

Stakeholder Comments Template

**Integration of Transmission Planning and Generation
Interconnection Procedures (TPP-GIP Integration)
Second Revised Straw Proposal, posted January 12, 2012**

Please submit comments (in MS Word) to TPP-GIP@caiso.com no later than the close of business on January 31, 2012.

Submitted by	Company	Date Submitted
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This template is for submission of stakeholder comments on the topics listed below, which were discussed in the TPP-GIP Integration Second Revised Straw Proposal posted on January 12, 2012, and during the stakeholder meeting on January 19, 2012.

Please use the list of topics and questions below to structure most of your comments. At the end of the document you may offer comments on any aspect of this initiative not covered by the topics listed. When you state a preference for a particular approach on a topic or issue, your response will be most helpful if you clearly explain the reasoning and business case for your preference.

Section 1. High-level structure of the TPP-GIP Integration proposal. (Please use section 2 below to comment on the details of each element.)

1. The process as described in the January 12 paper and outlined below reflects the proposed process for projects in GIP cluster 5 and later. The process for existing queue projects (serial through cluster 4) will proceed according to the ISO's January 10, 2012 revised discussion paper.

Based upon the CAISO's Second Revised Straw Proposal, the new TPP-GIP process rules will only apply to the Interconnection Customers ("IC") starting with Cluster 5. We strongly urge the CAISO to make the new TPP-GIP integration framework effective for all past LGIAs that are now inactive as well as unsigned LGIAs under Cluster 1 through Cluster 4.

Since 2005, the CAISO has approved multiple billions of dollars of transmission Network Upgrades ("NU") to interconnect specific large-scale renewable generators. Yet it has done so without utilizing any economic test to determine the reasonableness of these investments.¹ Recent studies have all concluded that expected increases in transmission upgrades, and interconnection and integration costs, represent an enormous and unprecedented new statewide infrastructure investment in our industry. The transmission cost component is currently recovered from all load connected to the CAISO grid via the Transmission Access Charge ("TAC"). Just the High Voltage ("HV") portion of the TAC has gone up in the last 10 years from \$1.4/MWh in 2001 to \$6.8/MWh in 2011, and it is expected to increase to nearly \$17/MWh by 2020 based upon the CAISO's 2010-11 transmission plan to meet 33% RPS by 2020.²

The CAISO is hoping that its revised discussion paper on Cluster 1 and 2 Deliverability Concerns³ (new GIP study approach) would be effective in addressing the high cost Delivery Network Upgrades ("DNU") associated with Clusters 1 and 2 (C1/C2) and some earlier queued serial project related DNUs. BAMx in its comments on this discussion paper has commented on how the proposed approach falls short compared to making the TPP-GIP integration effective for as many generation projects as possible. Several other Stakeholders including San Diego Gas & Electric and CalWEA have identified issues in applying C1/C2 deliverability proposals to Clusters 3 & 4.⁴ Furthermore, BAMx and CCSF suggest that the CAISO consider moving the entire deliverability assessment out of the generation interconnection process and into the TPP process. Based upon the above-mentioned reasons, BAMx and CCSF urge the CAISO to implement a comprehensive TPP-GIP integration framework as a direct and more economically efficient mechanism than the one proposed in the current draft proposal. These points are discussed more fully below in response to other template sections.

¹ Under the existing CAISO tariff, the CAISO is obliged to interconnect generation without any economic assessment. The Federal Energy Regulatory Commission (FERC) governs the transmission rates, but it relies on the CAISO to determine whether the new transmission is needed. In its compliance with FERC Order 2003, the CAISO proposed an economic test for Large Generator Interconnection Process (LGIP) NUs to enable the CAISO to determine whether or not to approve and how to allocate the costs of high- cost upgrades where the benefits to ratepayers are relatively small.

