



**Comments of Pacific Gas and Electric Company
Draft 2012-2013 TPP Study Plan**

Submitted by	Company	Date Submitted
<i>Jason Yan, (415) 973-4004</i>	<i>Pacific Gas and Electric Company (PG&E)</i>	<i>March 13, 2012</i>

Pacific Gas & Electric Company (PG&E) appreciates the opportunity to participate in the stakeholder process to develop the California Independent System Operator’s (CAISO) 2012-2013 Transmission Planning Process Study Plan.

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.

Comments

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 Central California Study Plan Should Be Acknowledged as a Part of the 2012-2013 TPP Study Plan

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.

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 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 result 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.

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 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.

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” 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.

The CAISO Should Use More Discretion in Determining Which Generation Projects Should be Modeled As Available in the Various 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 available information. Last week, PG&E filed the March 2012 Renewables Portfolio Standard Project Development Status Report (PDSR) with the CPUC.¹ The PDSR provides current information on the development and regulatory approval status of IOU projects under development.

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

¹ https://www.pge.com/regulation/RenewablePortfolioStdsOIR-IV/Other-Docs/PGE/2012/RenewablePortfolioStdsOIR-IV_Other-Doc_PGE_20120301_230170.pdf

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 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.

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.

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 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.

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

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 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.