Generation Interconnection Procedures:

Deliverability Requirements for Clusters 1 and 2

Revised Discussion Paper

January 10, 2012

Market and Infrastructure Development

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1 Executive Summary

On October 31, 2012 the ISO posted the "Draft Discussion Paper: Cluster 1 and 2 Deliverability Concerns, Provision of Additional Information." That paper was prompted by concerns many developers of renewable generation projects and other stakeholders had expressed regarding the impacts of the large cluster size on the ISO network upgrade requirements for full capacity deliverability status (the "delivery network upgrades" or "DNU"). In particular, due to the large volume of projects in these clusters, the ISO's interconnection studies showed that full capacity deliverability status required costly DNU in some areas that would take until the latter part of this decade to complete. Developers and other parties complained that the high cost and the long wait to obtain deliverability status was preventing projects from obtaining power purchase agreements (PPAs) and project financing.

In the October 31 paper the ISO provided information it believed would help address the above concerns. The paper provided engineering estimates of the amount of new generation that could achieve full capacity deliverability status without requiring the high-cost, long lead-time DNU. The concept was that based on this information, load-serving entities (LSEs) could avoid triggering the need for these problematic upgrades by limiting their procurement of renewable PPAs in certain areas of the grid to stay within the amounts indicated by the ISO.

The ISO held a stakeholder conference call to discuss the October 31 paper and then received written comments and other input from stakeholders. The main message of this input was that provision of the MW threshold information was not sufficient to enable bilateral contracting and project financing to proceed. The remaining problem was that any given project could not be absolutely certain that the high-cost long lead-time DNU would not be triggered, because the outcome ultimately depended on factors outside that project's control, specifically, decisions by LSEs to execute PPAs with a large amount of other projects in the same area. This meant that when it came time for a project developer to submit a bid into an LSE's procurement RFO or to negotiate its generation interconnection agreement (GIA), the developer would not know its transmission cost with sufficient certainty either for the RFO process or for project financing.

Based on this input and further consideration of possible alternatives, the ISO has developed and now describes in this paper a more effective way to address the identified concerns. The new approach involves revising the DNU requirements for cluster 1 and 2 projects that were originally identified in the GIP phase 2 studies to eliminate the high-cost, long lead-time DNU that have been impeding PPA and GIA negotiation and project financing. The rationale for eliminating these upgrades is the commonly accepted fact that the generation interconnection

queue contains three to four times as much generating capacity as is needed and could be commercially viable. If the actual financing, construction and commercial operation of new generation remains in line with the amount actually needed to meet renewable targets and load growth, these eliminated transmission facilities will most likely not be needed, and therefore should not be included in the cost estimates of the generation projects.

The approach described in this paper does not fully eliminate the possibility that new generation could develop in a given area of the grid in a total amount that exceeds the capability of the grid to support full capacity deliverability status for all projects in that area. Indeed, this could occur in a particular area of the grid, even though the total amount of development system-wide does not exceed what is needed to meet renewable targets. Under the approach described here, such an outcome (which would be apparent from approved PPAs and generation project construction activities well before all the projects achieve commercial operation) could lead the ISO to identify additional public policy-driven transmission elements in the transmission planning process, but would not cause the generation projects to face DNU costs beyond what were specified in their GIAs. This approach thus eliminates uncertainty for project developers about potential increases in financial posting or cost responsibilities if a need for additional network upgrades is triggered.

One remaining risk that LSEs and developers would need to recognize is the potential for some generating resources in this circumstance to receive less net qualifying capacity (NQC) for one or more resource adequacy compliance years than the full value of their deliverability status would imply. This risk exists today due to the distinction in the ISO tariff between a resource's deliverability status, which is a stable attribute of the resource, and its NQC, which is determined annually through an ISO deliverability analysis in advance of each RA compliance year.

One additional concern to be noted is that this approach may reduce the effectiveness of DNU costs and long lead times for deliverability in reducing the size of the queue to more realistic levels. With costly DNU removed from a project's GIA provisions, it could be less costly for the less viable projects to remain longer in queue in the hope of eventually obtaining a PPA. This matter is discussed further in sections 4 and 5 of this paper in the context of the ISO's ongoing queue management initiative and the TPP-GIP Integration initiative, respectively.

