Integration of Transmission Planning and Generation Interconnection Procedures

(TPP-GIP Integration)

Straw Proposal

July 21, 2011

Market and Infrastructure Development

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1 Introduction

The present initiative continues the effort begun in 2010 to better integrate the transmission planning process ("TPP") and the generation 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 requirements call for dramatic changes to the supply fleet within a decade, have triggered a wave of commercial activity to build renewable resources, and have 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, 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 time than the GIP-2 schedule provided, and a broadening of the topic as indicated by the title of the present paper. The ISO therefore decided to create a separate stakeholder initiative, with an expanded but still aggressive timetable, to integrate aspects of the TPP and GIP to form a more comprehensive, holistic approach to transmission development that would address the two issues just mentioned and would achieve the other objectives stated in section 4 of this paper.

The ISO intends to complete this stakeholder initiative during the fourth quarter of this year and present a proposal to its Board of Governors for approval in December. Given this timetable, and because the ISO and the stakeholders have already had substantive discussions of this topic within the GIP-2 initiative, the ISO decided to offer a straw proposal in the present paper instead of the usual issue paper that kicks off a new stakeholder initiative. At the same time, this straw proposal is not worked out in all details; rather, it presents a broad structure with design options in key areas for stakeholder discussion and comment. In addition, in the course of this initiative we will examine

relevant and applicable provisions in the planning and interconnection processes of the other ISOs, as well as FERC rulings on those provisions, to help inform the process of developing a proposal for the California context. In particular, we will examine key provisions of and FERC orders on the Midwest ISO ("MISO") transmission planning process, which was developed to address many of the same central issues we are addressing here and was approved by FERC in 2010, as an informative model for our design process.

The rest of this paper is organized as follows. Section 2 lays out a timetable for the initiative, with dates for key stakeholder activities. Section 3 provides background on the issues, drawing on the discussion of these issues earlier this year in the GIP-2 initiative. Section 4 proposes objectives for the initiative. Section 5 lays out the straw proposal, including design options in some key areas, and begins to assess the relative merits of the options. Section 6 offers some ideas for discussion about how the new TPP-GIP might be applied to existing GIP clusters 1-4. Finally, section 7 provides an overview of the MISO transmission planning process as approved by FERC in December 2010, focusing on those aspects most relevant for the present initiative.

2 Proposed Stakeholder Process

July 21 – ISO posts Straw Proposal

July 28 – stakeholder meeting at ISO

August 4 – stakeholders' written comments due

September 9 – ISO posts Revised Straw Proposal

September 16 – stakeholder meeting at ISO

September 23 – stakeholders' written comments due

October 18 – ISO posts Draft Final Proposal

October 25 – stakeholder meeting at ISO

November 1 – stakeholders' written comments due

December 15-16 – ISO Board meeting.

3 Background

The two topics originally identified for Work Group 1 of this year's GIP-2 initiative were intended as a continuation of the effort begun in 2010 to better integrate the ISO's generation interconnection procedures ("GIP") and the transmission planning process ("TPP"). Until 2010 these two processes were essentially separate and parallel with little coordination between the two. This did not present a problem in the context of relatively steady, predictable growth in load and incremental

changes to the supply fleet. But with California's adoption of ambitious environmental policy mandates that called for dramatic changes to the supply fleet within a decade, developers of new generation launched a wave of renewable project activity which quickly exposed the need to revise both the GIP and the TPP to enable the ISO to plan transmission efficiently to accommodate these rapid changes.

Two important developments occurred during 2010 that recognized these new needs and made substantial progress towards integrating the GIP and TPP. First, the ISO conducted the revised transmission planning process ("RTPP") initiative, which culminated in FERC's December 16, 2010 order approving the ISO's filed RTPP proposal. The ISO's newly approved TPP features three new elements explicitly relevant to GIP-TPP integration.