² **Exhibit A** includes Historical PG&E Area and CAISO-wide HV TAC (\$/MWh) for 2001-2011 and Projected CAISO-Wide HV TAC (\$/MWh) for 2012-2020 Based on the CPUC/E3 LTPP Evaluation Metric Calculator, Dated April 29, 2011. These projections include only those transmission projects that the CAISO has approved under their 2010-11 Comprehensive 33% RPS transmission plan, and do not include any additional NUs identified in several CAISO generation interconnection studies. Combining LV TAC with this HV TAC the total transmission charge, for instance in the PG&E TAC area, is projected to be as high as \$25/MWh (= \$17+\$8) by 2020.

³ Generation interconnection cluster 1 and 2 deliverability concerns discussion paper was issued on January 10, 2012 and was subsequently discussed in a Stakeholder meeting on January 17, 2012.

⁴ See Stakeholder comments on revised Generator Interconnection Procedures Cluster 1 and 2 Deliverability Concerns discussion paper at <http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorInterconnectionProceduresCluster1-2DeliverabilityConcerns.aspx>

2. After GIP Phase 1, each generation project advancing to GIP Phase 2 must elect either (A) – project requires TPP-based deliverability; or (B) – project is willing to pay for delivery network upgrades.

Please refer to our comment to Section #12.

3. The requirement for customer-funding of network upgrades (option (B)) would apply only to delivery network upgrades (DNU); posting and reimbursement for reliability network upgrades (RNU) for all projects would remain as today.

BAMx and CCSF strongly oppose the CAISO’s proposal to apply TPP-GIP Integration framework only to DNUs. We believe that interconnection customer-funding of NUs should apply to all RNUs for the following three reasons.

First, similar to DNUs, RNUs will not be triggered in the absence of the interconnecting generators independent of their application status (Energy Only, “EO” or Full Capacity, “FC”).⁵ Therefore, an EO project should be held responsible for RNUs similar to a FC project unless that project is identified to be economic or policy-driven under TPP. An EO project is counted towards the State’s 33% RPS just like any FC project. There should not be any difference in treatment towards RNUs and DNUs in terms of funding and recovery mechanism under the new TPP-GIP integration framework.

Second, we have seen from the past cluster studies that the magnitude and cost of RNUs can be substantial in aggregate for certain areas. For example, the Phase 2 study for a single Cluster 1 and Cluster 2 group identified RNUs adding up to more than \$500 million.

Third, when the CAISO performs their reliability assessments for generation projects in later clusters (beginning Cluster 5), they would include all the RNUs associated with earlier queued projects -- some of which might be inactive and/or not commercially viable. This process would result in unnecessary and expensive RNUs that would need to be funded upfront for the C5 ICs and ultimately paid by the ratepayers. During the January 19th Stakeholder meeting, the CAISO mentioned that they would perform a “local” reliability assessment of RNUs. We request the CAISO to provide additional information on these “local” assessments and how that would minimize unnecessary RNUs.

4. The allocation of TPP-based deliverability to generation projects would occur after GIP Phase 2, rather than after Phase 1 as in the previous proposal.

Comments are made in the later sections.

⁵ Per the CAISO tariff definition of “Reliability Network Upgrades, “it includes “the transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Large Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Large Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or thermal overloads.”

5. Allocation of TPP-based deliverability – and project’s ability to retain allocation – will depend on the project’s completion of significant development milestones that demonstrate high confidence in attaining COD. (Specification of appropriate milestones is covered in the next section.)

Comments are made in the later sections.

6. The allocation of TPP-based deliverability should achieve the following objectives as far as possible: (a) select projects with high probability of completion; (b) limit ability of non-viable projects to retain the allocation; (c) provide sufficient certainty to enable financing of viable projects; (d) objectivity and transparency.

Comments are made in the later sections.

Section 2. Details of individual elements of the proposal.

GIP Phase 1

7. For extremely large cluster groups compared to the amount of “TP deliverability” (the amount supported by existing grid plus all approved upgrades to date), GIP phase 1 will study deliverability in each area up to the amount of TP deliverability plus a reasonable margin. The intent is to avoid excessive DNU costs that can result from extremely large clusters, while providing useful information on needed DNU and associated costs if generation development exceeds grid capacity.