Finally, although the October 31 paper was limited to the situation of cluster 1 and 2 projects, the ISO recognizes that the same problems will arise in connection with cluster 3 and 4 projects absent an alternative study approach that is comparable to the approach summarized above for clusters 1 and 2. This paper therefore addresses clusters 3 and 4 as well.

The next section of the paper provides the proposed approach for clusters 1 and 2 in greater detail, and presents the results of applying this approach to the DNU requirements for these clusters. The following section then provides the cluster 3 and 4 approach. The next section of the paper discusses some related aspects of the ISO's ongoing queue management initiative, and the final section briefly discusses the relationship between the proposal discussed here and the ISO's ongoing TPP-GIP Integration initiative.

The ISO will conduct a stakeholder meeting to discuss this paper on January 17 in Folsom, and will receive written comments up to January 24. The approaches for clusters 1 through 4 will

then be documented in a technical bulletin on or about January 31, to take effect at that time. Concurrent with the technical bulletin, the ISO will also provide the complete results of its cluster 1 and 2 engineering assessment, specifying which DNU that were identified in the original cluster 1 and 2 phase II study results will be removed from the affected generation projects' requirements, and the MW amounts of deliverability that can be supported in each area of the grid without triggering a need for these DNU. Section 2.1.2 of this paper provides preliminary results of this assessment.

2 Cluster 1 and 2 approach

The ISO proposes to reassess the cluster 1 and 2 phase 2 study results with regard to those delivery network upgrades (DNU) that: (1) are costly and will require large postings by cluster 1 and 2 projects, (2) will take many years to be built, thus delaying deliverability for these projects and adversely affecting their ability to provide RA capacity as required by their PPAs, and (3) are not likely to be needed based on the amount of new generation expected to actually receive PPAs and become commercially viable. The reassessment will assume that the amount of new generating capacity in each study area will not exceed the amount that will be deliverable based on the transmission system as reflected in the 2011/2012 transmission plan without requiring the problematic DNU as characterized above. For example, in the Desert Area[1] the ISO will assume that no more than about 9,000 MW of new generating capacity will actually achieve commercial operation out of the roughly 12,000 MW in the existing queue (up to and including clusters 1 and 2). On this basis the ISO will revise the phase 2 studies and will provide for the affected cluster 1 and 2 generation projects the reduced DNU requirements and associated cost responsibilities. Those ICs will then be able to proceed to negotiate GIAs that provide their requested deliverability status and do not require the problematic DNU. Additional technical detail on this element of the proposal is provided in the next sub-section.

One potential outcome of this approach is that if more than the assumed amount of generation in any given study area actually gets PPAs and achieves commercial operation (e.g., if more than about 9,000 MW gets built and comes on-line in the Desert Area), the transmission grid as planned at the time the cluster 1 and 2 projects signed GIAs would not actually support the full capacity deliverability status of all projects. Section 2.3 below discusses the implications of this situation if it occurs.

2.1 Technical details of the phase 2 study reassessment

This section describes two aspects of the technical reassessment of phase 2 study results. The first aspect is to specify criteria for identifying which DNU that resulted from the current cluster's phase 2 study should be removed for purposes of determining each generation project's cost responsibility and related provisions of its GIA. The second aspect is to consider whether any

[1] The Desert Area refers to generating resources electrically located in the following renewable energy zones: Pisgah, Mountain Pass, Nevada C, New Mexico, Palm Springs, Riverside East, San Diego South, Imperial, and Arizona.

DNU associated with earlier queued generation projects should also be removed from the assessment of available deliverability, due to significant risk that the generation projects driving the need for these DNU will not be completed. The criteria specified here will be applied again in the context of clusters 3 and 4, as discussed in section 3 of this paper.

2.1.1 Criteria for identifying upgrades to be removed

A delivery network upgrade originally identified during the phase II interconnection study process for the current cluster may be removed from the phase II study results if the upgrade is not needed in the current transmission plan and satisfies at least one of the following criteria:

(a) The network upgrade consists of new transmission lines 200 kV or above, and has capital costs of $100 million or greater; or

(b) The network upgrade has a capital cost of $200 million or more.

For purposes of this assessment, “not needed in the current transmission plan” entails all of the following:

1. The upgrade was not modeled in the base case for the current planning cycle;
2. The upgrade was not approved in the final comprehensive transmission plan for the current planning cycle; and
3. The need for the upgrade was driven by a quantity of new generation that is far in excess of the amount needed to achieve the public policy requirement specified as an objective in the current planning cycle.