- The new TPP created a "public policy-driven" category of transmission elements that enables the ISO to identify and approve additions and upgrades needed to meet state and federal policy requirements and clearly delineates these upgrades from the existing categories of transmission. This TPP innovation derived from the recognition that the driver of the majority of new transmission over the next decade would be California's mandate to meet 33 percent of its electricity demand from renewable resources by 2020 (the "33% RPS"), and that the traditional reliability and economic project categories would not provide a sufficient basis for planning needed upgrades. Notably, in its order on the RTPP FERC expressed the view that the policy-driven category could and should obviate the need for many GIP-driven upgrades.
- The new TPP provides explicit provisions to reevaluate significant network upgrades that are identified in GIP Phase 2 cluster studies but not yet set forth in executed LGIAs, to determine whether enhanced or alternative transmission facilities could meet the needs of the interconnection customers more cost-effectively while addressing other grid needs at the same time. (This feature of the TPP is the stimulus for the second of the two topics taken up by Work Group 1 of the GIP 2 initiative, discussed below.)
- The new TPP places ISO planners in the central role of producing an annual comprehensive plan that addresses all categories of needs for the ISO balancing authority area ("BAA"). Once the comprehensive plan goes to the ISO Board for approval, the ISO conducts a competitive process for independents and incumbents to build and own rate-based policy-driven and economic projects.

The second key development was the ISO's 2010 GIP stakeholder initiative (now referred to as "GIP 1" since the ongoing 2011 initiative is called "GIP 2"). Among other reforms to streamline the GIP, the GIP-1 initiative created a multi-year timeline with specific interface points between the GIP and the TPP. Specifically, the GIP 1 established an annual cycle for the next several rounds of cluster windows for submission of interconnection requests and the associated GIP Phase 1 and Phase 2

cluster studies, such that the Phase 2 cluster studies would feed into the TPP each year approximately in August, and transmission upgrades and additions approved by the Board in the comprehensive transmission plan would feed into the assumptions of the GIP cluster study process each year approximately in March. One result of the coordination of GIP and TPP timing developed in the GIP[1] is that it will support the further integration of the GIP and the TPP as described below.

Prior to the decision to create the present initiative on its own track, the GIP-2 initiative identified two interrelated topics to be the focus of GIP-2 Work Group 1: (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 clarification of an interconnection customer's cost; and (2) cost and credit requirements when GIP-driven network upgrades are enhanced through the TPP (a new capability that was adopted in the ISO's 2010 revised TPP).

The ISO had previously considered an economic test for GIP-driven network upgrades. In its 2006 tariff filing submitted in compliance with FERC Order 2003, the ISO proposed an economic test for GIP-driven network upgrades to enable the ISO to allocate some costs of the upgrades above a certain threshold to interconnection customers. In its order on the ISO's filing FERC rejected the proposed economic test on the grounds that the ISO did not provide sufficient details for the Commission to evaluate it. FERC's rejection was "without prejudice," meaning that the ISO could resubmit, and FERC would consider, an economic test as an amendment to the LGIP at a later time based on the ISO's provision of additional details and specificity. Importantly, FERC's order did not indicate any fundamental disagreement with the need for or appropriateness of an economic test.[1]

The ISO's current straw proposal on this topic does not follow the structure of the economic test proposed in 2006. At that time, the ISO proposed to limit ratepayer exposure to potentially excessive GIP-driven network upgrade costs by setting a cap on the costs ratepayers would reimburse to the interconnection customer (IC) and requiring the IC to be responsible for costs above the cap. The ISO and the stakeholders did not, at that time, anticipate the new drivers of change described above and the need to integrate the GIP more closely with the TPP. But now, in view of the impacts of the state's environmental policies and the reforms completed thus far, the ISO believes that more is needed than simply to renew the 2006 proposal concept and try to improve it to address the concerns FERC expressed in its order rejecting that proposal. Instead, the ISO intends this initiative to create a GIP and TPP framework that can meet the requirements of the new policy context in a holistic manner while at the same time providing some bounds to ratepayer exposure for large network upgrades driven by generation interconnection requests. As such, section 5 of this straw proposal presents a description of a potential end-state framework for a

[1] See Order Accepting in Part and Rejecting in Part Order Nos. 2003,2003-A, and 2003-B Compliance Filings, California Independent System Operator Corporation 112 FERC ¶ 61,009 at P 102-115 (July 1, 2005).

more integrated process, and provides some options for how specific elements of that framework might be designed.

Obviously, the description of an end-state process opens many questions about how the transition to that end state might be structured. Section 6 of this straw proposal presents initial ideas for discussion regarding how the new framework might apply to existing GIP clusters 1-4.

4 Objectives

The ISO has identified the following objectives for this initiative, and requests stakeholder input, especially to help refine these objectives and identify any additional ones that should be included.

