the CEC web page. IID has no firm plans or commitments to construct these upgrades, without which the Indian Hills substation is not justified.</p> <p>The ISO is including only transmission projects that it has recommended for approval to the ISO Board of Governors. Such recommendation requires demonstration of either a reliability need or economic benefits in excess of cost of the transmission upgrade. At the fall STEP meeting, LADWP indicated it expects the ISO to pay for half or more of the cost of the 500 kV transmission line proposed to extend west of Indian Hills. There is no report of the ISO starting an</p>	Please also note our response to Question # 4.

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		<p>economic evaluation of the benefits of such a line and substation to ISO ratepayers let alone recommending it to the ISO Board of Governors. There is no suggestion that these facilities are needed for reliability to ISO ratepayers. Therefore, we see that there is no need or purpose for the ISO to expend time and resources on further study of this proposal.</p>	
46	Shell Trading	<p>Slide 14,15, and 16 - SYSTEM TOPOLOGY ASSUMPTIONS – Many new transmission projects and upgrades are listed. To the extent that these projects and upgrades are not included in WECC cases, the ISO should provide sufficient detail of these upgrades to permit others that might also perform modeling analysis to include them in their models. It might be appropriate to limit the information to WECC members or parties that have signed WECC confidentiality agreements.</p>	<p>We are willing to share most of the details of our basecases with WECC members.</p>
47	Shell Trading	<p>Slide 18 - NEW WIND GENERATION - This page seems to suggest that unlike the new geothermal and solar resources, the ISO will assume all of the new wind generation in the initial cases, rather than phasing them in similar to the geothermal and solar resources. It is not reasonable to assume all wind generation would all appear by 2010. This assumption could affect the economic analysis of other transmission upgrades. The new wind generation should be phased in similar to the geothermal and solar generation.</p>	<p>Please note our response to Question # 8.</p>
48	Shell Trading	<p>Slide 24 - Mojave Shut-down - In light of recent quotations of SCE's officers in the LA Times that Mohave will be permanently retired, it would be more appropriate to treat Mohave on-line as a sensitivity rather than in the base case.</p>	<p>Please note our response to Question # 14.</p>
49	Shell Trading	<p>Slide 34 - CFE Light Considerations - Alternative 3 is a new line from the TDM/InterGen generators to the CFE system. Such an interconnection would have the effect of causing the generators to become a part of the CFE control area, taking them out of the ISO control area. This would necessitate the termination of the PGA's and require the purchase of the existing lines between TDM/InterGen generators and the</p>	<p>Please note our response to Question # 18.</p>

#	Source	Comment	CAISO Response
		<p>Imperial Valley substation. If these issues have not been discussed and agreed to by the generators, which we believe is the case, is it reasonable to study this alternative? If the ISO is going to study such an alternative, it should be discussed with the plant owners in order to arrive at a model representation that might be acceptable to the generator owners. We assume this alternative includes reinforcement of the existing 230 KV lines between ROA and Tijuana, between Tijuana and Miguel and north of Miguel. Has the ISO investigated the impacts or feasibility of investing in new transmission lines in another country, and will it end up paying twice for the use of the lines, first through initial construction costs and second through a wheeling charge? Has the ISO investigated whether it would have scheduling priority if during a peak period, both the ISO and CFE needed the energy and CFE chose to not fulfill the export schedule to maintain reliability on its system?</p>	

TPT Members

COMPANY	NAME (only those who actively participated in the meetings are mentioned here)
CAISO	Dariush Shirmohammadi, David Le, Irina Green, Paul Steckley, Shangyou Hao, Kory Hedman, Hoffman, Kyle, Judy Nickel
SDG&E	Caroline Winn, Linda Brown, Jan Strack, Robert Jackson
TNHC/Siemens	Rex Wait, Kates, David, Sharon Firooz, John Joyce, Rich Batey
SCE	Gary Tarplee, Pat Arons, Chuck-Yan Wu, Leanne Swanson
IID	David Barajas, Ziad Alawan
PG&E	Chifong Thomas, Kang-Ling Ching
CEC	Mark Hesters, Peter Mackin
OCES	Hal Romanowitz, Subbaiah Pasupulah, Ken Grismore
CEERT	Rich Ferguson, Dave Olson
Citizens Energy	Paul Scheuerman