The specific network upgrades associated with cluster 1 and 2 projects that meet these criteria are identified in the next section. The ISO will remove them from the phase II interconnection study DNU requirements for clusters 1 and 2, and will reflect their removal in the financial posting requirements for these generation projects and in the terms of their GIAs.

For purposes of calculating the amount of deliverability that is available without triggering the DNU identified under the criteria above, the ISO may also remove a network upgrade that was needed by earlier queued generation projects and was assumed in-service in the original phase II interconnection study for the current cluster, if the upgrade is not needed in the current transmission plan and satisfies at least one of criteria (a) and (b), plus criterion (c):

(a) The upgrade consists of new transmission lines 200 kV or above, and has capital costs of $100 million or greater; or

(b) The upgrade has a capital cost of $200 million or more; and

(c) Funding for the network upgrade is at risk because the generation project responsible for its funding or for triggering the need is at risk of not being developed. The ISO will determine such risk based on publicly available information regarding permitting, commercial issues and delays in development timeline.

The ISO would, of course, also remove the earlier queued generation projects associated with any network upgrades removed from the deliverability study on this basis and would reflect their removal in the revised deliverability study results.

Once these delivery network upgrades are removed from the requirements for the current cluster projects the ISO will determine how much deliverability the network will provide in each study area without these upgrades.

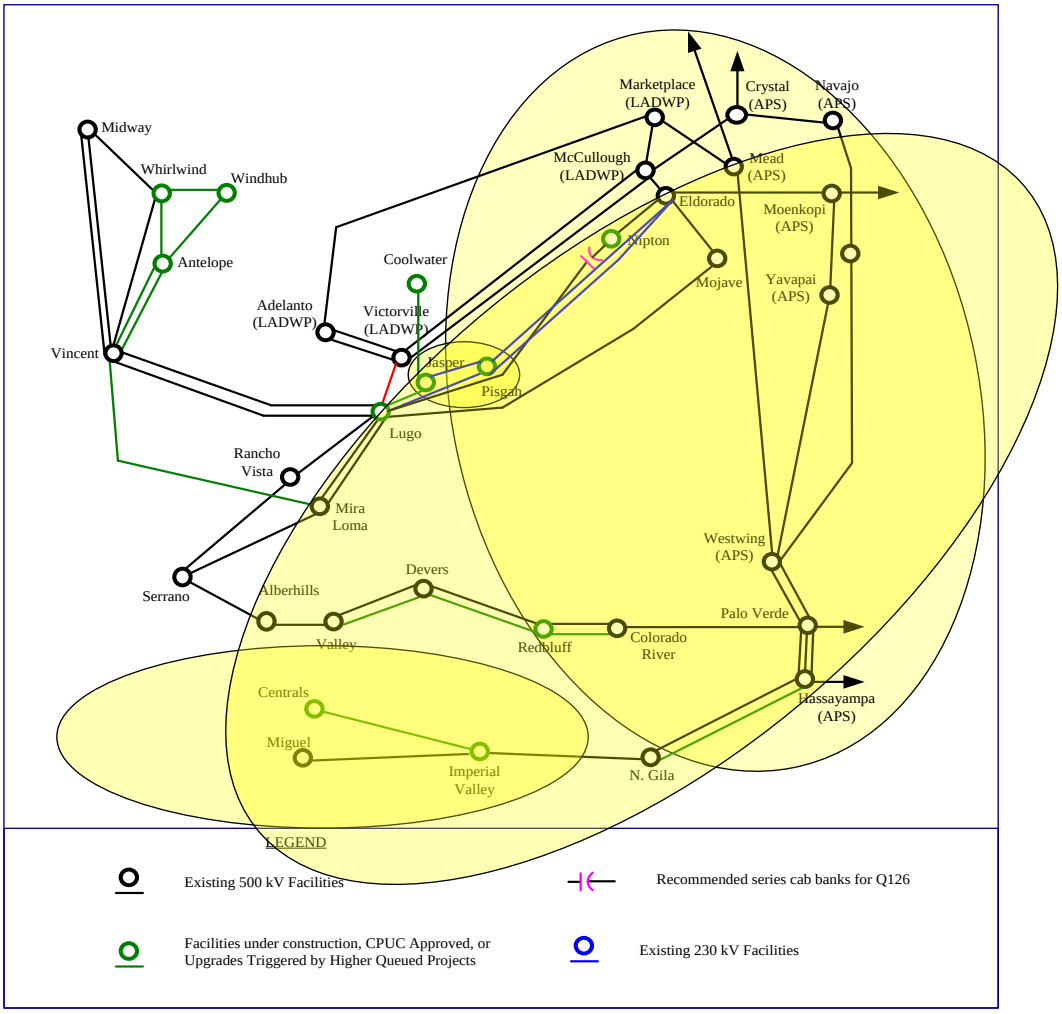
2.1.2 Application of the criteria to clusters 1 and 2

