

Stakeholder Comments Template

**Integration of Transmission Planning and Generation
Interconnection Procedures (TPP-GIP Integration)**

Revised Straw Proposal, September 12, 2011

Submitted by	Company	Date Submitted
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PG&E appreciates the opportunity to provide comments on this proposal, but given its significance and complexity, PG&E is concerned that the timeline for Board approval might be overly ambitious. PG&E acknowledges the goal of getting FERC approval in time for the Cluster 5 request window closing, but that driver should not rush stakeholders through the process at the expense of having a workable and well-vetted proposal.

In addition to these process-related issues, PG&E has concerns that the TPP-identified upgrades will become a primary viability screen for generation projects under negotiation. Even if LSEs were to allocate deliverability associated with TPP-identified upgrades, the uncertainty around which projects will have the cost of their upgrades rolled into general transmission rates and which will not creates significant cost uncertainty and procurement challenges. One solution (detailed below) would be to apply the status quo cost allocation methodology to projects with approved PPAs. This would bring assurance to the market that if the negotiation ends in a PPA by a certain date, there will not be uncertainty about the ultimate cost responsibility of any needed network upgrades, even if the upgrades are not identified in the TPP. Without this assurance, the risk that network upgrades will not be identified in the TPP would need to be incorporated into PPAs, and could result in higher costs.

By applying the status quo methodology to this subset of presumably highly viable projects, ratepayers are also protected from paying for network upgrades for generation projects that end up failing, because repayment of upgrade costs only begins once the generator is online and delivering power. Additional ideas are presented below for ensuring that any network upgrades that receive reimbursement through rates would be justifiable.

1. Section 4 of the paper laid out several objectives for this initiative, including four previously-identified GIP issues to be included in scope. Please indicate whether your organization believes these objectives are appropriate and complete. If your organization believes the list to be

incomplete, please specify what additional objectives the ISO should include.

While PG&E believes that many of the proposed Objectives are sound, the list as a whole is incomplete, and several of the Objectives are framed in such a way as to prevent their intended goal from being achieved. The lack of coordination with the LSEs' procurement timeline is a big gap in the current proposal, particularly because milestones such as PPA executions could potentially play a big role in the TPP-identified transmission capacity allocation. Furthermore, some of the same queue management issues that have arisen with Cluster 4 could again arise when a new process is applied to Cluster 5 and beyond if commercial realities aren't used early in the process to limit the scope of generation projects being studied to only the more viable projects. In addition to coordinating with the LSEs' procurement process, the CAISO should modify Objectives 1 and 4 of the proposal explicitly to state the goal of minimizing all-in cost of delivered energy instead of minimizing customer exposure to under-utilized transmission.

PG&E suggests that the following Objectives be explicitly added to the proposal, and offers brief comments on some the Objectives currently listed.

1. Proposed Objective: Identify sufficient transmission in the TPP to: 1) meet the 33% RPS, **and** 2) minimize all-in cost impacts to ratepayers by enabling a robustly competitive procurement market in multiple resource areas.
2. Proposed Objective: To the extent possible, the new proposal should not add time to the already lengthy process for interconnecting generators to the CAISO grid.
3. Proposed Objective: Ensure that non-viable projects are removed from the interconnection queue in a timely manner.

Objective 1 (Holistic planning that makes most cost-effective use of ratepayer funds):

PG&E supports the objective of making the most cost-effective use of ratepayer funds. As PG&E has commented previously, it is important to remember that the costs of power procurement far outweigh the cost of transmission. Recognizing that ratepayer funding is not limited to transmission rates, but instead covers the all-in cost of delivered energy (with transmission as one component), PG&E reiterates that a competitive procurement market is essential if the all-in costs to ratepayers are to be minimized. A planning process that does not take into account commercial interest from a procurement perspective has little chance of achieving the stated objective. For this reason, PG&E believes that transmission expansion planners should be cognizant of the overall resource planning process.

In order to sufficiently take commercial interest into account, the CAISO should elaborate on the following in its next draft of the TPP/GIP Proposal:

1. How the CAISO will ensure that the resource portfolio scenarios are based upon the most up-to-date information, including outcomes from recent competitive solicitations.
2. How the CAISO will coordinate with the CPUC to ensure that the timelines for those solicitations are matched up with the TPP cycle in order to make most timely use of those inputs.

3. How commercial milestones, such as PPAs, site control, or permitting, will be used earlier in the process (such as GIP-Phase 1 or explicitly within the resource portfolios driving the TPP) to speed up the process for the most feasible projects with the greatest commercial interest.

