Integration of Transmission Planning and Generator Interconnection Procedures

(TPP-GIP Integration)

Final Proposal

March 9, 2012

Market and Infrastructure Development

TPP-GIP Integration
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Preface

Based on discussions of the ISO's February 15, 2012 draft final proposal at the February 22 public meeting, as well as the comments submitted by stakeholders on March 1, the ISO has determined that some relatively minor but important modifications and clarifications to the draft final proposal would result in an overall better final product for this initiative. The ISO therefore provides this document as a final version of the February 15 draft final proposal.

This final proposal offers a number of clarifications in areas where stakeholders indicated that further clarity was needed, and also modifies the proposal in a few key areas. To make these changes obvious to readers, the ISO is posting a redline version showing all changes to the February 15 text in underline/strikeout format, as well as a clean version.

The following areas are clarified in this final proposal.

1. Further explanation of the distinction between area delivery network upgrades (ADNU) and local delivery network upgrades (LDNU), and further description of the GIP study methodologies for identifying each of these upgrade types. (See new section 6.3.)
2. Clarification that the TPP-GIP Integration proposal does not modify the approach to deliverability for projects in queue clusters 1-4 as described in the January 31, 2012 technical bulletin, but only utilizes the results of that approach for calculating a baseline against which the ISO will determine amounts of TP deliverability available for projects in queue clusters 5 and later. In particular, in response to questions some stakeholders have raised about the classification of generators as "existing" or "new" for purposes of adjustments that might be needed to net qualifying capacity (NQC) in any given year, the ISO clarifies that that topic is addressed in the January 31 technical bulletin and is not an element of the present proposal. (See section 5.2, item 15.)

3. The ISO clarifies its intentions and expectations regarding the annual re-study process it will undertake under this proposal prior to beginning the GIP phase 2 studies, and the potential impacts of the withdrawal of projects on other projects remaining in the queue. (See section 5.2, item 12.)

In addition to the new material intended solely for clarification, this final proposal makes the following specific enhancements to the February 15 draft final proposal, all of which are incorporated in greater detail in the relevant sections of the body of this document.

4. In response to significant numbers of comments expressing concern about the potential impact on ratepayers of unlimited reimbursement of RNU and LDNU costs, as well as different reimbursement provisions for different groups of energy only projects, the ISO now proposes to apply the cash reimbursement limit of $40,000 per MW of installed generating capacity on reimbursement of RNU costs to all RNU, rather than only to the RNU of certain categories of projects as previously proposed. Also, in the allocation of TP deliverability, in instances where the available amount of TP deliverability can accommodate only one project and there are two or more projects requesting TP deliverability that all score equally on the criteria, the ISO will allocate the TP deliverability to the project with the lowest LDNU costs. (See section 5.1.)
5. The February 15 proposal allowed the possibility that a generation project in cluster 5 or later could be allocated TP deliverability based on the minimal threshold criteria, i.e., by being on an LSE short list and having submitted its required permit applications to the permitting authority. Some parties commented that this threshold is too low and would allow projects that are only short-listed to retain allocations of TP deliverability for years without progressing to a PPA. Therefore the ISO proposes that such a project must have at a minimum an executed PPA by the start of the next allocation cycle in order to retain an allocation of TP deliverability that it received in the prior cycle. (See section 6.1.2.)
6. The February 15 proposal stated that an Option (A) project that fails to be allocated TP deliverability in the allocation cycle immediately following its receipt of phase 2 results, can “park” until the next allocation cycle to try again for TP deliverability allocation. This final proposal enhances the parking provision to allow an Option (A) project that received a portion of its requested deliverability in the first allocation to park the rest of its capacity until the next cycle. This enhancement can apply in two situations: (i) where the project is on the “boundary” in the allocation process, having qualified for more TP deliverability than is available in that cycle, or (ii) where the project meets the project financing status criteria (e.g., short-list or PPA) for only a portion of its requested deliverability status. (See section 5.2, item 17.)

1 Executive Summary

The final proposal described in this document reflects the culmination of a collaborative stakeholder process that has lasted roughly nine months and has included three rounds of ISO straw proposals, a draft final proposal, several all-day public meetings, extensive and constructive written stakeholder comments, and valuable input by members of the ISO's Market Surveillance Committee. This document now reflects the final proposal that ISO management will present to the ISO Board of Governors for approval at the March 22-23, 2012 meeting. The ISO believes this final proposal offers a practical process that effectively achieves the objectives of the TPP-GIP Integration effort and addresses the issues raised by stakeholders in a balanced way.

The TPP-GIP Integration initiative continues the effort begun in 2010 to better integrate the transmission planning process ("TPP") and the generator interconnection procedures ("GIP"). Until 2010 these two processes were essentially separate and parallel, each having its own study processes and assumptions, criteria for determining which transmission additions and upgrades should be built, and project funding and cost allocation provisions. Yet both processes have been vehicles for developing and ultimately constructing substantial amounts of costly grid infrastructure, with little provision for coordination between the two. Having two separate tracks has been workable in the context for which they were designed, where the TPP and GIP only needed to respond to relatively steady, predictable growth in load and incremental changes to the supply fleet. But these design assumptions have been overturned in recent years with California's adoption of ambitious environmental policy mandates. The state's renewable energy goals call for dramatic changes to the supply fleet within a decade, and thus have triggered a wave of commercial activity to build renewable resources and exposed the need to revise the TPP and the GIP to enable the ISO to plan grid infrastructure most effectively and efficiently to support the new policy mandates.

The ISO originally proposed to address the present topic in the context of the GIP-2 initiative,[1] in which Work Group 1 was formed to address two issues: (1) consideration of an economic test for GIP-driven network upgrades whereby interconnection customers could be required to pay a share of the upgrade costs without reimbursement by ratepayers, and (2) clarification of an interconnection customer's cost and credit requirements when GIP-driven network upgrades are enhanced through the TPP. The ISO and the GIP-2 participants soon realized, however, that addressing these issues effectively would require more comprehensive reconsideration of many

[1] Documents related to the ISO's GIP-2 stakeholder initiative are available at: http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorInterconnectionProceduresPhase2.aspx. The FERC order on this initiative was issued on January 30, 2012 and is available at: http://www.caiso.com/Documents/2012-01-30_ER12-502_order.pdf

aspects of the GIP, with particular attention to the transition from the extremely large existing interconnection queue to full application of the new approaches required by item (1) above. Resolving all the details would clearly require more time than the GIP-2 schedule provided. The ISO therefore decided to create a separate stakeholder initiative, with an extended timetable and an expanded scope as indicated by the title of this paper, to integrate aspects of the TPP and GIP to form a more comprehensive, holistic approach to transmission development that would address the two issues originally identified and would achieve other objectives stated in section 3 of this paper.

The present final proposal, the February 15, 2012 Draft Final Proposal, and the January 12, 2012 Second Revised Straw Proposal are all very similar in terms of the overall structure of the proposed process.[2] The February 15 proposal did make some significant changes with regard to several important details of the January 12 proposal, many of which responded to concerns or suggestions offered by stakeholders at the January 19 meeting or in their written comments. Similarly, the present final proposal further modifies some of the same elements as indicated below.

1. February 15 proposal: In response to concerns raised about the previous proposal to reimburse customers through transmission rates fully for all reliability network upgrades (RNU), the ISO now proposes criteria to distinguish among projects that would be fully, partially, or not at all reimbursed for RNU. This reimbursement scheme aligns with the process for allocating TP deliverability to generation projects and, compared to the previous proposal, better supports the objectives of this initiative.

   Final proposal: Based on concern raised by several parties regarding the potentially large cost impact on ratepayers due to RNU that are not considered in the allocation of TP deliverability, as well as the concern raised about the February 15 proposal for different reimbursement provisions for different groups of energy only project, the ISO now proposes to apply a cash reimbursement limit of $40,000 per MW of the project's generating capacity to the reimbursement of RNU costs.

2. February 15 proposal: This proposal introduces a necessary distinction, within the category of delivery network upgrades, between "area" delivery network upgrades ("ADNU") and "local" delivery network upgrades ("LDNU"). The basic concept is that the ADNU are the large upgrades that will be identified through the TPP to provide deliverability to grid areas specified for generation development in the TPP resource

[2] All prior documentation associated with the present initiative, including papers posted by the ISO and comments submitted by stakeholders, can be found at the following link: http://www.caiso.com/informed/Pages/StakeholderProcesses/TransmissionPlanning_GenerationInterconnectionIntegration.aspx

portfolios, whereas LDNU will be identified through the GIP studies and will be more specific to generation project locations. Section 5.2 below discusses this distinction and related funding and financial posting matters in detail.

Final proposal: This distinction and the GIP study methodologies for identifying each type of upgrades are clarified and discussed in detail in section 6.3 of this document. In particular, section 6.3 explains how ADNU may be identified through the GIP phase 1 and phase 2 studies, as well as through the TPP.

3. February 15 proposal: This proposal revises and provides more specificity regarding the process and criteria for allocating TP deliverability to generation projects in cluster 5 and beyond. Many parties commented that the threshold criteria the ISO proposed in the January 12, 2012 proposal were too stringent and would exclude most projects. In response the ISO now proposes less stringent eligibility requirements for TP deliverability, supplemented by criteria that each project previously allocated deliverability must meet annually in order to retain its allocation.

   Final proposal: The ISO proposes some additional requirements for retention of TP deliverability for resources that were allocated TP deliverability based on meeting only the minimum threshold requirements.

4. The January 12 proposal allocated TP deliverability to all generation projects in an area that elected option (A) and met threshold criteria for eligibility, even if the total quantity exceeded the amount of TP deliverability provided by the most recent transmission plan. That proposal also gave priority to option (A) projects over option (B) projects in such situations. In contrast, the present proposal will limit the allocation to the amount of TP deliverability available, and will not give any preference to (A) or (B) projects in situations where the amount of eligible projects exceeds the available deliverability. In such situations the ISO will apply an objective scoring mechanism to projects based on their achievement of specific development milestones and will allocate deliverability to the highest scoring projects.

