

Stakeholder Comments Template

Subject: Generation Interconnection Procedures Phase 2 (“GIP 2”)

Submitted by	Company	Date Submitted
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Comments on Items listed in GIP 2 Issue Paper:

1. Develop procedures and tariff provisions for cost-benefit assessment of network upgrades.

Rank 0-3: 1

Scope Comments:

We don't agree that this issue is appropriate for the forum. Economic decisions should only be made through the TPP, in coordination with PTO procurement plans, and reviewed through the appropriate regulatory approving agencies that generally have to make these types of economic and policy decisions for California. The GIP process is not the place to perform this type of analysis. The GIP process is to identify upgrades needed based on where projects are being proposed and provide cost assignment.

If it is insisted that the issue be tackled, this issue may be best addressed in a separate track, given the breadth of the issue. Also, we feel that there are additional communities that are critical to have in the proceeding. First, the procurement arms of the LSEs should be involved and should be able to speak to the current economic evaluation process embedded into the RPS bid evaluation process. Second, to the extent Muni interests are a significant reason for pursuing this effort, it would be important to have representatives from those groups present as well.

As we discuss more thoroughly in the “Other Comments” section, this issue is part of a broader question of deliverability that should be addressed more comprehensively.

Straw Proposal Comments:

Ultimately, the state needs a process that is coordinated between the CAISO, the CPUC, and the LSEs that are signing PPAs. To reach a 33% renewables target, the state needs sufficient projects that are moving forward with all of aspects of development and are not burdened with phantom Upgrades that are allocated to the projects but ultimately will not be needed or built. A few facts to consider:

- There is double the number of projects in the interconnection queue as are needed to meet the state's targets.
- Given the capital intensive nature of these development projects, they will only be constructed and the study result Upgrades will only be needed if PPAs have been obtained.
- To place a disproportionate burden on later queued projects (the burden that deliverability Network Upgrades may not be reimbursed) gives inappropriate value to the early queue position rather than other important development features.
- Later queued positions would not be able to compete on equal footing;

Given all of these factors, introducing a cost benefit test sounds good at first blush, but in application would reduce the level of competition in the PPA process and would likely increase the ultimate cost of RPS compliance to the ratepayers.

2. Clarify Interconnection Customer (IC) cost and credit requirements when GIP network upgrades are modified in the transmission planning process (per the new RTPP provisions)

Rank 0-3: 3

Comments:

Agree with scope & CAISO's assessment of urgency. Additionally this topic should be expanded to include other events when there changes in scope or timing from what was assumed in the phase II studies. For example

- Impact on cost and credit requirements when a generator achieves COD in advance of completing the full set of Network Upgrades
- Impact on cost and credit requirements on subsequent clusters when a higher queued project withdraws from the Interconnection Process

3. Provide additional transparency regarding Participating Transmission Owner (PTO) transmission cost estimation procedures and per-unit upgrade cost estimates;

Rank 0-3: 3

Comments on Scope: There are two issues here. First, how much visibility should be provided to the IC in terms of scope components of an estimate, and what ability should the IC have to take on certain work scope (and have that work scope eliminated from the PTOs cost estimates and posting requirements)?

Second, what requirements should there be for developing per unit costs? This second issue would be best addressed in combination with the "standardized use of adjusted vs non-adjusted dollars in LGIAs".

Potential Straw Proposal: Visibility to specific costs for work scopes could be provided within the Phase I process prior to issuance of the final Phase I study report. Alternately, if a cap were applied to the Phase I Interconnection Facilities 1st Posting, the election could come between the Phase I and Phase II study, thereby allowing selections to be incorporated into the Phase II process.

To further support the Phase I cap concept, excessive security for Interconnection Facilities that have only received a very limited level of engineering is unreasonable. A

capped value still shows a project's commitment. This idea was raised by SCE in their WDAT reform process though they suggested addressing the issue in the CAISO forum first.

With regard to the 2nd scope: it may be appropriate to have the CAISO set the standard for the per unit cost development. The CAISO would set the standard on the intent of the numbers, for example, whether the numbers are upper bounds type of numbers or typical, expected numbers. The current tariff states "anticipated costs"; perhaps this should be a defined term.

4. Clarify applicability of GIP for a generator connecting to a non-PTO that is inside the ISO Balancing Area Authority (BAA) and wants to have full capacity deliverability status.