Objective 2 (Rely more on the TPP and less on the GIP):

PG&E reiterates its concern that the TPP might not always identify sufficient transmission to enable a robustly competitive procurement market. To the extent that the TPP would identify sufficient new transmission to enable robust procurement, then relying more on TPP and less on GIP may be justified. But the CAISO and stakeholders must continue to refine the TPP so that market participants can be confident that the CAISO identifies in the TPP sufficient transmission to maintain procurement options in multiple resource areas.

To achieve this, the CAISO should plan for transmission in the TPP that satisfies multiple renewable build-out scenarios, rather than only planning “common denominator” transmission that is needed for all scenarios. Such a “tight” transmission plan will constrain procurement options and is likely to raise the all-in cost of delivered power. Furthermore, the TPP must be built upon the most up-to-date information. The information currently being used to create the transmission plan is at times incomplete or outdated, lagging behind the commercial realities in the procurement market. For example, the Modified Cost Constrained Scenario (MCCS) being used in the current TPP leaves out some renewable generation projects for which a power purchase agreement (PPA) has already been signed and approved by the CPUC. The MCCS also leaves out some renewable generation projects for which the generator interconnection study process is complete. This issue must be addressed if market participants are to rely on the TPP as the main process for identifying new transmission.

PG&E also proposes that Interconnection Customers (ICs) that have met significant commercial milestones, such as PPAs, site control, and/or permitting, should get reimbursement for network upgrades even if the network upgrades required to interconnect those generators are not identified in the TPP. While this proposal runs counter to Objective 2 as currently stated, it would help ensure that commercial interest and milestones continue to be a primary determinant of project viability, and would avoid the situation where highly viable projects are made unviable because of narrowly-defined resource portfolios or other TPP assumptions that lead to the network upgrades needed for interconnecting these generators not being identified in the TPP.

Objective 3 (Provide incentives to locate in most efficient grid locations):

In order to achieve this objective, project developers must receive information that is relevant to their siting decisions early enough in the process for it to be actionable. PG&E makes some suggestions below for how to achieve this.

Objective 4 (Minimize under utilization of transmission):

PG&E reiterates its previous comments by questioning the value of this objective. Minimizing the all-in cost of delivered electricity for ratepayers is the appropriate objective for an optimal transmission system. PG&E again draws the analogy to the gas transmission system, which, though it has not always been fully subscribed, has ultimately reduced the costs to California’s gas and electric customers. It has achieved this by enabling a robustly competitive market that allows sufficient access to the cheapest resources across different geographic regions and time periods.

2. The revised straw proposal presents a timeline describing how the new TPP-GIP process would work. Please comment on the overall process design in terms of how well it meets the objectives of this initiative and how workable it is from a practical perspective. If you see ways it can be improved please offer concrete suggestions.

To the extent that the new process gives ICs more clarity about their cost exposure and helps inform the decision of whether or not to proceed into Phase 2, then the new process is an improvement over the current process. However, the current timeline does little to achieve Objective 3 because it doesn't give ICs information early enough to influence their siting decisions. PG&E understands that this process is iterative, and perhaps the TPP results will help inform projects where to locate for the next cycle of interconnection requests the following year. However, PG&E suggests two improvements that might help achieve objective 3.

1. The CAISO and CPUC could commit to releasing resource portfolio scenarios far enough in advance of interconnection request window closing so ICs could use that information for their initial siting decisions. If the request window closes in March, perhaps late January is the appropriate time to lock in the resource portfolio assumptions that will be input into the TPP that year.
2. When the TPP Phase 2 and GIP Phase 1 results are released, the CAISO could also release a report identifying the next most cost-effective upgrade to those same lines, paired with how many incremental MW would be accommodated by that incremental upgrade. This information might be informative to ICs in the next Cluster, giving them an early indicator of where the most cost-efficient grid locations are located from a transmission cost perspective. Such a report could complement the Transmission Ranking Cost Report (TRCR) that the IOUs file with the CPUC.
3. Please comment on the following specific aspects of the design of the proposed new TPP-GIP process, and offer concrete suggestions for improvement where needed.
 - a. The study assumptions proposed for each of the two GIP study phases.