5. This proposal explains how, at the beginning of the TP deliverability allocation process for each new cluster, the ISO will determine how much TP deliverability to reserve for projects in the existing queue (serial through cluster 4), projects in later clusters that were previously allocated deliverability and currently meet the criteria to retain their allocations, resource adequacy import capacity that was expanded in the transmission planning process, and distributed generation. These reservations of TP deliverability before allocating to projects in a new cluster ensure consistency between the present initiative and other related initiatives, in particular, the ISO's approach for determining delivery network upgrades for cluster 1 through 4 projects as described in its January 31,

2012 technical bulletin,[3] and the initiative currently in progress to identify and allocate deliverability for distributed generation.[4]

6. This proposal describes new conditions under which generation projects electing option (A) or (B) may withdraw from the queue within certain periods of time after receiving their GIP phase 2 study results, and be eligible for partial refund of the financial security postings they made prior to entering phase 2.

7. The closing date for the cluster 5 request window will remain March 31, 2012, as stated currently in the ISO tariff. Previous proposals in this initiative stated that the ISO would file a motion at FERC to extend the closing date to April 30, but the ISO has since determined that this would be impractical. At the same time, the ISO recognizes that maintaining the March 31 closing date requires cluster 5 customers to decide whether to enter cluster 5 before the ISO will have made its tariff filing to FERC on this initiative, much less have an order from FERC. The ISO will therefore include a provision in the tariff filing to extend the time period for cluster 5 customers to withdraw from the queue without forfeiting any of their study deposit amounts above actual ISO and PTO costs, as long as they do so no later than ten days after the FERC order on this initiative.

The rest of this paper is organized as follows. Section 2 lays out a timetable for the rest of this initiative, with dates for key stakeholder activities leading up to presentation of the final proposal to the ISO Board of Governors at the March 2012 meeting, as well dates for stakeholder review and discussion of draft tariff language. Section 3 states the objectives for the initiative, which are unchanged from the prior proposal. Section 4 provides a process timeline for the integrated TPP and GIP process as proposed in this paper. Section 5 lays out the final proposal in considerable detail. Section 6 provides additional details and clarifications on several important elements of the proposal, including the criteria for generation projects to be allocated and to retain TP deliverability, provisions to address "first-mover-late-comer" situations, and the distinction between ADNU and LDNU and the GIP study methodologies for identifying them.

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[3] The ISO posted a technical bulletin describing the approach for determining DNU for clusters 1 through 4, and a technical report on the results for clusters 1 and 2, on January 31, 2012. Both documents are posted at this link: http://www.caiso.com/informed/Pages/BulletinsReportsStudies/TechnicalBulletins/Default.aspx

[4] See the following link for documentation on the Distributed Generation Deliverability initiative: http://www.caiso.com/informed/Pages/StakeholderProcesses/DeliverabilityforDistributedGeneration.aspx

2 Initiative schedule

ISO management intends to take this initiative to its Board of Governors for approval at their March 2012 meeting. Accordingly the ISO proposes the following dates for the remaining steps of the stakeholder process.

February 15	ISO posts draft final proposal
February 22	Stakeholder meeting to discuss draft final proposal
March 1	Stakeholder written comments due
March 9	ISO posts final proposal
March 16	Conference call to discuss final proposal
March 19	ISO posts draft tariff language (the ISO will announce conference calls to discuss the draft tariff in a separate market notice)
March 22-23	ISO Board of Governors meeting
April 10	ISO files tariff amendment at FERC

3 Objectives of this initiative

In previous proposals the ISO identified six key objectives for this initiative, plus a seventh objective comprised of a list of open issues from prior GIP initiatives that may be suitable for inclusion in the current scope. The January 12, 2012 second revised straw proposal retained those seven objectives and added an eighth objective regarding the allocation of TPP-based (i.e., ratepayer-funded) deliverability to eligible generation projects. The present final proposal retains these objectives without modification.

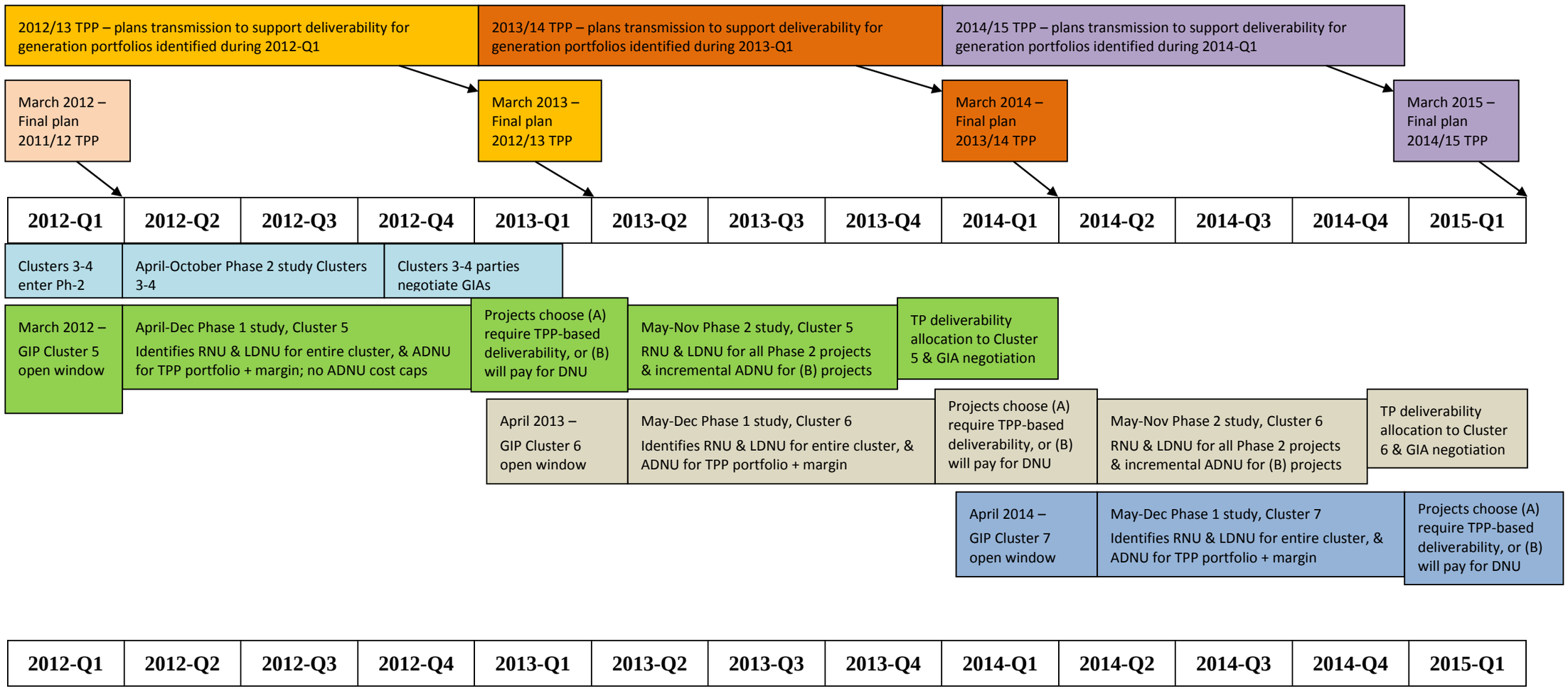
1. Integrate the GIP and the TPP as far as possible so that decisions to approve new rate-based transmission can be based on a comprehensive planning approach that addresses all the needs of the transmission system holistically and thereby makes most cost-effective use of ratepayer funding.
2. Rely more on the TPP and less on the GIP as the venue to identify and approve new rate-based transmission.
3. Provide incentives through appropriate cost allocation for developers of new resources to select the most cost effective grid locations for interconnection.
4. Limit the potential exposure of transmission ratepayers to the costs of building transmission additions and upgrades that are inefficient or under-utilized.

5. Provide greater certainty to developers of new generation resources that the network upgrades they need will be approved for siting by the CPUC or other siting authorities, by utilizing the ISO's collaboration with the CPUC on portfolio development and the TPP study process to support the need for these upgrades, rather than relying solely on the GIP study process to justify the need for GIP-driven network upgrades.
6. Provide greater transparency for all stakeholders regarding transmission upgrade decisions.
7. Resolve several previously identified GIP issues. The ISO expects that the following list of issues will be addressed in the course of developing the final proposal for this initiative.
    a. Clarify how an IC's funding and posting requirements will be affected when transmission additions and upgrades approved under the TPP provide some or all of its interconnection needs or GIP-driven upgrades are modified through the TPP.
    b. Allow for a plan of service re-study process whereby network upgrade needs can be re-evaluated when earlier ICs drop out of the queue. A related issue is whether the GIP Phase 1 cost cap for an IC should be over-ridden in cases where the re-study results in increased cost of network upgrades.
    c. Design a study process that will yield meaningful results (particularly Phase 1 cost caps) when the volume of MW in the cluster is drastically excessive.
    d. Consider whether to allow additional opportunities in the new TPP-GIP process for ICs to downsize their projects before executing the generation interconnection agreement (GIA).
8. The process for allocating TPP-based deliverability to generation projects should be structured to:
    a. Allocate to projects that demonstrate a high likelihood of successful completion, to minimize the need to withdraw and reassign TPP-based deliverability allocations;
    b. Limit the ability of non-viable projects to retain TPP-based deliverability if they are not progressing toward commercial operation;
    c. Be compatible with the practical requirements of generation development and provide sufficient certainty for viable projects to obtain financing; and
    d. Be objective, transparent and implementable.

4 Proposed timeline for the integrated process

The diagram below reflects the proposed timeline for the main features of the revised process for the years 2012-2014, as explained in detail in section 5.