Rank 0-3: 1

Comments:

5. Explore potential modifications to the triggers that establish the deadlines for IC financial security postings.

Rank 0-3: 3

Comments: Some important observations:

- Reports that have been considered "final" have included errors and scope problems; ICs are not always provided resolution to these issues in a timely manner
- Experience in the Transitions Cluster has demonstrated the importance of issuing a draft Phase 2 study report for IC comment prior to issuing a final report
- PTOs are not always following tariff requirements in terms of timely providing a complete GIA for consideration
- Material financial information is sometimes shared within the GIA process rather than updating the Phase II reports.
- A cost reduction in a modified study report can be as significant as a cost increase when the reduction allows the project to remain viable
- Interconnection customers need sufficient time after issuance of a study report with all errors & scope problems resolved and after issuance of a complete GIA with opportunity to negotiate the GIA before the associated security posting in order for project developers to act on the information in the report (e.g. reach agreement on a PPA, obtain internal approvals for postings, and/or coordinate with the bank to execute the desired security posting)
- To avoid confusion and allow for timely posting of the security, invoices identifying the amount of required security should be provided within 30 days of a final report.

Based on this information the posting deadlines should be revised to require the IC to stick to a timeline but only after the key information is provided.

6. Clarify definitions of start of construction and other transmission construction phases, and specify posting requirements at each milestone.

Rank 0-3: 3

Straw Proposal Comments: It is both important and reasonable that a “construction” posting for a particular Upgrade not be required until final permits to construct that Upgrade are obtained.

This should be clearly specified within the GIP. Upgrades constructed for the sole benefit of a particular IC should not start until the IC’s project receives its final permit to construct. Associated postings should match that actual construction timeline.

This is reasonable as it is expensive to maintain the financial security, and requiring the security before an Upgrade has matured is not necessary to cover PTO exposure.

Further, the PTO should be covered for the construction costs of a particular upgrade in construction as the ICs would have posted full security for that portion of the upgrades and such security would not be refunded until the project reaches commercial operation.

7. Clarify ISO information provision to assist ICs.

Rank 0-3: 1

Straw Proposal Comments: In addition to the study reports, base cases, contingency files, etc., clarity is needed on the availability of transmission circuit maps to assist developers. While some utilities have withheld this information as critical energy infrastructure information, others readily provide it.

8. Consider partial capacity as an interconnection deliverability status option.

Rank 0-3: 3

Scope Comments: As we discuss more thoroughly in the “Other Comments” section, this issue is part of a broader question of deliverability that should be addressed more comprehensively. We give that comprehensive review of deliverability a level “3” ranking.

Straw Proposal Comments:

Full Capacity Deliverability Status is of critical importance in PPA negotiations.

Allowing an IC to salvage “partial deliverability” partway through the study process, and have the option to either scale back the project to the deliverable amount or phase it to fit the estimated deliverability timeline, can be the deciding factor for successfully concluding PPA negotiations. A comprehensive review would be needed to assess whether this is done at the end of Phase I, after it is broadly known which queue positions are staying in Phase II, or at the end of a Phase II study.

9. Develop pro forma partial termination provisions to allow an IC to structure its generation project in a sequence of phases.

Rank 0-3: 2

Scope Comments: We see this issue as part of a broader question of deliverability that should be addressed more comprehensively. Jointly with issue 10, this should also cover the case where the interconnection size need is decreased due to land, permitting, PPAs or other issues.

Straw Proposal Comments:

Implicit in the as mentioned structure for partial termination right is a no-cost option (given PTO financing of the upgrades) for the IC to retain capacity from an interconnection position with associated deliverability without any immediate plans to use it and without significant ramifications to the existing project of terminating the capacity.

We recommend structuring any rules to provide that there are definite and significant costs and performance requirements to maintaining a queue position with associated deliverability. This would incentivize ICs to release deliverability capacity to other projects that may use such deliverability sooner. It would be imprudent to give non-performing ICs no reason to leave the queue.

10. Provide for partial repayment of IC funding of network upgrades upon completion and commercial operation of each phase of a phased project.

Rank 0-3: 3

Scope Comments: As mentioned in Issue 9, this issue would be best expanded to include the situation where an IC has an interconnection sized greater than the eventual project size and does not intend to further develop the project. For example, the original interconnection request was for 200 MW and due to project permitting the eventual project size is reduced to 180 MW. There is no intent to further develop the final 20 MW, the customer would like to understand implications, reduce project size and move on.