BAMx and CCSF support providing useful information to ICs in an open and transparent manner and this element of the CAISO proposal appear to fit that goal. We also think the CAISO should also perform similar assessment for RNUs. Furthermore, as discussed in our comments in #1, we believe the TPP is more appropriate forum to perform the deliverability assessment under the new TPP-GIP integration framework.

8. Phase 1 will study RNU for all projects in the cluster.

See our comment to #3 and #7 above.

9. As a result of Phase 1 each project will know its RNU and associated costs, and these results will establish cost caps for RNU as they do today.

See our comment to #3 and #7 above.

10. The DNU and associated costs resulting from phase 1 will be advisory. The only formal use of Phase 1 DNU costs in the TPP-GIP process will be to establish posting requirements for projects advancing to phase 2 under option (B), as described below.

No comments at this time.

Project's Decision to Enter Phase 2 and Implications of Decision

11. After GIP Phase 1, each generation project advancing to GIP Phase 2 must elect either (A) – project requires TPP-based deliverability; or (B) – project is willing to pay for delivery network upgrades. Once a project chooses and the deadline for phase 2 is passed, the project cannot switch to the other option.

See Comment to #12 below.

12. A project choosing (A) will have to post for its RNU under today's rules, but not for DNU.

BAMx and CCSF do not believe that the category (A) projects should have the opportunity to remain in the queue with the hopes of eventually getting a PPA, and then having its RNU as well as DNU paid at the ratepayer's expense. Category B projects, as defined would not have such an opportunity. We believe that this particular element of CAISO's proposal lacks a cost containment mechanism that would avoid NUs triggered by overbuilding of generation in certain areas. If more than the assumed amount of generation actually develops in any given area then the CAISO could approve additional policy-driven transmission in the TPP paid at ratepayer's expense.⁶ Note that the PPAs associated with the category (A) projects will not include any significant transmission related costs, which would make these PPAs artificially more attractive and would increase their chances of being selected over other generation projects that have greater generation cost but could be accommodated within the existing/approved transmission network.

The CAISO "Scenario 1" example (slide #38) presented during the January 19th Stakeholder meeting effectively demonstrates our concern. Under this scenario, all 300MW of **Category A** projects end up signing Full Capacity (FC) GIAs although only 200MW of TPP deliverability is available in a given area. This is because 1,000MW of TPP deliverability has already been assigned to earlier queued generation meeting milestones out of 1,200MW of total TPP deliverability. This results in the following year's TPP having to identify "policy driven" NUs for 1,300MW generation to be fully deliverable and all would be funded by ratepayers.

Consider the following example, which demonstrates that by not taking into account the accurate cost of NUs triggered by a certain facility, the CAISO proposed approach could lead to an inefficient outcome. Suppose the SCE Desert area can accommodate 7,500MW of renewable generation without triggering any additional NUs. Assume that the CPUC approves 8,000MW of PPAs in the SCE Desert area. Among them is a 500MW of generation resource "X" that belongs to category A. Assume that the addition of this 500MW resource in the constrained area triggers a need for additional NU with the capital cost of \$500 million. Assume that the generation component of resource X's price is \$100/MWh. If the IC associated with resource X was responsible for upfront funding of this DNU without any refund, its transmission cost would have been as high as \$46/MWh.⁷ Suppose, a remote or a distributed renewable generation resource "Y"

⁶ During the January 19th Stakeholder meeting, the CAISO indicated that the first response to over-building is performed through the TPP, where the NUs would be approved as policy-driven projects.

⁷ Assuming a 25% annual capacity factor for the renewable generating resource, its transmission cost would have been \$46/MWh (= \$500 million divided by (500MW times 25% capacity factor times 8,760 hours times 10 years)).

has a generation component price of \$125/MWh. Since, it can be accommodated within the existing transmission network, its overall PPA price is limited to \$125/MWh. Now assume a category B resource **Z** that has a generation component price of \$90/MWh. Also, it pays upfront for the DNU of \$46/MWh, and does not receive any TP-based deliverability. Under the CPUC procurement process, resource **X** is preferred to resources **Y** and **Z** based upon the PPA price criterion, as the true cost of NU associated with resource **X** is not considered in the decision-making. If the true cost of NU were included in resource **X**'s price, with its combined PPA price of \$146/MWh, it would never have been selected over resources **Y**'s and **Z**'s PPA price of \$125/MWh and \$136/MWh, respectively as summarized in the table below.