In general, PG&E agrees with the proposed study assumptions for the GIP study phases. However, PG&E offers the following suggestions:

1. The Phase 1 study should allow for sufficient time to reassess network upgrades required for those generation projects that continue to Phase 2 from the previous study cluster. The CAISO captures this need in the proposal under 5.2.1 2.b) by suggesting that the Phase 1 study will assume the "NU identified in the recently-completed Phase 1 study for cluster N and the associated generation projects **if the NU are still required for the corresponding ICs that have committed to continue to Phase 2...**". Determining whether the network upgrades are "still required" will take time, so this should explicitly be built into the timeline within the Tariff in Attachment A, Appendix Y.
2. Under 5.2.1 2.c), PG&E is concerned about the situation where a GIA is not yet executed, but it might be reasonable to assume a project's network upgrades in the next cycle's Phase 1 study. Given that the Phase 2 results are proposed to come out in October, just 2 months before the next Cluster's Phase 1 study

results are scheduled to be released, it is highly unlikely that a generator will be ready to sign a GIA in 60 days. For this reason, there might not be enough opportunity to incorporate these projects from the previous cluster into the current cluster's Phase 1 study.

3. Assumptions for Cluster 5 Phase 2 would include previous TPP-approved transmission and IC-funded with GIAs. Since Cluster 5 Phase 2 would be the first cluster study to follow the new process, there will not be any IC-funded network upgrades assumed in Cluster 5 Phase 2. PG&E proposes to include those previously identified upgrades that are included in executed GIAs.

- b.** The information available to interconnection customers at each decision point in the process.

The release of the final TPP plan in March does not allow much time for IC's to finance the security posting prior to the start of Phase 2 in April. The current process allows 90 days after Phase 1 to post for Phase 2. Moving this to 30 days after TPP might create difficulties for ICs since the TPP results will likely impact cost responsibility more than Phase 1 result.

- c.** The "soft" nature of the GIP cost caps, whereby interconnection customers and ratepayers will have shared responsibility for upgrade costs that exceed the cost cap. Comment on both (i) the appropriateness of sharing this cost responsibility, and (ii) the ISO's specific proposal for how the costs would be shared.

For projects without PPAs or other significant commercial milestones, it is not appropriate for ratepayers to share the responsibility for their network upgrade costs. If the objective of the proposal is to make the TPP the primary process for identifying new transmission, then reducing barriers for all GIP-driven IC-funded transmission doesn't make sense. Ratepayers should not share in the cost responsibility for projects outside the TPP unless the project has a PPA or can otherwise demonstrate significant commercial progress.

For projects with a PPA, the idea of "soft" cost caps is appropriate, but even then, some protections for ratepayers may still be reasonable (detailed below under Question 4(c)).

4. In the revised straw proposal, the ISO identifies four options by which allocation of ratepayer funded upgrades could be allocated.
 - a.** Please rank the options, Option 3A, 3B, 3C, or 3F, from 1 (most appropriate) to 4 (least appropriate) your organization believes to be the most appropriate means for determining the allocation of ratepayer funded upgrades. Please explain the reasons for your preference? If there are other options the ISO should consider, please describe them and explain why they could be superior to the other options.

PG&E offers the following ranking, but points out that this ranking is based on how the options are currently described, and could change based on how the details emerge in subsequent drafts. For example, an approach using poorly defined milestones might not be preferable to a well-designed LSE Allocation. That being said, PG&E ranks the options as follows:

1: A) Milestones – This option is the simplest to implement, and assuming the enforcement of the milestones has real teeth, would address the objective of encouraging non-viable projects to exit the process in a timely manner. It doesn't address what happens when a line is oversubscribed with MWs that meet the milestones at the same time, however.

2: F) LSE Allocation – In addition to dealing with the queue management issues, this option addresses the situation when a tranche of PPAs leads to a line being oversubscribed with PPA-approved MWs which are approved at the same time, and therefore a “first-come first served” approach is inadequate. This approach raises many questions (detailed below), and PG&E would need additional details before supporting this option.

3. C) Auction – Implementing this approach could be very complicated, lead to gaming opportunities, or increase speculative behavior, without generating any clear benefits that the simpler milestones approach doesn't offer. It would favor entities that have access to large amounts of short-term borrowing over the projects that are most cost competitive.

4. B) Pro Rata – PG&E does not believe this is a workable approach, as it would require constant re-allocation as projects make the decision to drop out based on the decisions of all others in the study group. This approach would lead to a waiting game where marginally viable projects might try to hold on long enough for others to drop out in hopes that the costs allocated to them would drop. In this way, it would not encourage less viable projects to exit the process in a timely manner.

- b.** Based on stakeholder feedback during the September 19 stakeholder meeting, many parties stated the ISO would likely need to utilize more than one of the identified options. Please provide comment regarding what combination of these options will best facilitate the efficient allocation of ratepayer funded transmission capacity. Please provide as much detail as possible.

No comment.

- c.** If Option 3A is selected, what are appropriate milestones to determine which projects are the “first comers?” In particular, some stakeholders have suggested that only projects with signed PPA should be allowed to qualify. Please comment on the appropriateness of this criterion and any others that might be needed.