We suggest the process also address the situation where a project reaches COD prior to completion of the Network Upgrades and the impact on the security posting requirements, invoicing and credits. This could be addressed here or in another issue / workgroup.

11. Applying Section 25 of the tariff to conversions of grandfathered generating units to compliance with ISO tariff.

Rank 0-3: 1, but may be “low hanging fruit”

Straw Proposal Comments: We agree that projects that are not changing should be able to make a smooth transition between commercial arrangements. However, to the extent there are significant modifications to a project including repowers that increase capacity factor or technology changes, the modifications should be subject to CAISO/PTO review and approval as if the project had an IA. If the IC desires Full Capacity Deliverability Status, the IC should apply for it under the GIP, especially if the original project had a low capacity factor.

12. Clarify site exclusivity requirements for projects located on federal lands.

Rank 0-3: 2

Comments:

We agree that this should be reviewed.

13. Specify appropriate security posting requirements where the PTO elects to upfront fund network upgrades.

Rank 0-3: 3

Scope comments:

Straw Proposal Comments: While upfront funding by the PTO is lauded and should be encouraged in areas with large renewable generation potential, the process needs to provide incentive for generators that plan to utilize such capacity to either to continue to move forward or step aside. An alternative to posting security may be the need to meet certain project milestones if the posting requirements are reduced so that phantom projects do not unduly deprive subsequent projects of deliverability.

14. Revise ISO insurance requirements (downward) in the pro forma Large Generation Interconnection Agreement (LGIA) to better reflect ISO's role in and potential impacts on the three-party LGIA.

Rank 0-3: 1

Comments: If insurance issues are tackled, we have also identified some LGIA IC insurance requirements which are not commercially available which could also be addressed.

Further, we agree with the Wellhead position that Insurance requirements should be timed appropriately to the provisions and need of insurance; therefore, at the start of construction, and then again at the beginning of parallel operation.

15. Clarify posting requirements for an IC that is already in operation and is applying only to increase its MW capacity.

Rank 0-3: 1

Scope Comments: This section would be well served to be extended to the case where a project has come online before LGIA associated Upgrades are complete. Alternately, this could be addressed as part of Issue 10.

Straw Proposal Comments: Facility expansions are not immune to development hurdles such as permitting risks. Project expansions should not have reduced requirements to hold transmission capacity relative to other projects. However, once a project is online (whether it is an increase to an existing project or a new project), there is no risk of the project achieving commercial operation; therefore, a project should not be required to finance any upcoming Delivery Network Upgrades.

However, the \$500k minimum 1st and 2nd security posting for Network Upgrades could be changed, such that all projects have both a per MW minimum posting and a per MW maximum posting for each.

16. Standardize the use of adjusted versus non-adjusted dollar amounts in LGIAs.

Rank 0-3: 3

Scope Comments: Agree that this needs to be addressed. This is tightly bound with issue #3 above – use of per unit costs, and suggest that both items be addressed together here in Working Group 4.

Straw Proposal Comments:

- The PTO's already include contingency which should be enough to account for inflationary dollars.
 - The estimates in the LGIA and the Phase II study report should be in “as-spent” dollars. Otherwise, the IC it its financiers will not have a clear understanding of the amounts owed, and it leaves the IC exposed to unanticipated and arbitrary cost increases.
17. Clarify how GIP applies to storage facilities and behind-the-meter expansion of existing facilities.

Rank 0-3: 1

Straw Proposal Comments:

There may be a reasonable argument for a project wanting to install storage to improve overall plant performance and this could be a positive outcome for grid operability. However, no technology that injects energy into the system for sale should be exempt from the GIP. No modification of an existing facility should be exempt from the applicable provisions of the GIP and LGIA, unless it is determined that the specific type of modification has no potential for adverse system impacts. Determining that there are no adverse impacts would require some study.

I'll explain our position through one example, adding solar to a wind project behind the meter at the Tehachapi region Whirlwind project. Solar projects are capital intensive and competitive PPA bidding results in narrow margins; in the current market a PPA is required in order to move forward with construction. These margins would be decimated by even slight or moderate levels of uncompensated curtailment. So in order that the project be financed and go forward, the risk of uncompensated curtailment must be very small. It would be better for the solar industry and a more fair and equitable overall process for the study methodology to acknowledge this very low risk of concurrent production. Any freed up capacity for solar should be reallocated to solar projects already in the queue, rather than new solar projects “behind the meter” at existing constructed wind projects or existing wind queue positions.