Cost Category/Resource	X (Category A)	Y (DG)	Z (Category B)
Busbar LOCE Cost (Generation component) (\$/MWh)	\$100	\$125	\$90
Transmission NU Cost (\$/MWh)	\$46	\$0	\$46
Total Actual Cost ((\$/MWh)	\$146	\$125	\$136

We therefore request the CAISO to eliminate their proposed two options A and B to remain in the queue after GIP Phase 1. We believe that there should be **only one option**. Under this option, a project can be eligible for TPP-based deliverability if it meets the following two criteria:

- If the project achieves certain milestones; and
- If TPP-based capacity is available.

In the event that a project does not meet such milestones and/or no TPP-based deliverability is available, the project will need to fund and build its own RNU as well as DNUs at its own expense. In the table below we summarize the benefits of our approach over the CAISO proposal.

Criteria	CAISO Proposal	BAMx/CCSF proposal
Categories/Options	Two options. Option (A) the project requires TPP-based deliverability to be able to continue to commercial operation, or Option, (B) the project is willing to pay for DNU without cash reimbursement by ratepayers.	Single option. Under this option, there is no cash reimbursement by ratepayers unless TPP-based deliverability is available.

Administrative ease	No, very complicated and requires additional rules and monitoring.	Yes.
Efficient outcome	No. An Option A project with potentially higher cost than other category B projects can potentially have its NU paid by ratepayers under “policy-driven” criteria.	Yes. No project can have its NU reimbursement by ratepayers unless available TPP-deliverability can be allocated to this project.
Accurate Price Signals	No. An Option A project can locate its project in an area where overbuilding of generation could lead to additional NUs, but will not be responsible to upfront funding it or ultimately paying for it.	Yes. Any given project will have correct incentive to locate its project in an area that does not require any new NUs unless it is willing to pay for those upgrades.

13. A project choosing (B) will have to post for both RNU and DNU. Its DNU posting amount will use phase 1 results for the project’s study area, converted to a DNU rate (\$ per MW of deliverability) = (cost of incremental DNU)/(deliverability MW studied above TP deliverability amount). The posting amount will = rate x (project MW), where project MW reflects how the project is modeled in the deliverability study depending on the resource type, would typically be less than nameplate for renewables.

No comments at this time.

14. A project choosing (B) will be eligible for TPP-based deliverability if available, but should expect very low probability of obtaining it and should plan to fully fund its needed DNU.

See Comment to #12 above.

GIP Phase 2

15. ISO will perform a baseline re-study at the start of each phase 2 study process. The re-study will assess impacts of status changes – project drop-outs or revised COD, new transmission expansion approvals, etc. As a result, the RNU or DNU for some projects may be modified and their GIAs revised.

BAMx and CCSF support this step.

16. Phase 2 will study RNU for all projects in phase 2.

See Comments to #3 and #12 above.

17. Phase 2 study will assume that all TP deliverability is used up by (A) projects and existing queue, and then will model (B) projects at requested deliverability status to assess their incremental DNU needs.

[See Comment to #12 above.](#)

Allocation of TPP-based Deliverability

18. Once phase 2 results are completed and provided to the projects, the 120-day period for negotiating and executing the GIA begins. Option (A) projects that demonstrate completion of certain milestones within this period will be able to execute GIAs at their requested deliverability status, with no cost responsibility for DNU. Option (B) projects that complete the same milestones would be eligible for TPP-based deliverability, but would receive an allocation only if capacity is available.