Applying the criteria above for identifying upgrades to be removed from the cluster 1 and 2 deliverability studies leads to removal of the following network upgrades:

1. Mohave–Lugo 500 kV line loop-in Pisgah 500 kV Substation and series capacitor banks on both Pisgah–Nipton and Pisgah–Mohave 500 kV lines;
2. Colorado River–Red Bluff No.3 line;
3. Red Bluff–Valley 500 kV line;
4. Upgrade of Pisgah 230kV substation to 500kV substation and Lugo–Eldorado 500kV line loop-in at Pisgah 500kV bus; and
5. Q72 and associated upgrades (dual 500 kV generation tie-lines connecting to SCE and SDG&E systems near Valley and Talega substations respectively).

Items 1-3 were identified in the October 31, 2011 discussion paper for removal from the cluster 1 and 2 deliverability results. Items 4 and 5 are now identified for removal under the criteria stated above with regard to earlier queued generation projects. The removal of these additional upgrades introduces additional deliverability constraints which affect the amount of deliverability available in certain study areas, as described below.

The four shaded oval areas in the diagram below represent four deliverability constraints in the Desert Area described above, and the general locations of four groups of generating resources affected by those constraints.



Desert Area Constraints – Preliminary Results

The ISO performed a deliverability analysis following its existing study procedures to determine how much of cluster 1 and 2 and earlier queued generation would be deliverable without the DNU listed above. The ISO queue up to and including clusters 1 and 2 contains approximately 12,000 MW[2] of generation in the Desert Area that will have significant flows across the deliverability constraints listed in the two tables below, for the SCE and SDG&E PTO service territories respectively. Of these, approximately 6,200 MW to 9,200 MW can be accommodated as fully deliverable without the need for the major upgrades listed above. As a comparison, the renewable resource portfolios under study in the 2011/2012 ISO transmission planning process have no more than approximately 5000 MW to 7000 MW of renewable generation that have significant flows across these constraints.

[2] The October 31, 2011 discussion paper stated this number as 13,500 MW. The reduction to 12,000 MW is due to withdrawals and updates to the queue information.

The following table lists all the deliverability constraints identified in the SCE area study.

Contingency	Overloaded Facility
Normal condition	Lugo - Pisgah 230 kV No. 2
Lugo - Jasper 230 kV No. 1 & Lugo - Pisgah 230 kV No. 2	Pisgah - Cima - Eldorado 230 kV No. 1
	Pisgah - Eldorado 230 kV No. 2
	Kramer - Lockhart 230 kV No. 1
Devers - Red Bluff 500 kV No. 1 & No. 2	N. Gila - Imperial Valley 500 kV No. 1
	Lugo - Victorville 500 kV No. 1
Red Bluff - Colorado River 500 kV No. 1 & No. 2	N. Gila - Imperial Valley 500 kV No. 1
	Lugo - Victorville 500 kV No. 1

The ISO queue contains approximately 3,800 MW of generation that have significant flows across the SDG&E system deliverability constraint identified below, of which approximately 2,400 MW to 3,200 MW can be accommodated as fully deliverable without the need for major upgrades. As a comparison, the renewable resource portfolios under study in the 2011/2012 ISO transmission planning process have no more than approximately 1000 MW to 2000 MW of generation with significant flows across this constraint.

The following table lists all the deliverability constraints identified in the SDG&E area study.