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. (FERC highlighted this objective in its transmission planning NOPR and its 2010 decisions on the ISO's RTPP filing and the Midwest ISO's transmission planning filing, specifically in the context of its discussion of the public policy-driven category of transmission projects.)
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. One key aspect of the revised TPP that is relevant to this objective is the least regrets approach for identifying policy-driven upgrades based on finding the upgrades needed in multiple feasible resource scenarios.
6. Provide greater transparency for all stakeholders regarding transmission upgrade decisions.
7. Resolve several previously identified GIP issues. The ISO has identified the following list of issues for consideration in this initiative, and requests stakeholder input as to whether any additional previously-deferred issues need to be included in the scope of this initiative.
    a. Clarify how an IC's funding and posting requirements will be affected when 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. Disposition of funds from ICs that drop out of queue (ISO has accumulated $20 million in such funds, far beyond expectations when the current allocation principle was adopted).

d. Whether IC project development milestones should be allowed to substitute for IC financial postings, and when posted funds should be required to cover upgrade development expenditures.

e. How to better control or manage the unrealistic volumes of capacity entering the queue. In particular, how to modify Phase 1 study methodology to yield reasonable cost caps for IC projects. The original high entry bar was lowered to facilitate entry, but then resulted in a huge volume in cluster 4.

f. 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.

g. Whether to allow additional opportunities in the GIP for ICs to downsize their projects before executing the LGIA.

5 Straw Proposal

5.1 Central Design Concepts

1. As part of the annual TPP the ISO will adopt several alternative resource portfolios for the purpose of identifying policy-driven transmission additions and upgrades. The ISO will develop these portfolios in collaboration with the CPUC and, where appropriate, other state agencies and non-CPUC jurisdictional LSEs that are subject to the same public policy mandates (e.g., the state's 33% RPS by 2020 mandate).
2. The ISO's annual comprehensive transmission plan will include Category 1 and Category 2 policy-driven transmission elements. Once the ISO Board approves the plan, the Category 1 elements to be paid for by transmission ratepayers through TAC and will be built and owned either by a PTO or by an independent transmission developer, pursuant to existing tariff provisions adopted as part of the ISO's 2010 revised TPP.
3. To the extent that transmission approved in the annual TPP comprehensive plan obviates some or all of the needed transmission upgrades to meet the interconnection request of an IC's project, that project will not be required to fund or post for those TPP approved network upgrades.

4. To the extent the interconnection request of an IC's project cannot be met through the TPP plan and requires additional network upgrades, the IC will be required to fund a share – or potentially all – of the additional network upgrade costs and will NOT be reimbursed by ratepayers. Comparable to the existing merchant transmission model in the tariff, such funding by the IC would entitle the IC to an allocation of congestion revenue rights (CRRs) reflecting the incremental capacity added to the ISO grid by the upgrades.

5.2 Outline of Integrated Process, with Options

This straw proposal for an integrated TPP-GIP is structured in three major stages of activity, which the ISO would conduct sequentially in each annual cycle. Stages 1 and 3 are presented with some options for stakeholder consideration and comment. Additional details and possible timelines for each option are presented in the next section.

Stage 1. GIP cluster window, interconnection studies, and provision of results to interconnection customers and as inputs to the TPP.

Stage 1 begins with the GIP cluster window for submission of interconnection requests (IR).

> **Option 1A.** GIP interconnection studies are performed in two phases as they are today, and the results of the GIP Phase 2 studies are provided as input to the TPP. This option will take longer to complete than the next option.
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> **Option 1B.** GIP interconnection studies are performed in only one phase, analogous to today's GIP Phase 1, and the results are provided as input to the TPP. Under this option some aspects of today's GIP Phase 2 studies may be folded into the TPP.

Under either option, based on the results of the pre-TPP studies, each IC in the current cluster would be informed of its "cost cap" on the network upgrades needed to provide its requested deliverability level and then would decide whether to continue into Stage 2 of the integrated process.

One important difference between options 1A and 1B is their timelines. Under option 1A we preserve today's GIP Phase 1 and Phase 2 study process and then provide the results of Phase 2 to the TPP. Under option 1B we preserve only today's GIP Phase 1 study process, and then provide the results of Phase 1 to the TPP and integrate the rest of the GIP study process into the TPP. This means that the time line for the IC is expected to be longer under option 1A than under 1B. Based on the GIP time lines that exist today for GIP Phases 1 and 2, the option 1A time line would start in March of year 1 with the annual window for submission of interconnection requests, and conclude in March of year 3 – two years later – with Board approval of the TPP annual comprehensive transmission plan. In contrast, the option 1B time line would start at the beginning of year 1 with the interconnection request window and conclude in March of year 2 – roughly 15 or 16 months later – with Board approval of the TPP comprehensive plan.