Integrated TPP-GIP Process and Timeline



2012-Q1 2012-Q2 2012-Q3 2012-Q4 2013-Q1 2013-Q2 2013-Q3 2013-Q4 2014-Q1 2014-Q2 2014-Q3 2014-Q4 2015-Q1

5 Final Proposal

5.1 Treatment of and cost responsibility for local delivery network upgrades (LDNU) and reliability network upgrades (RNU)

For purposes of this proposal it is important to distinguish:

- Area delivery network upgrades ("ADNU"), which are identified either (i) through the TPP to provide deliverability to load from a specified quantity of new generation in an electrical area of the grid, or (ii) through the GIP studies for specific purposes as discussed in the next section;
- Local delivery network upgrades ("LDNU"), which are identified through the phase 1 and phase 2 GIP studies, but not typically identified in the TPP because they tend to be specific to the location of an individual generation project or a small group of generation projects located very close together electrically;
- Reliability network upgrades ("RNU"), which are also identified through the GIP studies and are specific to generation project locations; RNU are distinct from LDNU because the RNU are needed to address problems that cannot be managed through the market congestion management, whereas LDNU, like ADNU, are required to reduce congestion to provide deliverability of the project.

A generation project requesting full capacity or partial deliverability status[5] will typically be responsible for ADNU, LDNU and RNU, whereas an energy only project will be responsible only for RNU.[6] The familiar term "delivery network upgrades" ("DNU"), when used without specifying either "area" or "local" should be read to mean both the ADNU and the LDNU associated with a generation project.

The TPP-GIP Integration initiative focuses primarily on the ADNU identified through the TPP based on the resource portfolios adopted for the purpose of developing public policy-driven transmission additions and upgrades. As such the ISO's proposals in this initiative have focused on the use of capacity created by TPP-identified ADNU to provide deliverability for generation projects in the ISO's interconnection queue. In particular, if a generation project is allocated a

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[5] The January 30, 2012 FERC order on the GIP-2 initiative approved partial deliverability status as an interconnection option for generation projects beginning with cluster 5.

[6] The present initiative does not modify existing GIP provisions regarding other interconnection customer cost responsibilities, such as costs of interconnection facilities and gen-ties. Those and any other GIP provisions not explicitly addressed in this proposal should be understood to remain as they are today even though they are generally not discussed in this proposal.

share of TPP-based deliverability under this proposal, the interconnection customer will not be required to pay or post financial security for its share of the cost of TPP-identified ADNU.

In contrast to the allocation of deliverability resulting from TPP-identified upgrades, the LDNU and RNU needed for a project's interconnection and deliverability status will be treated much as they are today, with one important modification described below. A project that proceeds based on full capacity or partial deliverability status will post financial security in accordance with current GIP provisions for its shares of LDNU and RNU costs. A project that proceeds based on energy only deliverability status will be required to post financial security for its share of RNU costs.

The one modification addressed in this proposal concerns the conditions under which projects will receive ratepayer reimbursement for their posted LDNU and RNU costs. In the January 12 proposal the ISO stated that projects would continue to be reimbursed by ratepayers for the costs of RNU as they are today, once the generation facilities achieve commercial operation. In the February 15 draft final proposal the ISO modified this provision to be more in line with the intent of the present initiative, specifically, to minimize the risk to ratepayers of having to pay for excessive transmission upgrades, and to provide efficient location incentives for project developers. Many parties expressed concerns, both at the February 22 stakeholder meeting and in their written comments, that the February 15 proposal did not adequately limit potential exposure of ratepayers to high RNU and LDNU costs. This concern arose specifically in response to the proposal to fully reimburse RNU and LDNU costs for projects allocated TP deliverability while not considering such costs in the allocation process. In addition, several parties expressed concern about different reimbursement provisions for two different categories of energy only projects.[7] The ISO's Market Surveillance Committee expressed the same concerns. In response to these concerns the ISO now proposes the following:

1. All projects will receive partial cash reimbursement of RNU costs after achieving commercial operation, but only up to $40,000 per MW of installed generating capacity.[8] This proposal does not change the timetable or procedure for such reimbursement from today's practices.[9]

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[7] The February 15 proposal applied different RNU reimbursement provisions to projects that elect energy only status in their original interconnection requests versus those that start out as full capacity but later convert to energy only when the project, after being parked, reaches the end of the parking period and must either proceed as energy only or withdraw from the queue.

[8] The amount $40,000 per installed MW reflects the approximate average of GIP phase 2 RNU costs for cluster 1 and 2 projects, excluding the four highest cost per MW projects, which were an order of magnitude higher than most of the others.

[9] The shorthand reference to "achieving commercial operation" for repayment means the generating facility achieves its COD and the required RNU are placed in service, as has been discussed in the recent January 30,

2. In the allocation of TP deliverability, for situations where the available amount of TP deliverability can accommodate only one out of two or more generating projects requesting TP deliverability that all score equally on the ranking criteria, the ISO will allocate the TP deliverability to the project with the lowest LDNU costs.
3. A project that chooses option (A) or (B) and is allocated TPP-based deliverability will receive ratepayer reimbursement for the full amount of its posted LDNU costs once it achieves commercial operation. This proposal does not change the timetable or procedure for such reimbursement from today's practices.
4. A project that chooses option (A) and is not allocated TPP-based deliverability, either in the first opportunity after receiving phase 2 study results, or in the second opportunity a year later, may remain in queue as an energy only project. As such it will be eligible for partial cash repayment of RNU costs after achieving commercial operation, up to $40,000 per MW of installed generating capacity.
5. A project that chooses option (B) and is not allocated TPP-based deliverability will be required to pay and post financial security for its needed ADNU, LDNU and RNU, and will execute a GIA on this basis. Such a project will not be eligible for ratepayer reimbursement for LDNU or ADNU, but will be eligible for partial cash repayment of its RNU costs after achieving commercial operation, up to $40,000 per MW of installed generating capacity.

   In cases where the (B) project does pay for its own network upgrades and elects to have an independent company other than the incumbent PTO build these upgrades, the usual requirement to post security for 100 percent of the network upgrade costs at the start of construction of the upgrades should not apply. The ISO proposes to retain the current requirement to post 30 percent security by 180 days following the phase 2 study results, but not to require the customer to post the additional amount to reach 100 percent at start of construction. The customer would be eligible for refund of its 30 percent posting once the network upgrade construction has achieved milestones specified in the GIA. Of course, if the incumbent PTO is the builder of the network upgrades, the usual posting requirements would apply.
6. A project that initially enters the queue as an energy only project will be required to post financial security for its RNU, and will be eligible for ratepayer reimbursement for a portion of its RNU costs once it achieves commercial operation. The project's amount of cash reimbursement will be limited to $40,000 per installed MW of generating capacity; RNU costs above that amount will not be reimbursed in cash.

2012 FERC order on the GIP Phase 2 amendment (ER12-502). For RNU, the upgrades would be expected to be in service on or before the generating facility COD.

7. Network upgrades paid for by interconnection customers without reimbursement will be incorporated into the ISO controlled grid as merchant transmission in accordance with existing tariff provisions.
8. First-mover, late-comer. In cases where an interconnection customer pays for network upgrades without ratepayer reimbursement, and the upgrades provide interconnection benefits beyond what the customer's project requires (i.e., capacity that offsets upgrade needs for subsequent projects), the ISO will require subsequent beneficiary projects to reimburse the initial customer in proportion to the benefits received. Further details on this mechanism are provided in section 6.2 of this proposal.

5.2 The final proposal in detail

Consider the following as a description of the end-state process, starting with queue cluster 5. Issues around the transition from the existing queue to the new process or about how existing queue projects will be reflected in the new process are addressed at various points below as they arise.

1. Starting with cluster 6 the interconnection request submission window for each new cluster (cluster "N") will close at the end of April. As explained in the Executive Summary, the submission window for cluster 5 will close at the end of March. The present proposal does not change the existing requirements for submitting an interconnection request.
2. One concern with the current GIP phase 1 study approach is that when cluster size is very large compared to the amount of new generation expected to be needed and commercially viable, the study results tend to require much more transmission than will ultimately be needed and built. In such situations the phase 1 study results do not provide a very realistic basis for determining a project's plan of service, cost responsibilities, and time required to achieve its desired deliverability status. To remedy this concern, the ISO will modify the GIP phase 1 study approach to provide more useful results. The study will identify: (1) reliability network upgrades[10] (RNU) and local delivery network upgrades (LDNU) for all projects in cluster N, and (2) area delivery network upgrades (ADNU) for a special "GIP phase 1 study portfolio" that is derived from the most recent comprehensive transmission plan as well as the composition of the existing queue and cluster N, and that specifies reasonable MW amounts of new generation in each study area.

[10] By definition, reliability network upgrades are upgrades needed to address reliability issues that cannot be managed through the market congestion management processes, i.e., by re-dispatching resources to relieve congestion. If the reliability problem can be resolved through generation re-dispatch, then it does not require a reliability upgrade.

3. For the GIP phase 1 study portfolio, the MW amount to be studied for deliverability in each study area will depend on the amount of deliverability provided by the most recent final comprehensive transmission plan (called "TP deliverability"[11] in this proposal), the amount of full capacity generation projects in the queue, the size of the largest generation project in the queue in the study area, and the MW amount and composition of the latest TPP resource portfolio for the study area. For example, in a given study area the GIP phase 1 study MW amount might equal:

   Min[(queue MW including cluster N) ; max{((π/2)*TP deliverability); (TP deliverability + size of single largest generation project in the queue)}].