18. Conform technical requirements for small and large generators to a single standard, and develop study methodology to determine voltage impacts pursuant to FERC's 2010 order on ISO's proposed new interconnection standards.

Rank 0-3: 2

Comments: This is not urgent, but we suggest moving forward to put such questions behind us.

Straw Proposal Comments: The process should recognize that there may be technical reasons for differences. Small distribution connected projects are required to meet IEEE 1547, which is reasonable so that may small generators are not trying to regulate the voltage on a distribution circuit that is already regulated. Otherwise the regulation devices can lose coordination and may begin fighting each other.

To the extent the project is connecting to the transmission system, we do not see any reason why LGIA Appendix H for asynchronous generators should not apply to small projects as well.

19. Revisit tariff requirement for off-peak deliverability assessment.

Rank 0-3: 1

Straw Proposal Comments:

Note that instead of changing the off-peak deliverability study requirement, another option may be to reduce the conservative assumptions identified for these studies.

A couple of additional observations:

- Although “Deliverability” for Resource Adequacy is only being considered for peak situations at the moment, CAISO and LSEs need to have real resource adequacy on a 24/7 basis.
- There is value in the studies beyond the Resource Adequacy. There is value to developers, financiers and LSEs trying to meet RPS targets of understanding the ability for the generated power to get to load.

20. Include operational impacts in assessing generation interconnection impacts.

Rank 0-3: 0

Scope Comments: Recommend that this be tackled within alternate forums including the CPUC’s LTPP. It would be premature to try to tackle the issue in this forum without direction from the CPUC on their initiative.

21. Revise provisions for transferring queue position to a new IC.

Rank 0-3: 0

Scope Comments: Recommend that this item be replaced with a thorough review of deliverability allocation, and in particular what happens if a project were to withdraw. We give this broader question a level 3 ranking.

Other Comments:

1. Are the five workgroups and their topic areas organized properly?

Deliverability

We believe there should be a more coordinated review of Deliverability. The supply of deliverability is addressed in the first work group (supply provided by ratepayers). Meanwhile the allocation of Deliverability (in terms of the deliverability value of queue positions and the cost of holding deliverability capacity in the queue) is impacted from issues identified across the balance of the 4 workgroups. We recommend having a

group that reviews some of these major deliverability issues in a cohesive manner. We believe that although there are technical elements, this is fundamentally a policy issue and could be best tackled working group 2 or 3. Here are some additional questions that could be addressed in a comprehensive review.

- As discrete upgrades are completed (say 5 are needed and 2 are complete), how much deliverability is available for a cluster of project?
- What happens when a queued ahead project drops out? If there were upgrades assigned to that earlier project, confirm financial responsibility for constructing those upgrades. If there is deliverability capacity available to be redistributed, then how is that capacity allocated?
- How is available capacity allocated between subsequent clusters, the TPP process?
- If an Upgrade is no longer needed for a project, is it appropriate to keep the financing requirement? When is the project liability released? Should new studies be done?
- If an Upgrade is built in excess of the amount required by the projects in the queue, should those queued projects only be allocated “their share” of the Upgrade costs?
- Should forfeited amounts be reimbursed if a later entrant takes over a cost responsibility (Otherwise in essence the CAISO has charged twice for the same upgrade. Perhaps there is an incentive to free up unused capacity – if a projects withdraws by a certain time, and the capacity is ultimately constructed by another party, then the forfeited amounts are refunded.)
- Should a project be able to maintain “excess capacity” if they are only building out a portion of a project? (issues 9 & 10)
- Should there be performance requirements to maintain deliverability allocation if financial security requirements are below some threshold?

Per Unit costs

The development of the per-unit costs should be address together with the consistent approach on whether those costs are adjusted or not adjusted in the LGIA phase.

2. Are there other topics that you believe should be considered for the scope of GIP 2?
 - Clarify IC’s financial responsibility cap. At the meeting it was identified that SCE and the CAISO have different opinions on the maximum cost responsibility of the IC. This uncertainty should be resolved.
3. Other comments.

For future workgroup meetings, First Solar would prefer in person meetings over teleconferences. We believe this would lead to more successful discussion and issue resolution.