A potential difference is the effectiveness of each option in providing incentives and opportunities for less viable IC projects to drop out of the queue prior to the TPP analysis. Under option 1A with the two GIP study phases structured as they are today, there is a decision point for each IC to evaluate the results of phase 1 and determine whether to proceed into phase 2. If the IC decides to proceed then there are financial posting requirements that must be met. In addition there is another decision point after GIP phase 2 studies are complete, where the IC can evaluate the phase 2 results and decide whether to proceed into the TPP stage of the process. But under option 1B there is only one decision point, i.e., after the single GIP study process, for ICs to evaluate whether to proceed into the TPP stage of the process. A question for discussion is whether both options can be equally effective in enabling the stronger projects to proceed while encouraging weaker ones to drop out.

Stage 2. Stage 2 of the proposed integrated process essentially occurs within TPP Phase 2, in which the ISO will incorporate the results of the GIP studies (from option 1A or 1B above) into the development of the annual comprehensive transmission plan. Consistent with the revised TPP provisions approved in 2010, the plan would identify transmission upgrades and additions recommended for Board approval as reliability, economic or policy driven transmission elements. Then the plan would identify the extent to which those elements will meet some or all of the network upgrade needs of ICs in the latest cluster, and will identify any additional network upgrades not recommended for approval as rate-based transmission that are needed to fully meet the needs of the ICs in the cluster, with estimates of the costs of these additional upgrades. Some ICs may see all their network upgrade needs met through ratepayer-funded projects, while others may find that none of their required network upgrades will be ratepayer funded.

It is also likely that for some cluster study groups only a portion of the network upgrade needs for all proposed IC projects will be met through ratepayer funded transmission. Where multiple ICs have projects in the same cluster study group and will utilize a common set of network upgrades, these results would be provided for the study group as a whole and not for individual IC projects. For example, the annual comprehensive plan might include ratepayer-funded upgrades sufficient to provide deliverability for 800 MW of new generation in a given study area, while the GIP cluster might contain 1400 MW of IC projects in that area that have elected to continue into Stage 2 of the integrated process. As a result of Stage 2 the annual comprehensive transmission plan would identify the transmission elements that will provide the 800 MW of deliverability, as well as the additional upgrades needed to provide the full 1400 MW of deliverability and the cost of these additional upgrades. The plan would not, however, identify which IC projects will be required to fund the additional upgrades; this issue would be addressed in Stage 3.

Stage 3. Following the results reported in the annual comprehensive transmission plan and the Board's approval of the plan, Stage 3 will implement the procedures and rules for determining the cost responsibility of each IC in the current cluster and for specifying the other related terms and

information required for the IC to negotiate and execute its LGIA. This straw proposal identifies some key requirements that need to be addressed and offers some options for addressing them.

1. Allocation of TPP-determined (and ratepayer-funded) deliverability among multiple IC projects in the same study area. Following on the example of Stage 2 above, the question is how to allocate the 800 MW of deliverability among the 1400 MW of IC projects that want to interconnect as full capacity in the same area, and the corollary question, how to allocate the costs of the additional upgrades required to provide the full 1400 MW of deliverability among these projects. The ISO has identified three approaches, and is interested in hearing other ideas stakeholders might propose.

> **Option 3A.** Allocate the 800 MW on a first-come-first-served basis according to each IC's completion of pre-established milestones. If the first, second and third projects to achieve the milestones were 350 MW, 300 MW and 250 MW, respectively, then the first two would receive full capacity deliverability status and the third would receive 150 MW deliverability as a result of the TPP-approved ratepayer-funded upgrades. The third project would have to fund 16.7% (i.e., 100/600) of the cost of the additional network upgrades to obtain full capacity deliverability status on its 250 MW facility, and other IC projects in the same study area would also have to fund pro rata shares of these costs. For this approach the ISO requests stakeholder input on how to define appropriate milestones.
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> **Option 3B.** Allocate pro rate shares of the 800 MW to all IC projects in the study group. Under this approach each project would pay a pro rata share of the cost of the additional network upgrades needed for full capacity deliverability for all 1400 MW in the group.
>
> **Option 3C.** Conduct an auction for shares of the 800 MW among IC projects in the study group. The auction payment for each winning project would be held by the ISO until that project achieved commercial operation, and then would be refunded in full plus interest much as we reimburse ICs today for their up-front funding of network upgrades.