   This provision adopts the suggestion made by many stakeholders that the ISO limit the amount of generation studied for deliverability in GIP phase 1 to an amount that is more in line with expected generation development, with an additional margin that would indicate the approximate incremental transmission cost if more generation develops in an area. The concept is that as long as the queue MW amount in an area, including cluster N, is within a moderate MW amount above the TP deliverability MW amount, the phase 1 deliverability study will look at the entire cluster study group. But if the existing queue plus cluster N is very large in an area, the ISO will limit the amount studied for deliverability to keep DNU facilities, costs and construction times within the realm of realistically expected generation development. In areas where the cluster group is larger than the limit, the ISO would make assumptions about the distribution of MW over the grid. As a result, in such cases the phase 1 study would not provide a complete deliverability plan of service (POS) for all generation projects in each area, though it would provide a POS for the LDNU, RNU and the generator interconnection facilities (IF) for each project. For this study the ISO would model a mix of resource types in each area that reasonably reflects the latest TPP base case portfolio and the GIP queue.

4. Clearly this special GIP phase 1 study portfolio would likely achieve more than 33% RPS when we consider the ISO system as a whole, but still it is a reasonable approach because it provides information for the possible situation where a particular grid area develops more

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[11] The term "TP deliverability" is intended to reflect the MW amount of deliverability for new generation projects that is provided by the existing transmission system, as expanded by approved projects up to and including the latest approved comprehensive transmission plan. The ISO expects that this amount will be greater than or equal to, in each study area, the amount of deliverability specified in the latest TPP base case resource portfolio. The reason for this is that the current TPP cycle will plan to provide deliverability for the base case portfolio at a minimum, and this amount could be augmented by a combination of latent deliverability capacity in the existing system or from previously approved upgrades, or the lumpiness effects of new transmission facilities. This amount will only be an estimate, however, because the exact amount of deliverability the grid can support in any electrical study area will depend on the interconnection points and technologies of the specific projects that utilize that grid capacity.

than expected under the TPP base case portfolio, while another area develops less. Using this approach, the phase 1 study would identify needed incremental ADNU and estimated costs if more generation develops in an area. This information should be helpful to LSEs and their regulatory authorities in evaluating alternative procurement options.

5. This study process remains within the structure of the GIP, so that current roles of the ISO and PTOs in performing the studies and the required study deposits for ICs that submit interconnection requests would not change from today.

6. As a result of the phase 1 study, each IC project would know its RNU, LDNU and associated costs, and either (1) its expected ADNU and associated cost share, if the cluster study group total MW amount was not so large as to exceed the MW modeling limit as described above, or (2) in the case of a large cluster study group, the ADNU and costs to provide deliverability to the MW limit specified for the GIP phase 1 study portfolio. In either case, the ADNU cost estimates from GIP phase 1 reflect what was called the "pro rata" method for allocating TPP-based deliverability in a prior ISO proposal. In other words, in areas where the MW amount studied demonstrates a need for ADNU, each generation project in the group will be allocated a share of the ADNU costs in proportion to its flow impact on the required ADNU. This is also consistent with cost allocation under the GIP today. In case (2) where the identified ADNU provide deliverability for a smaller MW study amount than the full cluster study group, the ISO will calculate a cost rate in dollars per MW of capacity equal to the cost of the ADNU divided by the incremental MW amount of generating capacity studied (i.e., the amount above the TP deliverability for the area), and will use this to extrapolate the ADNU cost estimate for the full study group as well as ADNU cost estimates for each generation project in the group.

7. The ISO will use the GIP phase 1 results to provide each generation project with a cost cap for its RNU and LDNU, and will retain today's GIP provisions regarding the responsibility of ICs to post financial security for RNU and LDNU. The ISO does not, however, propose to use the phase 1 results to cap the exposure of generation projects to ADNU costs. The reason for this is explained further below.

8. Between the time that a generation project receives its phase 1 results and the deadline for posting for phase 2, the project must decide whether to remain in queue for phase 2 under one of two options: (A) the project indicates that it requires TPP-based deliverability to be able to continue to commercial operation, or (B) the project indicates that it is willing to pay for DNU (both ADNU and LDNU) without cash reimbursement by ratepayers. If the project elects (A) it must make the normal GIP phase 2 posting related to RNU and LDNU, but does not have to post for ADNU. If it elects (B) it must also post for ADNU. Around the same time as the customer must make this decision – the period between when the ISO provides phase 1 results to customers and when the ISO starts the phase 2 study – the ISO would

also produce and obtain Board approval for the latest comprehensive transmission plan and would establish the resource portfolios that will be used in the new TPP cycle. These items should provide additional useful information for interconnection customers to decide whether to enter phase 2 and, if so, under which option.

9. Required posting amounts for phase 2 would be based on the phase 1 study results. For RNU and LDNU this remains as it is today. For ADNU, however, it requires a new approach. The Phase 1 study produces ADNU cost estimates treating all generation projects the same and giving them each pro rata shares of the cost. But for entry into phase 2 the projects are now in two different groups. Projects electing option (A) indicate that they require TPP-based deliverability, and as such they would not have to fund or post security for ADNU. By making this choice, however, a project must either be allocated TP deliverability within a specific time period (discussed below) or must withdraw from the queue or continue under an energy only (EO) GIA.

10. ADNU posting requirements for (B) projects would be calculated from the phase 1 results by assuming that the TP deliverability is fully utilized by (A) projects. Thus (B) projects would be expected to have to fully fund the incremental ADNU required to provide the deliverability status they requested. The posting requirement for ADNU for (B) projects would be based on the dollars per MW of capacity rate (as calculated above) in areas where the cluster study group is large, or on the actual phase 1 ADNU cost estimates in areas where the amount of (B) projects is within the MW amount studied in phase 1.

11. The ISO does not intend the phase 1 ADNU cost estimate provided to a (B) project and on which its posting requirements to enter phase 2 would be based to be a cost cap (referred to in the GIP tariff as maximum cost responsibility). Rather, under this proposal a project that elects (B) would be fully responsible for the actual cost of the ADNU required for its requested deliverability status. In conjunction with this cost responsibility, the customer would be allowed to select its preferred developer to build the ADNU, in accordance with qualifications and restrictions comparable to existing tariff provisions regarding eligibility of non-PTO entities to build transmission. In addition, a (B) project would be able to withdraw without forfeiting its entire phase 2 posting after receiving its phase 2 study results, which should provide a more accurate estimate of ADNU costs than the phase 1 results did.

12. Due to the high volume of generation in the ISO interconnection queue, as compared to the apparent market for such generation additions, there is an industry expectation that large amounts of generation will ultimately withdraw over the next several years. With the withdrawal of this generation, some network upgrades previously required by the withdrawn generation and incorporated into the interconnection configurations of later queued generation should be reassessed for possible elimination or reduction in scope. The ISO expects to find in many cases that particular upgrades will no longer be needed as the subscribing generation

withdraws from the queue, and in other cases that large upgrades can be replaced by smaller upgrades that will be adequate to serve the smaller MW amount of generation in particular electrical areas. In either of these scenarios where network upgrades are reduced in scope, the schedule for completing the network upgrades needed to serve the reduced volume of projects in the queue can be expected to either remain unchanged or be shortened. In some cases, however, the cost responsibility for upgrades triggered by withdrawing earlier-queued projects could be transferred to later queued projects. In this situation, cost responsibilities for Option (B) projects could be increased, but their schedule for start of commercial operation should not be adversely impacted.

In order to determine the necessary changes to transmission upgrade plans when projects drop out of the queue, the ISO will perform a baseline re-study process prior to the beginning of each GIP phase 2 interconnection study. The re-study will assess the impacts, on previously identified network upgrade needs, of project withdrawals from the queue since the ISO completed the last phase 2 study, of the current status of earlier queued generation projects with executed GIAs with respect to required milestones, and of transmission additions and upgrades approved in the most recent TPP cycle. The re-study would include both deliverability and reliability assessments. In addition, to the extent that some option (B) projects from cluster (N-1) either received allocations of TP deliverability or decided to drop out of the queue, the re-study would assess whether the DNU required for the remaining (B) projects in cluster (N-1) should be revised. Thus the re-study would update, as needed, required network upgrades and plans of service for projects with queue positions prior to the current cluster. Thus the re-study could determine any or all of the following as impacts of the new information and circumstances listed above:

- Updated DNU for existing queue generation projects (serial through cluster 4);
- Updated DNU for option (B) projects in previous clusters from cluster 5 on that were not awarded TP deliverability; and
- Updated RNU and LDNU for all earlier queued generation projects.

Where the re-study finds changes to the previously-identified DNU and RNU and their plans of service, the ISO will use the results to amend the GIAs and then to develop the base case for the current cluster phase 2 study. The ISO will work with PTOs to establish a schedule for the re-study process, and will then determine the implications of this for the timing of the major elements of the integrated TPP-GIP process.

13. The phase 2 study will determine required RNU and LDNU for all generation projects that participate in phase 2. For determining needed ADNU for (B) projects, the ISO will model (A) projects at their requested deliverability status, up to an amount of new generating capacity for which deliverability is feasible without further network upgrades and that fully uses up the available TP deliverability. If the amount of (A) projects exceeds the TP deliverability in

any study area, the ISO will model all (A) projects for determining the RNU and LDNU and will distribute the TP deliverability over a subset of (A) projects in a representative manner to use up the available TP deliverability. If the (A) projects and earlier queued projects in an area do not fully use up the TP deliverability in that area, some of the TP deliverability may be unencumbered in the model for phase 2. The ISO would then add all the (B) projects at their requested deliverability levels to determine the required incremental ADNU. Thus the phase 2 study will produce realistic RNU, LDNU and costs for all projects in phase 2, plus realistic ADNU results for the (B) projects.[12] The ISO, the interconnection customers and the PTOs will use these results for developing GIAs.