[See Comment to #12 above.](#)

19. The proposed milestones required are (a) completion of all permitting required to begin project construction, and (b) either a PPA approved by buyer's regulatory authority or demonstration of committed project financing. PLEASE COMMENT on whether these milestones are appropriate, or if not, what milestones would be preferable and explain why. Please keep in mind the objective that milestones must provide a high confidence that the project will meet its planned COD.

[No comments at this time.](#)

20. PLEASE COMMENT on what could constitute evidence of committed project financing as an alternative to regulator-approved PPA for item (b) above.

[No comments at this time.](#)

21. All option (A) projects that meet the milestones by the time required would be able to execute FC GIAs at this time, even if the total amount exceeds the TP deliverability available. In that case, the ISO would expand the TPP planning portfolio in that area for the next TPP cycle, to provide sufficient deliverability.

[We strongly oppose this element of the CAISO proposal. Please refer to our comment in Section #12.](#)

22. Any project that obtains TPP-based deliverability would have additional milestones in its GIA which track progress toward COD. Failure to meet one of these milestones would cause the project to lose its deliverability allocation, but would not necessarily terminate its GIA if the project wishes to continue as EO.

[BAMx and CCSF support this element of the proposal provided that the EO project funds and pay for its RNU. See our comment in Section #3.](#)

23. An option (A) project that does not meet the milestones by the time required would have an opportunity again in the next GIP phase 2 cycle, one year later. If it does not qualify by the end of the next year's 120-day GIA period, it must either withdraw from the queue or continue under an Energy Only (EO) GIA.

[Please refer to our comment in Section #12.](#)

24. An option (B) project that does not obtain TPP-based deliverability in the current cluster cycle (120 days from phase 2 results to GIA execution) will no longer be eligible for TPP-based deliverability and must proceed to GIA that includes full self-funding of its DNU.

[Please refer to our comment in Section #12.](#)

25. If a (B) project drops out after phase 2 instead of executing a GIA that includes self-funding of its DNU, it loses a portion of its posting. PLEASE COMMENT on how much of the posting should be forfeited, and explain your logic.

[No comments at this time.](#)

Other Proposal Elements

26. DNU paid for by an interconnection customer would fall under the merchant transmission provisions of the ISO tariff and would be eligible for allocation of congestion revenue rights commensurate with the capacity added to the ISO grid. The customer would be able to select a non-incumbent PTO to build the project, provided it is a "green field" project and the builder meets qualifications specified in the ISO tariff.

[No comments at this time.](#)

27. If a (B) project funds DNU that provide more capacity for deliverability than the project needs, the funding party or parties would need to fully pay for the DNU, but would receive reimbursement for the excess deliverability from later projects that are able to use it.

[BAMx and CCSF support this element of the proposal in the context of #12 above.](#)

28. Some projects that go forward under these new provisions could be subject to reduction in annual net qualifying capacity (NQC) for one or more years. This could occur if transmission capacity in an area must be expanded through the TPP to accommodate the amount of deliverable capacity that achieves COD in that area. Consistent with the ISO's January 10 discussion paper on cluster 1-2 approach, "existing" projects would not be subject to the reduction, but "new" projects would be. "New" would include all cluster 5 and later projects that elect option (A).

[No comments at this time.](#)

Comments Template for TPP-GIP Second Revised Straw Proposal

29. It was suggested by some stakeholders at the January 19 meeting that as an alternative to applying NQC reductions if the need arises, the ISO should allow the new projects to count fully for resource adequacy without any NQC reduction so that the projects and the LSE buyers are insulated from any direct impacts, and then make up for any resulting shortfall in resource adequacy capacity via ISO backstop capacity purchases. PLEASE COMMENT on this proposal.

No comments at this time.

30. Please use the space below to offer comments on any other aspect of the proposal not covered above.

No comments at this time.

Exhibit A: Historical PG&E Area and CAISO-wide HV TAC (\$/MWh) for 2001-2011 and Projected CAISO-Wide HV TAC (\$/MWh) for 2012-2020 Based on the CPUC/E3 LTPP Evaluation Metric Calculator, Dated April 29, 2011