2. Compensation to the IC that pays for network upgrades. For those cases where the IC pays for network upgrades without ratepayer reimbursement through the TAC, the ISO expects that such upgrades would fit the merchant transmission model in the existing ISO tariff. Under this model the upgrades are turned over to ISO operational control, and 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, the IC receives an allocation of "option" CRRs in a quantity that reflects the incremental capacity added to the ISO grid by the upgrades. There may be situations, however, where network upgrades paid for by one IC in an earlier cluster provide excess capacity that benefits an IC in a later cluster. The ISO therefore requests input on whether this proposal should include provisions for later ICs that benefit from network upgrades to compensate the earlier ICs that paid for the upgrades. This question can be formulated in terms of the following two options.

Option 3D. The ISO's role in compensating an IC that pays for network upgrades should be limited to allocating option CRRs to the IC under the merchant transmission model. If the IC wishes to recover some of the cost of the upgrades from later ICs or other parties, the IC can do this through the sale of some of its allocated CRRs.

Option 3E. The integrated process should include provisions whereby later ICs whose projects utilize the transmission capacity of network upgrades paid for by an earlier IC, the later ICs will reimburse the earlier IC for a pro rata share of the network upgrade costs.

5.3 The Logic of the Proposed TPP-GIP Framework

The logic of the proposed end-state framework can be summarized in the following steps. Most of what is described in the first few steps is already specified under the new TPP that was approved by FERC in December 2010 (section 24 of the ISO tariff), but summarized here to provide the planning context for the additional TPP-GIP framework elements described in the later steps.

1. Efficiency in planning new transmission infrastructure will be achieved by identifying and approving new transmission primarily through the TPP, and much less through the GIP than is done today. This change will rely on using the public policy-driven category to its fullest benefit, based a chain of causality that runs from (a) the environmental policy mandate (i.e., 33% RPS), to (b) the development of potentially hundreds of renewable resource projects representing thousands of MW of capacity, to (c) the need to upgrade the transmission system to accommodate the energy output of sufficient resources to meet the RPS target. Importantly, whether one views the driver to be the interconnection requests of the new resources (b), or the underlying public policy (a), the implication is still (c).
2. A crucial step in the new integrated process is the formulation of the resource portfolios that are anticipated, since the identification and approval of policy-driven transmission under the new TPP is driven by the need to enable these portfolios to deliver energy to meet the 33% RPS for load-serving entities (LSEs) within the ISO BAA. Several potentially feasible resource portfolios are formulated at this stage, to reflect the many uncertainties about how the pattern of resource development will unfold over the next decade. For purposes of this straw proposal we will not discuss the formulation of resource portfolios in any detail – that topic has recently been discussed with stakeholders in the context of the 2011/2012 TPP (i.e., in a public meeting at the ISO on July 8). For now, suffice it to say that this will necessarily involve collaboration of the ISO with the CPUC and potentially other regulatory authorities that govern procurement by their jurisdictional LSEs. The need for such collaboration was evident during the RTPP stakeholder initiative last year, prompting

the ISO and CPUC to develop and sign a memorandum of understanding (MOU)[2] to foster collaboration in transmission planning, including the development of resource portfolios.

3. The ISO then conducts a multi-month process, including several phases of stakeholder activity, to develop its annual comprehensive transmission plan. Partway through this process the GIP will complete either a Phase 1 (under option 1B above) or Phase 2 (option 1A) study for the current interconnection clusters. Under option 1A the Phase 2 study will identify the required reliability network upgrades and, for ICs that elected full or partial capacity deliverability status, the required delivery upgrades. The TPP will review the results of the Phase 2 cluster study to assess whether there are more cost-effective upgrades that meet the needs of these ICs and also address other transmission needs. Currently the TPP tariff provides for TPP review of GIP-driven upgrades only when they meet tariff-specified thresholds of significant size or cost, but for the end-state framework it may be appropriate to review all GIP-driven network upgrades in the TPP to look more comprehensively for cost-effective alternatives. This modification will also be important for the cost-allocation policy changes discussed in a subsequent step below.

   In order to consider and fully evaluate the merits of adopting option 1B instead of 1A, we will assess whether and how the methodologies of today's GIP Phase 1 study process may need to be modified, for example to support the use of Phase 1 results to establish cost caps for the potential exposure of each IC project to network upgrade costs. We will also assess in greater detail how the TPP will utilize the results of GIP Phase 1 in developing the comprehensive plan. This aspect of the proposed TPP-GIP framework is not addressed in this paper, and will be a topic of the next paper in this initiative. We request input from stakeholders on this matter.