PG&E believes the key milestones for this option would be some combination of a signed PPA, site control, and/or permitting. However, one issue that might arise under this approach is if there are more MWs in the signed PPAs than can be accommodated by the approved TPP upgrades. PG&E would like to suggest a modification that would allow projects with a PPA to have their upgrade costs be recoverable under the status quo methodology (rolled into TAC) if network upgrades needed to interconnect their generation are not identified in the TPP. For this subset of presumably highly viable projects, the generators would up-front fund the network upgrades (as they currently do), and be repaid over 5 years after the generation comes online (as is currently done). This would reduce the uncertainty in the commercial process under the current proposal, where the cost responsibility wouldn't be known until the TPP results are released, and the TPP might not accommodate all projects with PPAs. With this modification, even if the required upgrades aren't identified in the TPP, an IC and the LSE can know with certainty (as they do today) during PPA negotiations, that the cost of any needed network upgrade would be recoverable through general transmission rates.

Under this modification, there could still be safeguards to ensure the upgrades are truly needed. First, the CPUC could reject a PPA whose Phase 1 GIP cost estimates are extremely high. Second, if the network upgrades needed to interconnect the generator facilitate much more capacity than is indicated in the project's PPA, then there could be thresholds below which ratepayers will not cover the costs. PG&E points to the Location Constrained Resource Interconnection Facility (LCRIF) methodology as a way to set these thresholds. For example, if a project triggers an upgrade that accommodates 500MW, but its PPA is only for 200MW, then it would only be utilizing 40% of the capacity of the upgrade. If the threshold were set at 50%, then these upgrades would not qualify for ratepayer funding. If a project is below the threshold utilization to justify the upgrades, then it will have to wait until future clusters in hopes that additional viable projects attempt to interconnect in a similar area to justify the large upgrades required.

- d. If Option 3B is selected, what is the appropriate metric and methodology upon which pro rata shares should be determined?

As mentioned above, Option 3B is not viable.

- e. If Option 3C is selected, then how should such an auction be conducted? Specifically, the ISO seeks comments regarding whether an auction should be an open bid or closed bid and held in a single round or an iterative bidding process? Please provide as much detail as possible.

See above.

- f. If Option 3F is selected, how shall transmission capacity be allocated to the LSEs? In particular, is the existing methodology for allocating import capacity to LSEs for RA (tariff section 40.4.6.2) applicable in the present context? If not, how should it be adapted?

PG&E finds merit in this proposal, but also thinks it raises a number of questions and concerns that would need to be addressed before PG&E could consider supporting it.

Where the existing import allocation methodology *is* applicable:

- Allocation based on load share by path
- Transfers between LSEs are acceptable and are reported to CAISO

Where the existing import allocation methodology *is not* applicable:

- One year terms are insufficient – longer term assignment would be necessary
- If assigned deliverability goes to a project that ultimately fails, that capacity needs to be re-assignable

Additional questions and concerns:

- What will the allocation be based on? Given the amount of commercial interest in renewable generation outside of PG&E's service territory, PG&E would expect an allocation based on load share by path, even if those paths are outside of its service territory.
- How long does the allocation last? Annual allocations would be insufficient.
- When in the cycle will the allocation be made?
- Can it be re-assigned if certain projects fail?

- Are the allocations transferable? Being able to trade among LSEs seems crucial if this approach is to be viable.
- g.** All of the options provided could create opportunities to buy/sell allocations of capacity created by ratepayer-funded projects. Is there a need for the ISO to set up rules to prohibit or manage such sales?

Such sales should not be prohibited. An approach similar to the intertie allocation analogy could be used where the CAISO registers LSEs interested in making bilateral transfers, but is minimally involved other than collecting and posting information related to the trades. Only LSEs should be able to hold these rights, and there should not be a secondary market for reselling them. All trades should be bilateral between LSEs since they are the entities with the responsibility to serve end-use customers.

5. In cases where an IC pays for a network upgrade and later ICs benefit from these network upgrades, the ISO has proposed two options, Options 3E and 3G to resolve the “first mover-late comer” problem.
- a.** Does the ISO need to select one of these options or should both be implemented? If both, please explain or give an example of how the two could work together.
 - b.** If only one option is to be chosen, which option does your organization favor and why?
 - c.** In option 3G, should the “late comer” be responsible for paying back ratepayers for the portion of the network upgrades already covered by ratepayers or simply take over paying for the portion of the network upgrades covered by ratepayers moving forward?