Contingency	Overloaded Facility
Normal condition	Path 43 (North of SONGS) path rating

The amount of MW that would be deliverable is stated as a range rather than a single amount because the exact amount depends on which of the generation projects in the queue actually proceed to commercial operation, as different project locations will have different flow impacts on the constraints. For the Desert Area, an additional source of uncertainty exists since the existing series capacitor at Lugo substation on the Eldorado/Nipton-Lugo 500 kV line has a low rating and is normally by-passed. In the study the ISO initially assumed that the Lugo series cap was bypassed, and then performed a sensitivity study with the series cap upgraded and in-service. For the San Diego area, an additional source of uncertainty regarding the exact amount of deliverable new generation is the uncertainty about how Encina units 4, 5 and GT (644 MW total) and Cabrillo II generation (188 MW) will address the once-through cooling requirements; i.e., whether they will retire due to once-through cooling compliance requirements and site lease expirations, or will be retrofitted, repowered or renewed. If these units choose to be retrofitted, repowered, or renewed then their deliverability will need to be preserved. These uncertainties are reflected in the ranges provided above for the amount of available deliverability.

2.2 Providing revised phase 2 study results to interconnection customers

The ISO will issue a supplement to each cluster 1 and 2 interconnection customer's Phase II Interconnection Study Report. The supplement will provide updates to the report to identify the final DNU requirements following the coordination with the ISO's 2011/2012 Transmission Planning Process as described above. The supplement will reflect DNU requirements based upon stated levels of MW generating capacity additions in electrical areas of the ISO-controlled grid, as described in the technical bulletin which the ISO will release pursuant to this discussion paper prior to or contemporaneously with the report supplements to interconnection customers. The report supplements will not result in increased costs or delayed in-service dates for updated DNU requirements. To the contrary, it is expected that any changes in the updated analysis will identify fewer DNU and/or earlier in-service dates for such upgrades, and thus, are expected to reduce interconnection customer maximum cost responsibility for such upgrades. Accordingly, issuance of the supplemental reports will not result in a change in the date for interconnection customers to make the second posting of interconnection financial security. The updated DNU identified in the report supplement shall be the operative DNU for purposes of setting the interconnection customer's cost responsibility and to be specified in the interconnection customer's GIA. Interconnection customers will be afforded an additional 30 calendar day period to review any amendment to their GIA or revised draft GIA setting forth the updated DNU requirements.

2.3 Impacts of over-building of generation in an area

This section discusses two possible implications in cases where the amount of new generating capacity that actually achieves commercial operation in a particular study area is greater than the amount that was anticipated in reassessing the phase 2 study results and executing GIAs based on the revised results. If this happens, the amount of new generating capacity that was granted full capacity deliverability status in the GIAs will exceed the amount of deliverability that is supported by the transmission system assumed at that time. The potential for this situation exists by design, because in revising the phase 2 study results the ISO explicitly assumed that the amount of new generation that will actually achieve commercial operation in the study area is below the threshold that triggers the removed DNU. Clearly, if more new generation actually proceeds and achieves commercial operation, that assumption is no longer valid.

It is important to recognize that LSEs and their regulatory authorities can minimize the likelihood of this situation occurring by coordinating their procurement activities so as to avoid aggregate procurement that exceeds the threshold to trigger the removed DNU in any grid area. The information the ISO provides under this approach will include specification of the specific DNU that were removed from the initial phase 2 study results, and the amount of new generating capacity that would be fully deliverable without the removed DNU (equivalent to the threshold of new generating capacity that would trigger the need for the removed DNU).

The first implication is the potential for resources to receive lower NQC values in the ISO's annual NQC assessment than they might expect based on their full capacity deliverability

status. This would mean that the maximum amount of resource adequacy capacity the resource could provide for the coming year would be less than its full capacity-based qualifying capacity. The second implication is that the situation could provide the basis for the ISO to identify and approve new transmission upgrades in the TPP. These two possible outcomes are not mutually exclusive, however. Even if the ISO does approve new transmission to mitigate the reduction of NQC in an area, the annual reductions in NQC would need to be applied until the new transmission facilities are placed in service. These two implications are discussed in more detail in the two sub-sections below.

2.3.1 Annual assessment of net qualifying capacity

In the annual NQC process, the ISO will determine NQC values for generating resources in each grid area that are consistent with the capability of the transmission system in that area. The ISO performs this determination roughly six months prior to the start of each resource adequacy compliance year (i.e., the calendar year), and is based on the transmission network and the generating facilities expected to be in service by the start of the year. The implication of this assessment is that resources in an area that is "over-subscribed" in the sense of this section may receive NQC values that are lower than their full capacity deliverability status and their qualifying capacity (QC) values would imply.