   In addition, it will be important to examine whether any revisions to one or more of the resource portfolios are warranted based on the cluster study results. There is a need for such feedback from the GIP cluster studies to the portfolio specification because, as the CPUC staff has noted in their comments in the present initiative, the costs of upgrades will ultimately be passed to ratepayers and should therefore be a factor in RPS procurement decisions. Thus the resource portfolios being developed for the next TPP-GIP cycle will likely reflect the impacts on LSE procurement decisions of the costs of network upgrades needed for the associated resources.

4. The final TPP plan may include both Category 1 and Category 2 policy-driven transmission elements. This two-category construct is based on having multiple resource portfolios representing potentially feasible patterns of resource development leading to achieving the 33% RPS by 2020. Under this construct, Category 1 policy-driven elements will go to the ISO

[2] The MOU is available at http://www.caiso.com/2799/2799bf542ee60.pdf

Board for approval in the current cycle, while Category 2 will be carried over to the next TPP cycle for reconsideration in light of new information about the actual pattern of resource development. The point of creating these two categories is to allow the TPP to balance the competing objectives of developing enough transmission in the right places by the time it is needed to achieve the 33% RPS mandate, and not over-building transmission and causing ratepayers to bear the cost of under-utilized facilities. To accomplish this objective it may be appropriate to modify the current TPP tariff provisions that specify Category 1 and Category 2 elements, to allow some of the early, low-cost development work on Category 2 elements to begin before it is determined in a subsequent TPP cycle whether the element should be re-classified as Category 1.

5. At the point where the ISO has completed the necessary studies for the current TPP cycle and is putting all the results together to formulate the draft comprehensive plan (typically right before the turn of a new calendar year), the planners will assess the extent to which transmission they will recommend for approval obviates the need for some GIP-driven upgrades. Because GIP upgrades will typically be driven by an electrically-related subset or "study group" within a cluster of ICs, any such upgrades that are obviated by transmission plan elements would tend to be needed to serve all ICs within that subset. Also, because policy-driven elements in the plan will typically be designed to achieve the given policy objective efficiently and not to provide much excess capacity (e.g., to achieve 33% RPS but not 40%, unless the state formally adopts a higher target), the ISO expects that for a large cluster (such as current Cluster 4) the TPP plan elements will not obviate all of the network upgrades identified in the GIP cluster studies, unless all of the resources in the cluster are included in enough of the resource portfolios to drive sufficient policy elements in the plan. Thus the ISO expects that in general the comprehensive plan will meet the reliability and potentially the deliverability needs of some portion but not all of the capacity represented by ICs in the current cluster.
6. Once the planners have completed the assessment described in the previous step, the comprehensive transmission plan would essentially subsume – i.e., move from the GIP-driven category into the transmission plan itself – the network upgrades that are needed to achieve the 33% RPS, in accordance with the Category 1 policy-driven criteria in the TPP tariff. Once the Board approves the plan, these network upgrades would be built as rate-based transmission under the TPP without further requirements on the ICs in the cluster to fund them. In this way, this end-state structure can achieve the objective of building more transmission under the TPP and less under the GIP in the future. Note that this concept appears to reinforce the idea raised above, that the TPP not be limited to reassessing only the most significant GIP-driven network upgrades, but should be able to reassess all network upgrades that are identified in completed GIP Phase 2 cluster studies and not yet committed to in an executed LGIA. Clearly, as we develop option 1B in greater detail, we

will consider how we may need to revise the existing provisions for the TPP to reassess the network upgrades identified in the GIP study process.

7. As noted earlier, the TPP may not lead to the approval of all network upgrades identified in the GIP cluster study. To the extent that the cluster or a specific study group contains more MW and more generation projects than needed to meet the policy mandate, the current provisions of the TPP do not provide a way to discriminate among ICs within the group as to which ones should be relieved of the obligation to fund network upgrades and which ones should not. Rather, the policy-driven criteria will typically address the transmission needs of resources located in specific geographic or electrical areas of the grid without distinguishing which specific resources will ultimately utilize that transmission. Indeed, the concept behind the use of multiple resource portfolios to identify Category 1 and Category 2 policy-driven elements is to support a "least regrets" approach so that the approved transmission will be highly utilized under a number of alternative, feasible patterns of resource development, irrespective of which specific projects actually develop.
8. Given the previous considerations, the question remains as to how to treat the network upgrades for cluster capacity in excess of what is needed to meet the policy mandate, and particularly for ICs that do not figure in enough of the resource portfolios to meet the criteria for policy-driven transmission to be included in the comprehensive plan. The general concept the ISO proposes for consideration is that the costs of such upgrades should be the responsibility of the ICs and should not be fully reimbursed by ratepayers. The design options 3A-3E above suggest some possible ways to determine which IC projects will benefit from ratepayer-funded upgrades, which ones will be required to fund their own upgrades, and the extent to which ICs that fund upgrades may be compensated by later projects that benefit from those upgrades.