14. Once the phase 2 study results are provided to the generation projects, the ISO will perform the allocation of the TP deliverability that can be supported by the grid based on the most recent comprehensive transmission plan. There are two major steps to this process, which are described here and then illustrated with a numerical example in section 5.4 below. The first step is to determine how much of the available TP deliverability should be reserved for projects in the existing queue (serial through cluster 4) and projects in clusters prior to the current cluster that were previously allocated TP deliverability. In addition, if some of the TP deliverability provided under the current transmission plan is needed to support expansion of the resource adequacy maximum import capability ("MIC") that was included as a planning objective in the TPP, the ISO will reserve such deliverability for that purpose. Finally, the ISO currently has an initiative in progress to determine, on an annual basis, the amount of deliverability that can be allocated for distributed generation (i.e., generation connected to a utility distribution system) without requiring additional network upgrades, and for allocating this deliverability to local regulatory authorities for use by their regulated load-serving entities.[13] The ISO will also reserve such deliverability to the extent it was utilized by the eligible load-serving entities during the current cycle.

    For this step the ISO will identify all projects in the existing queue that meet the following two criteria: (1) have executed PPAs with load-serving entities that are still in good standing (i.e., PPAs that have not been terminated by either of the parties), and (2) have GIAs in good standing (i.e., for which the ISO has not notified the IC that the project is in breach of its GIA). Next, the ISO will review the status of projects in queue clusters from cluster 5 up to the cluster just prior to the present cluster that were previously allocated TP deliverability,

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[12] The ADNU determined in phase 2 to be needed for an Option (B) project may also include certain additional network upgrades, such as short-circuit duty (SCD) mitigation or special protection schemes (SPS), which are triggered by the ADNU identified in phase 2. Because such additional upgrades would not be needed for the cluster under study in absence of these ADNU, their costs would be included in the ADNU costs, rather than grouped with LDNU or RNU costs.

[13] See the following link for documentation on the Distributed Generation Deliverability initiative: http://www.caiso.com/informed/Pages/StakeholderProcesses/DeliverabilityforDistributedGeneration.aspx

and will identify which ones have met the criteria required to retain their allocations (these criteria are discussed below in section 6.1). The ISO will reserve as much of the available TP deliverability as needed for these two groups of projects, and for the MIC expansion and distributed generation as noted above. If the total deliverability impact is less than the TP deliverability provided under the current transmission plan, then the remainder of the TP deliverability will be available in the second step of this process for cluster N projects and any (A) projects from cluster (N-1) that were "parked" for a year following their phase 2 study results.[14] Otherwise no TP deliverability will be available for additional projects.

Note that this first step is not strictly an allocation of TP deliverability to existing queue and projects previously allocated TP deliverability; rather, it is an assessment of the status of these projects for the purpose of determining how much of the TP deliverability can be allocated to new projects.[15] This is an important distinction. Existing queue projects are not subject to the new allocation process to determine whether their required DNU will be approved or how they will be funded. The ISO is treating existing queue projects under the existing GIP rules, which require the ISO to approve network upgrades needed to provide the project's requested deliverability status, and to reimburse the customer for any funding the customer posts for these upgrades, after the project achieves commercial operation. Under the cluster 1-4 approach described in the ISO's January 31, 2012 technical bulletin, more existing queue projects could have full capacity status per their GIAs than the grid is able to support and, if they all achieve commercial operation, the ISO must ensure through the TPP that the transmission system can support their deliverability, which could require additional transmission to be built at ratepayer expense. Given the expectation, described in the technical bulletin, that a substantial but as-yet unknown portion of the existing queue will fail, the ISO must assess their status to determine how much of the TP deliverability to model as already encumbered by existing queue projects and therefore not available for new projects.

Similarly, once the new process has run at least once, there may be projects from cluster 5 and beyond, but prior to the current cluster that were previously allocated TP deliverability and must continue to meet specific criteria to retain their allocations. As long as these projects meet the retention criteria, their executed GIAs require the ISO to ensure that the transmission system can support their deliverability. Thus, this first step in the allocation is necessary before any TP deliverability can be allocated to new projects.

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[14] The ability for option (A) projects to "park" for a year for a second chance at obtaining TP deliverability is discussed below.

[15] Similarly, reservation of TP deliverability to support MIC expansion is also not an allocation to specific projects. In contrast, however, under the ISO's not-yet-final proposal on deliverability for distributed generation, any of the TP deliverability reserved in this step of the allocation would reflect actual projects that have been chosen by the regulatory authorities and their load-serving entities and reported to the ISO.

15. If the ISO finds that the total utilization of TP deliverability from the previous step exceeds the amount of TP deliverability supported by the most recent transmission plan, the ISO will consult with the CPUC (and other local regulatory authorities that may have oversight over relevant PPAs or resource adequacy contracts) to assess whether the TPP portfolio amount of new generation in this grid study area should be increased for the next TPP cycle that is just beginning. Such expansion of the TPP portfolio may then trigger the need for additional public policy-driven transmission.

    In such cases, there could be a time lag between the commercial operation dates of some of the existing queue and later projects allocated TP deliverability, and the in-service dates of any additional DNU that are identified and approved through the TPP.[16] If this occurs it could lead to reductions in some projects' net qualifying capacity (NQC) through the ISO's annual process to determine NQC of generating resources. Such reductions would be needed if the amount of full capacity generation in an area that reaches commercial operation by the start of a given resource adequacy compliance year is greater than the total amount of NQC the grid can support in that area. This would typically be a short-term problem that arises because transmission upgrades – which under this proposal would be identified in the TPP after the generation projects in the area have already received TP deliverability – generally take longer to complete and place into service than generation projects. In the January 31, 2012 technical bulletin on deliverability for clusters 1 through 4, the ISO explained that this situation could be avoided if LSEs and their regulatory authorities manage the LSE procurement to stay within the thresholds that would cause the planned transmission to be insufficient. Nevertheless, if the situation arises the ISO would apply NQC adjustments on an annual basis, as needed, to generation projects that have at least five percent flow factors on the constraining transmission facilities. As stated in the January 31 technical bulletin, the ISO will first apply NQC adjustments to "new" generation in the constrained area, where "new" would include generation projects in the existing queue (serial through cluster 4) that have not executed PPAs or resource adequacy contracts by February 29, 2012 that commit them to providing resource adequacy capacity commensurate with full capacity deliverability status, and to generation projects in cluster 5 and beyond that are allocated TP deliverability.[17] Only in a situation where NQC reductions

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[16] As discussed in the January 31, 2012 technical bulletin, the cluster 1-4 projects will be on notice that they may temporarily be subject to reductions in their annual NQC for a few years if transmission needed for FC status lags their COD.

[17] The ISO does not expect NQC reductions to apply to distributed generation resources as these resources, which are connected to utility distribution systems, would rarely if ever have a five percent flow factor on an area DNU. Also, option (B) projects in cluster 5 and beyond that do not receive allocations of TP deliverability and pay for their network upgrades, would not be subject to NQC reductions for flow impacts on constraints they paid to expand once the relevant DNU are in service. Prior to their DNU being in service, the (B) projects

to these "new" projects were insufficient to achieve a feasible total NQC for the constrained area would the ISO apply such reductions to other generation in the area and to expanded MIC values that have five percent or greater flow factors on the constraining facilities. In such cases the ISO would reduce to zero the NQC values for "new" projects that meet or exceed the five percent flow factor threshold before adjusting other generation or MIC values that are effective on the binding constraints.

Finally, it is important to point out that the above discussion of potential NQC reductions is provided here for information purposes only, to explain the relevance of material contained in the January 31 technical bulletin to the present initiative. The present TPP-GIP Integration initiative does not propose any changes to the approach described in the technical bulletin, and that approach is not a design element of the present initiative.

16. In the second step of the allocation process, assuming that there is some TP deliverability available after the first step for cluster N projects and "parked" option (A) projects from cluster (N-1), the ISO will allocate it to eligible projects during the 120-day period between the provision of phase 2 results and the required GIA execution deadline.[18,19] Allocation in this step will be open to both (A) and (B) projects in the current cluster N, and to those (A) projects in the prior cluster (N-1) that did not receive allocations of TP deliverability in the previous cycle and decided to park for a year to get a second chance at allocation. Among these projects, the ones that can advance to eligibility for TP deliverability will have to meet threshold eligibility milestones related to permitting and project financing. Specifically, the project must demonstrate that it has applied for its Conditional Use Permit, Application for Certification or equivalent, and is on an active short list for a load-serving entity's request for offers, or equivalent.[20] The intent is for the permitting-related criteria to be comparable irrespective of whether the project seeks permitting through the CEC or through another authority. If the amount of projects that meet the threshold eligibility criteria can all be accommodated within the available TP deliverability, the ISO will allocate TP deliverability

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would have energy only status unless they receive course of construction NQC in accordance with existing ISO tariff provisions.

[18] In order to complete the allocation within the 120-day period, the ISO will require projects to submit the information needed to assess their eligibility and apply the scoring mechanism in accordance with a timetable to be specified in the business practices manual.

[19] The ISO recognizes that the period for negotiating and executing GIAs can extend beyond 120 days for various reasons. Nevertheless, the ISO will limit the time period for the allocation of TP deliverability in each cycle to 120 days from the completion of GIP phase 2 studies so that eligible projects can have definitive results of that cycle's allocation process by that time. As discussed in section 6.2 below, one of the requirements for a project that was allocated TP deliverability to retain the allocation is that it must have executed its GIA no later than 12 months after receiving its GIP phase 2 study results, i.e., by the time the ISO begins the allocation window for the next GIP cluster.

[20] These criteria are discussed in more detail in section 6.1 below, in the context of larger sets of milestones that reflect a project's progress in the project financing and permitting processes.

to all of them. In this case the (A) or (B) projects that receive TP deliverability may execute GIAs that reflect their allocations.