If it is necessary to apply such NQC adjustments to generating resources in a particular area, the ISO would apply them to all "new" generating resources that have at least five percent flow distribution factor on one or more of the relevant limiting constraints. The ISO is considering how best to define "new" resources in this context and seeks stakeholder comment on this point. The concept is that the adjustments to NQC, if needed, would apply to resources in the current interconnection queue (serial queue through cluster 4) that have not achieved certain development milestones by a specific date that follows closely on posting of the final technical bulletin documenting the approach described in this discussion paper; for example, the ISO plans to issue the technical bulletin by January 31 and may set the qualification date for exemption from potential NQC adjustments as March 31, 2012. The ISO is considering several development milestones that may be used for this purpose, either singly or in combination, including: having a PPA approved by the relevant regulatory authority; completing all permitting requirements to construct the project; and having executed the GIA.

Generating resources that are in operation today or otherwise do not meet the definition of "new" resources would not be subject to the NQC adjustments that the ISO would apply if and when enough new generation comes on-line in their areas to adversely impact deliverability.

2.3.2 Additional transmission expansion through the TPP

Another potential consequence if more than the assumed amount of generation actually develops in any given area is that the ISO could approve additional policy-driven transmission in the TPP. This would occur through an expansion of the base resource portfolio formulated for the public policy TPP assessment to reflect the increased amount of generating capacity with full capacity deliverability status that is being developed in the area. Under the ISO's existing tariff provisions, any such transmission elements would be subject to a solicitation process in which non-incumbent transmission developers could compete to build and own the policy-driven

transmission element (with certain exceptions per tariff section 24.5.2). Even if the ISO does approve additional transmission under the TPP to provide the needed capacity for all the full capacity resources in the area, it will probably still be necessary to apply NQC haircuts for the years before the new transmission is in service.

3 Cluster 3 and 4 phase 2 study approach

The phase II process for clusters 3 and 4 is expected to lead to the same problematic result that now faces clusters 1 and 2 unless we adjust the study approach to avoid such outcome. The ISO proposal for the modified study approach involves the following elements, and will maintain the currently planned phase II study time line (i.e., start in April 2012 and complete around end of October).

1. Adjust the study assumptions regarding the prior queue (up through cluster 2) to reflect the removal of the problematic DNU that were dropped in the revised cluster 1 and 2 phase II study results and the amounts of deliverable generation that are consistent with the removal of those DNU. The engineers may consider alternative scenarios that reflect different subsets of generation projects from the prior queue.
2. Apply the full amount of cluster 3 and 4 generation initially, to determine the transmission required to interconnect all projects in these clusters at their requested deliverability status.
3. As we did with clusters 1 and 2 and using the same criteria described in section 2.1.1 above, identify the DNU that can be dropped from the initial cluster 3 and 4 phase II results. Determine the amount of deliverability in each study area that is supported by the revised results without requiring the problematic DNU. This information would be made available to LSEs and their regulatory authorities, along with cost information about the DNU that were removed from the results, to inform procurement decisions.
4. Issue phase II study reports to cluster 3 and 4 interconnection customers based on results of the previous step, so that they can proceed to negotiate GIAs and make their required postings without having to be concerned with the problematic delivery DNU.

As with the cluster 1 and 2 approach, the risk remains that more generating capacity than was assumed will be built in a particular study area and will require the DNU that were removed from the revised phase II study reports. The discussion of this matter in the context of clusters 1 and 2 above applies equally to clusters 3 and 4.

Another implication of this approach is that it may be less effective in reducing the size of the cluster 3 and 4 queue. If the revised phase II results for these projects reduce their posting requirements sufficiently, they may all want to negotiate GIAs to remain in queue in hopes of obtaining PPAs. If more generation projects execute GIAs and then drop out later, the ISO would need to perform a restudy in the GIP to adjust reliability and possibly delivery network upgrade plans for the remaining projects. The ISO is considering performing an annual restudy process prior to the start of each GIP phase II study process. This could require adjustments to the GIP study timeline and to ISO and PTO staffing.

In developing this approach the ISO also considered an alternative for clusters 3 and 4, which would scale back the size of these clusters from the start of the study process, rather than modeling the full clusters first and then removing some DNU. The ISO rejected this approach because it would not yield needed results regarding reliability NU and plan of service for cluster 3 and 4 projects to enter GIAs.