6 Transition to the New TPP-GIP Framework

Section 5 above described an end-state framework for a more integrated TPP-GIP. Given the current status of these processes, it is important to consider how we might transition to the new framework. The following points are suggested as key features of a possible transition path, based on the assumption that this initiative concludes with ISO Board approval in December of this year, filing of tariff language at FERC shortly after the first of 2012, and approval by FERC in March 2012. Based on that timeline, the following transition approach could be feasible:

- Clusters 1-2 would continue under the current rules to sign LGIAs, subject to the existing timing deadlines and posting requirements.
- Cluster 5 would start off and proceed completely under the new rules.

- Clusters 3-4, where a particularly large MW volume of interconnection requests resides, could be given a decision point after their GIP Phase 1 studies to decide whether to enter into the next phase – either a GIP phase 2 under option 1A, or directly into the new stage 2 under option 1B. Under either option, the ICs in clusters 3-4 would choose to proceed based on the possibility that they could be subject to non-reimbursed network upgrade costs, but with some relevant information on which to estimate the likelihood of that possibility. In particular, they would have the network upgrades and cost caps resulting from their GIP phase 1 studies, and would be able to determine how well their interconnection locations align with the most recent ISO Board-approved comprehensive transmission plan and the resource portfolios adopted for the next TPP cycle.
- In formulating such a decision point for cluster 3-4 ICs the ISO would likely need make some changes to the current GIP time lines, some of which may require FERC approval:
    - Delay some post-phase 1 deadlines for Cluster 3, and perhaps also Cluster 4
    - Delay the scheduled start of Phase 2 for Clusters 3-4 (currently January 2012)
    - Delay the scheduled GIP submission window for Cluster 5 (currently March 2012)
    - Provide some compensation for ICs in Clusters 3-4 who entered the GIP under the current rules with the assumption that these rules would remain in place, but then are asked to decide either to continue under the new rules or drop out of the queue. A question for further discussion is how to compensate the cluster 3-4 ICs most appropriately for possible adverse impacts of these changes to the procedures and rules between GIP phases 1 and 2.

7 Overview of the MISO Transmission Planning Process

On December 16, 2010 FERC approved a MISO filing to update and expand its regional transmission planning process, Regional Expansion Criteria and Benefits ("RECB"), including revisions in three key areas: (1) creation of a policy driven transmission category (called multi-value projects or “MVP”), (2) updates and revisions to which interconnection projects are eligible to have their network upgrades covered at ratepayer expense, and (3) determining rules for rights and entitlements of ICs that build network upgrades that are not eligible for cost recovery. With this approval from FERC, MISO’s planning process addresses several issues that the ISO faces in the present initiative. This section provides a summary of the key points of the MISO process as they relate to this initiative. Particularly, the discussion focuses on the inter-relationship between the generation interconnection process and transmission planning, as well as cost allocation for projects.

Under the MISO Transmission Expansion Plan (MTEP), analogous to the ISO’s TPP, the MISO will identify all projects that a) are required to maintain reliability, b) provide economic benefit to the system or part of the system, or c) are required to meet state or federal policy objectives. MISO refers to its new policy-driven category of projects as Multi Value Projects, or MVPs. With FERC’s

approval of our revised TPP in December 2010, the ISO currently has provisions equivalent to a), b) and c).

With the addition of MVP, MISO has added a new category of transmission projects that specifically addresses network upgrades and associated costs that "enable the reliable and economic delivery of energy in support of documented energy policy mandates."