17. Under the assessment described in the previous step, it is possible that the amount of (A) and (B) projects that meet the threshold eligibility milestones could exceed the amount of TP deliverability available in the study area. In this case the ISO will calculate a numerical score for each eligible project based on its progress on several development milestones and will allocate the available TP deliverability to the highest scoring projects. The specific milestones and the scoring methodology are discussed in section 6.1 below. Allocation to the highest scoring projects in this manner can lead to a situation where one project is on the boundary, i.e., there is just enough TP deliverability remaining after allocation to higher scoring projects to make it partially deliverable but not enough to fully meet its requested deliverability status. In such a case the ISO will allow the project to accept the smaller amount of deliverability and either (i) modify its physical capacity to be consistent with the smaller amount of full capacity deliverability status, or (ii) maintain the project's physical characteristics and just reduce its deliverability status to partial, or (iii) if the partial TP deliverability allocation occurs in the first allocation cycle after the project receives its phase 2 results, it may "park" the rest of its capacity until the next allocation cycle to try to obtain the full amount of deliverability it originally requested. If the project chooses option (iii), it will execute a GIA based on the full MW generating capacity of its interconnection request and the amount of its initial allocation of TP deliverability (i.e., a partial deliverability GIA). Following the end of the parking period and the next cycle allocation process, its GIA will be amended to reflect any additional TP deliverability the project was allocated. At that time, if the final total amount of TP deliverability allocated to the project is less than the project's MW generating capacity, the project may also avail itself of options (i) or (ii) above.

    A similar situation can arise if a project meets the eligibility criteria for TP deliverability for only a portion of the MW generating capacity of its interconnection request. This may occur, for example, if the project has an executed PPA for a portion of its total capacity at the time of the allocation process. In such a case the ISO will consider the MW amount of capacity covered by the PPA to be eligible for TP deliverability and, if the project is then allocated that amount of deliverability, the project will proceed in accordance with the same options and provisions described above.

18. A project in category (A) that does not obtain TPP-based deliverability within the current cluster time frame (i.e., within 120 days of receiving phase 2 results) would be allowed to either defer execution of its GIA (as well as its required second financial security posting) and "park" while waiting for one additional GIP phase 2 study cycle, or execute a GIA based on energy only deliverability status (EO). If it elects to defer the GIA and does not obtain TPP-based deliverability within the 120-day time frame of the next cycle, it must either

withdraw from the queue or go forward as an EO project and meet all the normal requirements associated with an EO GIA. Once the project executes an EO GIA, any subsequent acquisition of deliverability status would be governed by existing GIP tariff provisions (tariff appendix Y section 8.2). As noted above, a project under option (A) that obtains a portion of its requested TP deliverability in the current cluster allocation cycle may park the remainder of its capacity to participate in the next allocation cycle.

If the project withdraws, it will be eligible for refund of a portion of its initial posting of interconnection financial security, i.e., the posting it made after its phase 1 study and before entering phase 2. Tariff appendix Y section 9.2 specifies the initial security posting requirements after phase 1, which this initiative does not propose to change. Appendix Y section 9.4.1 specifies four conditions under which a project withdrawing from the queue may receive a partial refund of its interconnection financial security postings. The ISO proposes to add a fifth condition, namely, that the project after having elected option (A) did not receive an allocation of TP deliverability. The amount of the refund is specified in appendix Y section 9.4.2, and depends on how much time has passed between the customer's receipt of its phase 2 study results and its decision to withdraw. In view of the ability of (A) projects to "park" for a year after getting their phase 2 results to have a second opportunity to be allocated TP deliverability, the ISO will consider the "early" withdrawal period to extend up to 18 months after the phase 2 results, i.e., the initial 120 day allocation period, plus one year of parking to the end of the next allocation period, plus 60 days.

19. A project in category (B) that does not obtain TPP-based deliverability within the current cluster allocation period must either proceed to execute a GIA that includes its funding of its incremental ADNU, its LDNU and its RNU, and make the required postings within the normal time frame, or drop out of the queue. If the (B) project drops out at this time, it will forfeit some or all of its financial security posting for network upgrades. The eligibility for and amount of any refund to a (B) project that withdraws will be governed by the same tariff sections identified above with respect to (A) projects. For a (B) project, unlike an (A) project, failure to receive an allocation of TP deliverability will not be considered a valid basis for partial refund of its network upgrade security postings, because the project in electing option (B) indicated its willingness and ability to pay for network upgrades. However, in view of the fact that the GIP phase 1 study process does not provide (B) projects with cost caps on their ADNU, the ISO will add a condition under which a (B) project that withdraws will be eligible for partial refund, namely, that its phase 2 ADNU costs exceed its phase 1 cost estimate by the lesser of 20 percent or $20 million. In order to be eligible for a partial refund on this basis the project would have to withdraw no later than 180 days after receiving its phase 2 study results; after that time no refund based on the condition proposed here will be allowed.

20. Once a project of either type (A) or (B) obtains TPP-based deliverability, the project's GIA will include criteria (discussed in section 6.1 below) that would, if not met, cause the project to lose its TPP-based deliverability without necessarily terminating the GIA. Such a project would be able to continue, if the customer so desired, under a GIA amended to reflect EO deliverability status.

21. The ISO proposes to retain the earlier proposal that: (a) incremental DNU required for (B) projects must be fully funded by the projects that utilize the DNU, even if the DNU provide more deliverability than those projects require, (b) such DNU would be incorporated into the ISO controlled grid as merchant transmission facilities and as such would be eligible for merchant congestion revenue rights (CRRs), and (c) subsequent generation projects that receive deliverability benefits from DNU funded by previous projects will reimburse the parties that originally paid for the DNU in proportion to the benefits received (i.e., flow impacts on the DNU). Because a (B) project could be allocated TP deliverability, this would then reduce the amount of MW driving any incremental customer-funded DNU and could either change the plan of service or the cost responsibility for the remaining (B) projects using the same DNU.[21] If the plan of service remains the same, the remaining (B) projects would have to pay larger shares so that the DNU are fully customer-funded, and in return would receive commensurate amounts of CRRs as merchant transmission facilities and may be reimbursed by later projects that obtain deliverability status using capacity of the same customer-funded DNU.[22]

22. In the event that the available TP deliverability in a study area in any given annual GIP cycle is not fully utilized in that cycle's allocation process, when the ISO performs the GIP studies for later clusters the ISO will continue to model the remaining deliverability as fully utilized as long as there are sufficient generation projects in good standing in the queue (including earlier queued projects) that could become eligible and utilize the TP deliverability. This is necessary in order to mitigate the risk of allocating too much TP deliverability to projects in the new cluster when projects earlier in the queue with executed full capacity GIAs may proceed to commercial operation and thereby require the ISO to approve additional ratepayer funded transmission. In areas where the TP deliverability was not fully allocated to specific generation projects, the ISO will model generating capacity at representative locations in the study area to reasonably reflect the locations and resource types of projects in the queue that could utilize the TP deliverability at a later date.

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[21] Through the annual re-study at the beginning of each new phase 2 study process, the ISO would determine whether or not the allocation of TP deliverability to or the withdrawal of some (B) projects warrants changes to the DNU and plan of service required for the remaining (B) projects in the study area.

[22] Section 6.2 below provides additional discussion of the provisions the ISO proposes to address these "first-mover, late-comer" situations.

23. In the event that a project that was allocated TP deliverability loses the allocation due to failing a retention criterion, the generation project would either be modeled as energy only in subsequent GIP studies if it decides to remain in queue, or not modeled at all if it drops out. The associated deliverability would then be available for other projects in the next TP deliverability allocation cycle.
24. As noted earlier in this proposal, a project under Option (B) that is required to pay for its own DNU without eligibility for reimbursement may select a qualified company other than the incumbent PTO to build these upgrades under the merchant transmission model. Some parties have asked the ISO to explain how this provision relates to the existing provisions allowing an interconnection customer to construct "stand-alone" network upgrades under certain circumstances (see LGIA article 5, contained in appendix CC). The ISO clarifies as follows. For Option (A) projects, the existing stand-alone provisions will remain in effect without any modification under this TPP-GIP Integration initiative. For Option (B) projects, the existing stand-alone provisions are not relevant, since the rights to build upgrades proposed under this initiative are broader than and include the situations addressed by the stand-alone provisions.

5.3 Example to illustrate the proposed allocation process

This example covers three GIP cycles corresponding to clusters 5, 6 and 7, and focuses on the process after completion of the GIP phase 2 studies for allocating the capacity of TPP-identified ADNU to eligible generation projects in the queue. This focus also illustrates how the ISO will assess the need for additional DNU for projects in the existing queue (serial through cluster 4) and how these projects could affect the availability of TP deliverability for projects in later clusters. The example focuses on a single electrical study area of the grid, where generation projects in the area all obtain deliverability benefits from and have flow impacts on the same set of ADNU. In addition, some projects in the area may or may not have flow impacts on some of the same LDNU and RNU.

Year 1: Q1/2014, after completion of GIP phase 2 study for cluster 5

The interconnection queue consists of the existing queue (serial through cluster 4) plus the new cluster 5. Assume that an electrical study area has 2000 MW existing queue generation projects that have executed full capacity (FC) GIAs, all of which are in good standing. Assume there are 1500 MW of FC projects in cluster 5 in this area, of which 800 MW went into phase 2 as option (A) and 700 MW as option (B).

Shortly after phase 2 study results are released, the comprehensive transmission plan (TP) for the 2013-2014 TPP cycle indicates 1200 MW of deliverability available for new generation.

Step 1. Determine how many MW of the 1200 should be reserved for existing queue projects and other committed allocations of TP deliverability.

In this example, suppose the ISO determines that 500 MW of existing queue projects have PPAs in good standing and will use up 500 MW of the 1200 MW. The ISO would also determine how much of the TP deliverability is needed to preserve any TPP expansion of RA import capability (i.e., the MIC) and any deliverability allocated for distributed generation; assume both of these are zero to simplify the example. This leaves 700 MW for allocation to cluster 5 projects.