PG&E supports Option E, where ICs are required to fund the entire cost for non-TPP upgrades. Given the objectives of this proposal for making TPP the primary process for identifying new network transmission, it doesn't seem to make sense to lower the barriers to all IC-funded upgrades by having ratepayers upfront fund the excess capacity in hopes that they will be reimbursed by subsequent projects.

Exceptions could be made for projects with approved PPAs, or other commercial milestones, as described above. For these projects, however, PG&E believes it makes more sense for the generator to up-front fund the entire upgrade and be reimbursed over 5 years as is currently the case. Generation projects with PPAs that trigger network upgrades far beyond the size of the generation should be subject to a threshold for how much of the capacity would be utilized under their PPA (ex: 50%, 60%, etc.). If the project is highly viable but doesn't meet the threshold, they can either fund the excess capacity portion of the upgrade themselves, or reapply and hope that enough commercial interest shows up in the next round to justify reimbursement through rates.

6. In order to transition from the current framework to the new framework, the ISO proposes that the entire existing queue including Clusters 3 and 4 proceed under the original structure, and that Cluster 5 would proceed using the new rules.

- a. Does your organization support this transition approach? If not, please indicate how it should be modified and provide the justification for your proposal.
- b. Given the potential size of clusters 3 and 4, if these clusters proceed under the existing rules is there a need to create new rules that would strengthen the incentives for less viable projects to drop out of the queue rather than proceed into the GIP phase 2 study process? If so, please offer concrete suggestions and explain why your suggestions would be effective and reasonable.

PG&E supports Clusters 3 and 4 proceeding under the current framework for cost allocation of network upgrades. However, as is being discussed in the discussions around the Cluster 4 Phase 1 methodology, PG&E is concerned that the goal of allowing only the most viable projects to move forward in the process may not be met unless modifications to the study methodologies are made. PG&E applauds the recent efforts by the CAISO to enforce existing Tariff provisions for removing non-viable and non-active interconnection projects from the queue, and is hopeful that these efforts will mitigate the queue problems for Clusters 5 and beyond.

The proposed changes to the Cluster 4 methodology are encouraging in that the cost estimates assigned to ICs look to be reasonable, which will hopefully encourage non-viable projects to exit the process. However, given the current rules of using the lesser of \$7.5 million, \$20,000/MW, or 15% of the total as the posting requirement, PG&E is concerned that the \$20,000/MW is the posting requirement that will apply to the majority of projects in Cluster 4, which might not be sufficient to encourage non-viable projects to exit the queue.

Therefore, PG&E suggests that the CAISO examine ways to increase the hurdles so only the most viable projects remain in Cluster 4. One approach could be to remove the \$20,000/MW posting requirement, and instead make the requirement the lower of \$7.5 million or 15% of the total estimated upgrade cost.

7. Some stakeholders expressed interest in determining only the reliability upgrades and costs in the GIP studies and to consider the need for delivery upgrades in the TPP. The ISO seeks comment regarding the feasibility/desirability of separating the assessment of reliability and delivery upgrades in this manner. In particular, how would this approach improve the process of identifying delivery upgrades that ICs would be required to pay for?

PG&E wouldn't oppose separating out the reliability and deliverability upgrades in this way, and believes it would be technically possible to do so. However, if this new approach were implemented, Phase 1 should no longer represent a cost cap for ultimate cost responsibility for network upgrades. Also, this new approach might not give developers enough information about whether to continue from Phase 1 to Phase 2 – including delivery upgrades in Phase 1 allows for better comparison between what is likely to be needed to be fully deliverable and what is included in the TPP.

Overall, PG&E is not convinced that this would be a desirable change. PG&E also believes that the Phase 2 GIP study should continue to determine the required upgrades and costs for both reliability and deliverability.

8. Stakeholders have expressed concerns about the appropriate time to restudy the needs for and costs of network upgrades when projects drop out of the queue. Therefore the ISO seeks concrete suggestions for when and how restudies should be conducted.

PG&E agrees that some process should be in place to reassess the needs for and costs of network upgrades when projects drop out of the queue after Phase 2, however PG&E does not have any specific suggestions at this time.

9. Please offer any other comments on the revised straw proposal, including any suggestions for improvement of the proposal or other issues your organization believes the ISO must address in this initiative.
 - The CAISO's revised proposal would delay the closing of the Cluster 5 window to April. Does the CAISO propose to make this window the only window in the new process, thereby removing the early request window that is currently open from October 15-November 15? PG&E would like to understand the value the CAISO has seen in this early window, and whether they plan to continue a similar option under the new process.
 - In the past, the CAISO has conducted an annual deliverability study in order to identify "unused deliverability" on the system. In the context of this new proposal, does the CAISO think that this type of study would continue to provide value to market participants, and do they plan to continue conducting it?