As stated in the July 15, 2010 MISO filing of the MVP proposal at FERC,

> The new MVP transmission project category, and its associated broad-based cost allocation, are designed to: (1) facilitate the integration of large amounts of location-constrained resources, including renewable generation resources; (2) support Midwest ISO member and customer compliance with evolving state and federal energy policy requirements; (3) enable the Midwest ISO to address multiple reliability needs and provide economic opportunities through regional transmission development; and (4) strike a better balance than the current effective rules in allocating costs among multiple beneficiaries by reserving the GIP category (which allocates nearly all costs to Interconnection Customers) for more locally focused Network Upgrades that are not required for the regional system enhancements that will now be covered by the MVP category.

Relationship between the Generation Interconnection Process and Transmission Planning

Transmission project proposals must pass through a series of screens in order to be eligible for MVP consideration, and therefore ratepayer funding. These screens are detailed in Appendices A-C of the annual assessment report. Any proposed transmission project can enter into the initial screening process. The MISO conducts a conceptual transmission study using the projects submitted. This conceptual study includes renewable energy regions and is not based on specific generator interconnection requests to determine MVP projects. After the conceptual study is completed, the MISO staff propose transmission projects that should move forward for more detailed testing and final approval.

If the transmission project passes all of these screens then it is eligible for cost recovery as an MPV. Once the MVPs are identified and approved, interconnection customers that seek to interconnect with these transmission projects are eligible to have their network upgrade costs recovered through ratepayer funding subject to the rules detailed in the Cost Allocation section below. However, as noted in the MISO language cited above, interconnection customers (GIP interconnections[3]) that propose projects that require network upgrades not identified though this

[3] The relevant language states that MVP projects are designed to "strike a better balance than the current effective rules in allocating costs among multiple beneficiaries by reserving the GIP category (which allocates nearly all costs to Interconnection Customers) for more locally focused Network Upgrades that are not required for the regional system enhancements that will now be covered by the MVP category." Note that MISO's approach distinguishes

process will not be eligible for cost recovery from ratepayers. Opportunities for cost recovery for these projects are also detailed in the Cost Allocation section.

Cost Allocation

In most cases MISO ICs are required to pay for 90% of all high-voltage (345 kV and above) network upgrades and 100% of lower voltage upgrades required to interconnect their resources. However, if a network upgrade is shown to be needed for any of the MTEP categories a)-c) listed above, then the interconnection customers utilizing that upgrade are eligible for recovery of their interconnection costs subject to provisions. At the same time, for resources to be eligible for full cost recovery for their network upgrades, the cumulative capacity seeking interconnection cannot exceed the capacity of the new MTEP line. If the cumulative capacity of the IC resources exceeds the capacity of the new line, then each resource must pay for a portion of whatever additional network upgrades that are required to interconnect the whole cluster. Each generator's portion is prorated based on the expected distribution factors of the resources seeking to interconnect.

Projects that do not meet all of the criteria to be considered as an MVP or other MTEP category will not be eligible for full cost recovery. MISO does not prohibit these projects from proceeding as a full merchant-funded project, however. Developers that are not granted cost recovery are eligible for FTRs. Additionally, MISO has developed tools that would help facilitate such merchant upgrades.

Common Use Upgrades (CUU)

CUUs are upgrades that come about when all projects are known at the time the upgrade takes place. In our context, this would be the case when we study all IC projects within the same cluster study group. CUUs are an opportunity for multiple project developers to collaborate to build a network upgrade that would benefit all parties involved. For example, suppose there are three generators that would like to interconnect, and the network upgrades will not be eligible for ratepayer funding. By using a CUU, the three generators could pool their resources and build a single network upgrade at a lower per generator cost for each generator.

Shared Network Upgrades (SNU)

SNUs are designed to resolve what MISO refers to the "first mover/late comer" problem. Briefly, the "first mover/late comer" problem refers to the ability of an IC in a later cluster to utilize a network upgrade paid for by an earlier IC, thus "free riding" on the first IC's investment. For example, interconnection customer A builds a merchant network upgrade (i.e. not ratepayer funded). Then, one year later, interconnection customer B seeks to interconnect, using customer A's network upgrade, potentially allowing customer B to avoid paying for network upgrades. This

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regional versus local system enhancements in its GIP-related cost allocation provisions; at this point we are not considering such a distinction in this initiative.

acts as a deterrent to an IC being the first to invest in a network upgrade. To address this problem and improve the incentives for earlier ICs to invest in network upgrades, the MISO solution allows for a five year window after the in-service date of the upgrade, within which the "late comer" will be required to pay back their fair share of the upgrade cost to the IC that built the upgrade. MISO selected five years because that corresponds to the MTEP planning horizon.