Also at this point the ISO would determine whether there is a need to expand the base case resource portfolio for next TPP cycle. This need could arise if the total of previously committed FC projects (with executed GIAs) that appear likely to achieve commercial operation, plus the TP deliverability associated with MIC expansion and distributed generation, exceeds the MW amount of grid capacity to support their FC status. In this example there is no such need.

Step 2. Allocate the remaining TPP-deliverability to cluster 5 projects. The projects that receive an allocation in this step will then execute GIAs based on FC deliverability status without the IC having to pay for ADNU.

In this step the ISO will allocate at most 700 MW to cluster 5 projects. Both (A) and (B) projects cluster 5 may be eligible, but there will be threshold milestone criteria each project must meet in order to be eligible. Thus it is quite possible that fewer than 700 MW of projects would meet the threshold criteria for eligibility and therefore the entire 700 MW would not be allocated in this cycle. It is also possible that more than 700 MW could meet the threshold criteria, in which case the ISO would ration the available TP deliverability to the most qualified projects based on the scoring method described in section 6.1 below.

In this example assume that 600 MW of projects (400 of (A) and 200 of (B)) projects qualify and are allocated TP deliverability. Since the qualifying projects do not fully utilize all 700 MW of TP deliverability available, there is no need for rationing, and there are 100 MW still available in system capacity in the grid study area. Note that the other 400 MW of (A) projects may “park” for a year and may be eligible for TP deliverability in the next cycle. The 500 MW of (B) that did not receive TP deliverability in this cycle must either drop out of queue and forfeit some of their security posting, or continue to execute a GIA based on self-funding their needed upgrades.

Year 2: Q1/2015, after completion of GIP phase 2 study for cluster 6

Assume that the 2000 MW of existing queue projects are still in good standing. In addition there are 400 MW of cluster 5 option (A) projects “parked” from the previous year, plus new cluster 6 projects consisting of 400 MW (A) and 200 MW (B) projects.

Suppose the TPP portfolio in this area was expanded by the CPUC in the last TPP cycle (i.e., the 2014-2015 cycle), so that the new TP indicates 1400 MW capacity in the area.

Step 1. Determine how many MW of the 1400 MW should be reserved for existing queue (serial through cluster 4) and cluster 5 projects allocated in previous cycle.

Among the existing queue, using the same criteria as in the previous year for this step, suppose 700 MW are on track toward commercial operation; thus 200 MW more than last year have now met the milestone criteria indicating high likelihood of commercial operation.

Next the ISO will assess whether the 600 MW of cluster 5 projects previously allocated TP deliverability meet the criteria required to retain their previous allocations. Suppose only 500 MW meet the criteria and a 100 MW project loses its allocation. Finally, assume that once again there is no need to reserve some TP deliverability in this area to support MIC expansion or distributed generation.

Based on the above, 1200 MW (700 MW pre-cluster 5, plus 500 MW cluster 5) of the 1400 MW TP deliverability are accounted for, allowing 200 MW for cluster 6 and any cluster 5 option (A) projects that were parked from the previous year. (The ISO does not propose any priority for cluster 6 projects relative to parked cluster 5 projects in the allocation process.) Since the total of FC projects utilizing the deliverability is still less than the amount provided by the current transmission plan, there is no indication at this point that the resource portfolio should be expanded for the next planning cycle.

Step 2. Assume all 200 MW are awarded from among the eligible projects.

After this allocation, any remaining (A) from cluster 5 and the 100 MW cluster 5 project that lost its allocation must either drop out or execute EO GIAs. Any remaining (A) from cluster 6 that do not get allocation in this cycle may remain parked in queue for one more year.

Year 3: Q1/2016, after completion of GIP phase 2 study for cluster 7

Assume the 2000 MW of existing queue are still in good standing, and there are parked (A) projects from cluster 6, plus new cluster 7 containing 200 MW (A) and 200 MW (B).

Suppose the new 2015-2016 TP still has the same 1400 MW amount available.

Step 1. Review milestones for existing queue and previous years' allocations.

Suppose now 1000 MW of existing queue (up to cluster 4) are on track, as well as all 500 MW from cluster 5 and all 200 MW from cluster 6. Again assume zero deliverability needed for MIC expansion and distributed generation. Then the total is 1700 MW whose deliverability must be supported by the grid, which now exceeds the 1400 MW capability determined by the current transmission plan. This indicates a need to expand the base case resource portfolio by 300 MW for the next (2016-2017) TPP cycle.

Step 2. There is no TP deliverability available for allocation to cluster 7 projects or the parked (A) projects from cluster 6. The (A) projects in cluster 7 may park until next cycle.

6 Expanded discussion of key elements of the proposal

6.1 Criteria and milestones for allocation and retention of TP deliverability

This discussion addresses the criteria or milestones to be used in the second step of the TP deliverability allocation process: (1) criteria to determine the eligibility of projects to get an initial allocation of TP deliverability, and for scoring and ranking eligible projects if the total deliverability required for all eligible projects exceeds the available amount of TP deliverability and the ISO has to apply rationing, and (2) criteria for measuring a project's progress toward commercial operation to determine whether it should be allowed to retain a previous allocation of TP deliverability.

6.1.1 *Criteria for initial allocation of TP deliverability*

In comments submitted in response to the 2nd Revised Straw Proposal, many stakeholders expressed concern over the milestone requirements the ISO proposed at that time,[23] indicating that they are virtually unattainable, inappropriate or unrealistic for most projects. Stakeholders that hold this view express concern that these milestones could cause credible projects to be unable to receive an allocation of TP deliverability and ultimately be forced to drop out of the queue. Some stakeholders suggest that the milestones proposed by the ISO could be workable if made less stringent, for example, by requiring the project to be short-listed in a load-serving entity's request for offers rather than having an approved PPA; and, requiring the project to have made an application for a major state permit rather than having completed all permitting required to begin construction.

The ISO provided modifications in its draft final proposal in response to these comments. The ISO will determine how to allocate TP deliverability in two steps. First, the ISO will assess each project against minimum threshold criteria. Specifically, during the 120-day allocation period following the provision by the ISO of phase 2 study results to projects in the current cluster, the project must demonstrate that it has applied for a Conditional Use Permit, Application for Certification, or equivalent, and that it is on an active short-list for a load-serving entity's request for offer.

If the amount of projects meeting the threshold eligibility criteria can be deliverable within the

[23] In the 2nd Revised Straw Proposal, the ISO proposed as milestones: (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.

available TP deliverability, the ISO will allocate TP deliverability to all of them. In this case the (A) or (B) projects that receive TP deliverability may execute GIAs that reflect their allocations. If, however, not all eligible projects can be fully accommodated, the ISO will apply rationing based on ranking each project according to a numerical score. The ISO will calculate a score for each project based on its completion of the milestones listed below. Note that items 1.d. and 2.d. are the minimum threshold criteria for eligibility.

1. Permitting status. The intent is for the permitting-related criteria to be comparable irrespective of whether the project requires permitting through the CEC or through another authority.[24] A project must meet at least one of the following:
   a. (10 points) The project has received its final governmental permit or authorization allowing it to commence construction of the generation facility. This could be, for example, an approved Application for Certification from the CEC, a Conditional Use Permit from a local agency, a final non-appealable permit for siting on public lands, or equivalent.
   b. (5 points) The project has a draft environmental report document indicating that the permitting authority has not found any environmental impact that cannot be mitigated to insignificance. This could be, for example, a Preliminary Staff Assessment from the CEC.
   c. (3 points) The project developer has applied for the necessary governmental permit or authorization for the construction of a generating facility, and has been deemed data adequate or the designated agency has initiated its review.
   d. (1 point) The project developer has applied for the necessary governmental permit or authorization for the construction of a generating facility.
2. Project financing status. A project must meet at least one of the following:
   a. (10 points) The project will be balance-sheet financed or the project has received a commitment of project financing, covering the full MW amount of the generating facility as specified in the submitted interconnection request to the ISO, and the customer represents to the ISO that either it has a regulator-approved PPA or it is proceeding to commercial operation without a PPA.
   b. (5 points) The project has an executed and regulator-approved PPA, for the full MW

[24] The ISO recognizes that there is some variation in the permits, certificates, or similar approvals required by any federal, state, local or regional agency to allow for the construction and operation of a generating facility, depending on such factors as governmental jurisdiction and whether the project will utilize public lands. In turn there is some variation in the terminology used. For example, the CEC's process is called the "Application for Certification" or "AFC" process, where AFC also refers to the application a developer submits to the CEC for approval. Approval from the CEC is often referred to as a "Commission decision" or "CEC certification of a project" or "granting a permit." Kern County, which has a well-developed process for siting wind projects, calls its approval a "Conditional Use Permit" or "CUP."

amount of the facility as specified in the interconnection request.

c. (3 points) The project has an executed PPA that has not yet received regulatory approval.
d. (1 point) The project does not have an executed PPA but is on an active load-serving entity short-list.

3. Land acquisition
   a. (4 points) The project demonstrates a present legal right to begin construction on 100 percent of the property footprint necessary for the generating facility.
   b. (2 points) The project demonstrates site exclusivity, as defined by the ISO tariff and described in the business practice manual, for at least 50 percent of the property necessary to construct the facility and the duration of site exclusivity extends at least to the project's commercial operation date specified in its interconnection request.

6.1.2 *Criteria for retaining allocation of TP deliverability*

Once a project is allocated TP deliverability and has executed a full or partial capacity GIA, the project must thereafter demonstrate satisfactory progress toward commercial operation in order to retain its allocation of TP deliverability. The ISO will incorporate this requirement in the GIA and then will assess each such project's retention criteria as part of the allocation process following the completion of phase 2 studies for a new cluster. The GIA will stipulate that if the project does not meet the retention criteria, it will lose its allocation of TP deliverability.

The ISO proposes that each project that was allocated TP deliverability be evaluated against the following retention criteria on an annual basis.