4 Related queue management provisions

The ISO initiated the queue management process, consistent with the ISO tariff, for managing the generator interconnection queue. The goal of this initiative is to ensure that all generation projects in the ISO queue are advancing toward commercial operation. The initiative has been developed in two steps. The first step began with the review of generation projects that have either missed their commercial operation date ("COD") or have a COD that is imminent. This group includes 84 projects accounting for approximately 7,800 MW of capacity. The second step will be to closely track all interconnection agreements to make sure that projects are meeting their milestone requirements and to work with those projects that do not.

The ISO has issued two technical bulletins dealing with the generator interconnection queue management process, and material modifications and suspensions (links below).

- http://www.caiso.com/Documents/Generator%20interconnection%20technical%20bulletins/TechnicalBulletin-GeneratorInterconnectionQueueManagementOct18_2011.pdf
- http://www.caiso.com/Documents/Generator%20interconnection%20technical%20bulletins/TechnicalBulletin-MaterialModification_SuspensionOct18_2011.pdf

The queue management initiative is moving forward; the ISO has sent letters to a number of project developers whose projects have missed their CODs or whose CODs are imminent and their projects are not under construction. This process has resulted in approximately 700 MW being withdrawn from the GIP queue and a number of COD revision requests being submitted for which the ISO is performing material modification reviews. While the ISO continues to send letters to projects that were targeted in the first step, the ISO does not expect this process to result in enough generation withdrawing from the queue soon enough to significantly mitigate the concern that the present proposal is addressing.

In addition to the queue management process, as part of the TIP-GIP Integration initiative discussed below the ISO proposes to remove the option for PTOs to up-front fund network upgrades for existing queue projects that have not yet executed GIAs, so that all projects would face posting requirements in accordance with current GIP provisions. The process revisions associated with this paper and the TPP-GIP Integration initiative will likely require a delay in closing the cluster 5 request window and starting the cluster 5 study process. The ISO will provide additional information on this in the context of the TPP-GIP Integration initiative.

5 The TPP-GIP Integration initiative

The ISO currently has in progress a stakeholder initiative to better integrate the transmission planning process and generation interconnection procedures.[3] Under this initiative the ISO would identify and approve ratepayer-funded network upgrades needed to support deliverability of new generation under the TPP using the public policy-driven transmission category and based on the resource portfolios developed for each TPP planning cycle. New generation projects requesting full capacity deliverability status would be eligible to obtain such status from ratepayer-funded transmission approved under the TPP, up to the amount of deliverability supported by the existing transmission system plus approved additions and upgrades including the most recent comprehensive TPP transmission plan. Interconnection customers that submit full capacity interconnection requests in grid areas where the total of such requests exceeds the deliverability available under the current comprehensive plan would be able to obtain such status by funding any needed incremental network upgrades at their own expense without reimbursement from transmission ratepayers. The ISO intends to finalize its proposal for this initiative and submit it for approval to its Board of Governors in the first quarter of this year.

In the September 12, 2011 straw proposal for the TPP-GIP integration initiative the ISO had proposed that the new rules and procedures would apply to cluster 5 and subsequent clusters, but would not apply to the existing interconnection queue. Many participants in the stakeholder process expressed concerns that, among other things, the very large volume of new generation projects in the queue would undermine the TPP-GIP Integration proposal because their queue positions would require the ISO to protect so much transmission capacity for their deliverability that there would be nothing available for cluster 5. In consideration of these concerns, the ISO has developed the approach described in this paper for assessing the network upgrade requirements for clusters 1 through 4 in conjunction with developing its next straw proposal for the TPP-GIP Integration initiative.[4] The next TPP-GIP Integration proposal extends the approach described here in the sense that the ratepayer-funded deliverability provided by the existing transmission system plus approved additions and upgrades would be available for new generation projects – in the existing queue or in cluster 5 – that meet specified development milestones. If the amount of new generation from the existing queue (up through cluster 4) that has full capacity status and ultimately proceeds to commercial operation exceeds the deliverability available from the existing system plus approved upgrades, the ISO will identify further policy-driven transmission elements in the TPP to provide the required amount of deliverability.

[3] Documents for this initiative, including ISO paper and presentations and stakeholder comments are available at: http://www.caiso.com/informed/Pages/StakeholderProcesses/TransmissionPlanning_GenerationInterconnectionIntegration.aspx

[4] The ISO will post its Second Revised Straw Proposal for the TPP-GIP Integration initiative on January 12, 2012, and will host a stakeholder meeting on this proposal on January 19.