1. The project must not have experienced any reversal of progress made relative to the allocation criteria on which it was initially allocated TP deliverability. For example, if an executed PPA was terminated, or a permit was revoked based on newly discovered environmental factors, the project would no longer be qualified to retain its allocation.
2. If the project was allocated TP deliverability based on achieving only the minimum threshold level of project financing status, i.e., it was included on an active LSE short list but had not yet executed a PPA or can demonstrate committed project financing, then it must have at a minimum an executed PPA by the start of the next allocation cycle, i.e., by 12 months after receiving phase 2 study results.
3. The project must be in good standing with regard to its GIA. This simply means that the ISO has not notified the customer that it is in breach of its GIA. As noted earlier, it is possible in some cases that GIA execution is delayed beyond the 120-day requirement for reasons beyond the customer's control. For a project to retain a TP deliverability allocation, however, it must have executed its GIA no later than 12 months after receipt of its phase 2 study results, i.e., by the time the ISO is beginning the 120-day allocation process period for the next cluster.

4. The project must not have requested and obtained a delay of its COD, unless this was required for reasons beyond customer's control, such as an unexpected permitting issue that will require lengthy further study.

Each project that is allocated TP deliverability will be required to attest to the ISO, each year until it achieves commercial operation that it has not experienced a reversal or backsliding on any of the milestones it had previously achieved. At the same time the customer will inform the ISO if it has met any additional milestones from the above list beyond what had been met the previous year. The customer must also notify the ISO immediately if any new development has arisen that requires downsizing of the project, in which case the allocation will be reduced to reflect the revised project size.

If the project fails to retain its allocation of TP deliverability, this will not necessarily terminate the project's GIA. A project that loses its allocation may convert its deliverability status to energy only and remain in queue as an energy only project.

6.2 First-mover, late-comer provisions

For those cases where the IC pays for network upgrades without ratepayer reimbursement through the TAC, such upgrades will fit the merchant transmission model in the existing ISO tariff. Under this model the upgrades are turned over to ISO operational control, become part of an existing PTO's system for physical operation and maintenance purposes, while ownership remains with the IC that paid for the upgrades. In return for adding capacity to the ISO grid, the merchant transmission model allocates to the merchant long-term, bi-directional option CRRs in a quantity that reflects the incremental CRR capacity added to the ISO grid by the upgrades. In the context of generator interconnection, merchant transmission upgrades also provide the interconnecting generator its desired deliverability status, enabling the generator to earn a revenue stream from the provision of resource adequacy capacity to a load-serving entity.

There may be situations where network upgrades paid for by one IC in an earlier cluster provide excess capacity that benefits a generation project in a later cluster. This is referred to as the "first-mover, late-comer" situation discussed earlier in this initiative in the context of the MISO approach. Most parties that commented on this topic expressed a preference that the ISO put in place a mechanism to require later generation projects that obtain interconnection benefits from customer-funded network upgrades (i.e., "late comers") to compensate the customers in the earlier cluster that paid for the upgrades (i.e., "first movers"). The ISO therefore proposes such a mechanism for inclusion in this initiative.

Once network upgrades for the (B) projects are specified in executed GIAs, and assuming the associated generation remains in good standing and the upgrades are not revised in an annual re-study, the ISO will include them in the modeling assumptions in subsequent GIP studies. This

is consistent with the logic of today's practice. In the GIP, the phase 1 and phase 2 studies will reveal the extent to which these customer-funded upgrades are utilized by and provide interconnection benefits to later generation projects, thereby reducing the need for additional upgrades for those later projects. The ISO will use the flow factors of a later-queued project over the customer-funded facilities to determine shares of the costs of those facilities that are attributable to the later project. The ISO will then include these costs as part of the later project's cost responsibilities, and will use the funds collected from the later project to reimburse the party who paid for the upgrades for an appropriate share of the excess capacity created by the upgrades. When this reimbursement occurs, the later project would be entitled to a commensurate share of the merchant transmission CRRs that were allocated to the first party, and these CRRs would be transferred to the owner of the later project.

6.3 Clarification of Area versus Local Delivery Network Upgrades

Area Delivery Network Upgrades (ADNU) are upgrades needed to provide deliverability for generation in a large geographic or electrical area to the aggregate of ISO load. This will be an area that has been identified in a resource portfolio, for use in the TPP, as a geographic and electrically-connected study area (e.g., a CREZ) where an approximate amount generation is expected to develop in response to a public policy requirement.[25] ADNU are needed to relieve deliverability constraints on generators located anywhere in a particular study area or possibly in several such areas. The need for the ADNU is dependent more on the total generation amount in the area, and less on where the generators are specifically interconnected inside the area. ADNU could be identified in either TPP or GIP studies, as explained below.

The Tehachapi Renewable Transmission Project, Sunrise Powerlink, and Colorado River-Devers-Valley transmission projects currently under development are examples of projects that could have been considered ADNU if identified under the proposed TPP-GIP Integration paradigm. Similarly, the Colorado River-Red Bluff-Valley 500 kV upgrades identified in the Cluster 1 & 2 phase 2 study, which were removed from the study results after the Cluster 1 & 2 deliverability re-assessment,[26] provide another example of a potential ADNU.

Local Delivery Network Upgrades (LDNU) are upgrades needed to provide deliverability for smaller amounts of generation within a smaller area to the aggregate of ISO load. LDNU are driven by deliverability constraints for a small group of generators electrically close to each

[25] See ISO tariff section 24.3.2 (i).

[26] See the ISO Technical Bulletin, "Generator Interconnection Procedures: Deliverability Requirements for Clusters 1-4," dated January 31, 2012, referred to in a previous footnote. The upcoming cluster 3 & 4 phase 2 study is expected to identify additional ADNU that may be removed from the study results pursuant to the approach described in the technical bulletin.

other. LDNU are more specific to the actual interconnection points of the generators. Therefore LDNU are typically identified only in the GIP studies and not in the TPP.

Under the TPP-GIP proposal, each GIP phase 1 study will identify incremental ADNU needed to provide deliverability for a target amount of generation above the deliverability amount provided in the most recent transmission plan. GIP phase 2 studies will identify ADNU for Option (B) projects. In the GIP phase 1 and phase 2 studies the ISO will perform two rounds of deliverability assessment to, first, identify any transmission constraints that limit the deliverability of the modeled generators, and second, determine LDNU and ADNU to relieve those constraints. Deliverability constraints identified during the assessment are divided into two categories, local deliverability and area deliverability constraints.

Local deliverability constraints have the following attributes:

- The generators whose deliverability they constrain (inside the 5% shift factor circle[27]) are all located on a few buses electrically close to each other.
- Relieving these constraints does not trigger the "problematic" high cost upgrades as described in the January 31 technical bulletin.[28]

Area Deliverability Constraints have the following attributes:

- The generators whose deliverability they constrain (inside the 5% shift factor circle) are spread over at least one and possibly more grid study areas.
- In the first round of the phase 1 deliverability assessment, relieving these constraints may trigger high cost upgrades as described in the January 31 technical bulletin, driven by excessively large MW amounts of new generation behind the area deliverability constraint.

The ISO will perform the GIP deliverability assessments as follows.

Phase 1, round 1 deliverability assessment

1. Start with the transmission network that includes the results of the most recent approved comprehensive transmission plan.

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[27] The "5% shift factor circle" corresponding to a particular transmission element is the set of modeled generators that have at least five percent flow distribution factor on that element, as defined in the ISO deliverability study methodology: http://www.caiso.com/Documents/On-PeakDeliverabilityAssessmentMethodology.pdf

[28] The January 31 technical bulletin referred to certain upgrades resulting from the GIP phase 2 studies as "problematic" because of their high costs, long construction lead times, and the fact that the need for them is driven by MW amounts of new generation behind the local deliverability constraint that substantially exceed reasonable expectations of actual generation development in the area. The last factor strongly implies that these problematic upgrades will not actually be needed and built, so that maintaining them as needed network upgrades for generation projects in the cluster becomes an unrealistic requirement.

2. Include and model all the active projects in queue, and identify local and area deliverability constraints.
3. Identify mitigations for the local deliverability constraints, and classify these as LDNU.
4. Do not identify mitigation for area deliverability constraints; instead, use these constraints to inform the setup of the phase 1 round 2 deliverability assessment.

Phase 1, round 2 deliverability assessment

1. Model all LDNU from the phase 1 round 1 assessment.
2. For each area deliverability constraint, model an amount of generation that fully utilizes the TP deliverability plus a margin, as described in this proposal as the GIP phase 1 study portfolio.
3. Identify any additional delivery network upgrades required, and classify these as ADNU.

Phase 2, round 1 deliverability assessment

1. Start with the transmission network that includes the results of the most recent approved comprehensive transmission plan.
2. Model all the active projects in queue, and identify local and area deliverability constraints.
3. Identify mitigations for the local deliverability constraints and classify these as LDNU.
4. Do not identify mitigation for area deliverability constraints in round 1.
5. To relieve area deliverability constraints, curtail Option (B) projects first, as needed to mitigate the constraint.
6. If Option (B) projects are not sufficient to relieve area deliverability constraints, then curtail Option (A) projects as needed, to determine how much deliverability is available.

Phase 2, round 2 deliverability assessment

1. Model all LDNU identified in phase 2, round 1.
2. Model the minimum of (1) all option (A) projects in the study area, or (2) sufficient (A) projects to fully utilize the amount of deliverability available as determined in phase 2, round 1.
3. Model all option (B) projects in the queue in the study area.
4. Identify ADNU to mitigate the area deliverability constraints. These ADNU will be required upgrades for the option (B) projects.
5. The ADNU determined in phase 2 to be needed for an Option (B) project may also include certain additional network upgrades, such as short-circuit duty (SCD) mitigation or special protection schemes (SPS), which are triggered by the ADNU identified in phase 2. Because such additional upgrades would not be needed for the cluster under study in absence of these ADNU, their costs would be included in the ADNU costs, rather than grouped with LDNU or RNU costs.