California Independent
System Operator Corporation

May 25, 2012

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation
Docket No. ER12- ___-000

Tariff Amendment to Integrate Transmission Planning and Generator Interconnection Procedures (TPP-GIP tariff amendment)

Dear Secretary Bose:

The California Independent System Operator Corporation submits this amendment to its tariff to integrate its transmission planning and generator interconnection procedures ("TPP-GIP tariff amendment").[1] The integration of these procedures will allow the ISO to prospectively address the significant challenges that it currently faces with respect to efficiently determining transmission upgrades in the context of its generator interconnection procedures in light of California's ambitious Renewable Portfolio Standards. These standards have triggered a massive increase in the number of interconnection requests made to the ISO over the past several years. Because of the considerable scope of the transmission upgrades necessary to support these developments, the costs involved, and the short timeframe for constructing and deploying the necessary upgrades, the ISO's interconnection process has become increasingly less able to provide reasonable and timely outcomes for developers, ratepayers, and transmission owners.

The revisions to the ISO tariff contained in this filing result from an extensive stakeholder process to develop solutions to these challenges. Pursuant to this amendment, the primary mechanism to address these challenges will be to make the ISO's transmission planning process, in particular the provisions regarding transmission expansion in support of public policy requirements, the primary vehicle for identifying large-scale network upgrades necessary to interconnect and deliver to load the new generation needed to achieve California's Renewable Portfolio Standards. The ISO's

[1] The ISO submits this filing pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d. Capitalized terms not otherwise defined herein have the meanings set forth in the ISO tariff.

proposal also contains a number of other revisions aimed at furthering the integration between the generator interconnection procedures and the transmission planning process. These integrated procedures will promote viable generation projects necessary to achieve California's renewable energy goals, provide ratepayers with protection against excessive transmission upgrade costs, and continue to ensure that all projects have fair and open access to the ISO controlled grid. Further, the integrated procedures are consistent with the requirements of the Commission's Order No. 2003 and other Commission precedent.

The ISO requests that the Commission accept these tariff changes effective sixty-one (61) days after the date of this filing, *i.e.*, July 25, 2012. This is an extremely critical date because the timing of the approval will drive the Phase I and Phase II study schedules for queue cluster 5 and 6 interconnection customers. A later date could delay the completion of these study cycles, which would, at a minimum, jeopardize the careful coordination between the generation interconnection and transmission planning processes. If the cluster 5 Phase I studies are substantially delayed, it is possible that the ISO would not be able to implement the new Generator Interconnection and Deliverability Allocation Procedures ("GIDAP") proposed in this filing until cluster 6, which would work to postpone the GIDAP's more effective cost responsibility incentives and perpetuate the requirement that transmission ratepayers fully reimburse interconnection customers in cash for all network upgrades needed by projects that achieve commercial operation, regardless of whether the interconnection costs align with benefits derived by the generation addition.

Executive Summary

Development of new generation to meet California's ambitious Renewables Portfolio Standard ("RPS") mandate has resulted in a massive volume of interconnection requests in the ISO's queue that is approximately four times the amount of new generation needed. It is widely anticipated that only a fraction of these generation projects will actually be built. Nevertheless, in order to interconnect the new generation needed to satisfy California's RPS goals, significant upgrades to California's transmission grid will be required. Given the scope and costs of these upgrades, it is essential that the ISO's process for planning and constructing these upgrades is optimally efficient and fair.

Currently there is no single process under the ISO tariff for identifying and approving transmission expansions in an efficient and comprehensive manner. The ISO's Transmission Planning Process ("TPP") and Generator Interconnection Procedures ("GIP") operate in parallel with very limited coordination between them. Each has its own study processes and assumptions, its own criteria for determining which transmission additions and upgrades should be built, and its own provisions for transmission project funding and cost allocation. Yet both processes have been vehicles for developing and ultimately constructing substantial amounts of grid infrastructure.

Having separate and parallel TPP and GIP tracks has been mostly 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 modest incremental changes to the supply fleet. But these fundamentals have changed in recent years with California's adoption of the RPS mandates, which call for dramatic changes to the supply fleet within the decade and thus have triggered a wave of commercial activity to build renewable resources.

Because of the considerable scope of the network upgrades necessary to support these developments, the costs involved, and the short timeframe for constructing and deploying the network upgrades, the relatively granular process for identifying network upgrades set forth in the ISO's interconnection process has become increasingly less able to provide reasonable and timely outcomes for developers, ratepayers, transmission owners, and the load-serving entities required to procure renewable energy. Substantial changes to the ISO's process are therefore required in order to manage the huge volume of interconnection requests in the ISO's queue in a manner that relieves ratepayers of the risk of funding inefficient or underutilized network upgrades, while creating a rational process for viable proposed generating facilities to be developed and providing useful cost information for load-serving entities and their regulatory authorities.

To address these concerns, the ISO is proposing in this amendment changes to its interconnection procedures[2] that better integrate the ISO's interconnection process and the ISO's revised Transmission Planning Process, which the Commission accepted in 2010.[3] One of the main features of the 2010 TPP revision that the instant proposal builds upon is the inclusion of a public policy-driven category of transmission additions and upgrades, to enable the TPP to identify and approve new transmission elements in response to state or federal policy mandates or requirements.

This amendment takes a logical next step by providing that the public policy-driven Transmission Planning Process, rather than the more granular Generation Interconnection Procedures and agreements, will be used to identify and build large-scale network upgrades needed to support the delivery of power from multiple new generators.[4] Under this process, large-scale network upgrades will be identified in the

[2] For reasons discussed below, the tariff changes contained in this filing will apply prospectively, *i.e.*, to the ISO's queue cluster 5 (for which the cluster application window closed on March 31, 2012) and subsequent queue clusters.

[3] *See California Independent System Operator Corp.*, 133 FERC ¶ 61,224 (2010).

[4] As discussed below, this filing distinguishes between "Area Delivery Network Upgrades" or "ADNUs," which are network upgrades built to address constraints that hinder generator "deliverability" on an area-wide basis, and "Local Delivery Network Upgrades" or "LDNUs," which are network upgrades built to address constraints that hinder deliverability on a more local basis. Ratepayer-funded ADNUs will be identified in the Transmission Planning Process, while LDNUs will generally continue to be identified in the Interconnection Study process.

TPP, based on reasonable assumptions about the location and amount of new resources that will ultimately be developed in discrete geographic areas. These TPP network upgrades will add a certain amount of transmission capacity to the grid, which will then be available to meet the major network upgrade requirements of proposed new generating facilities in those geographic areas.

The ISO will determine the megawatt (MW) volume of new generation in each area whose power delivery needs ("deliverability") can be met by the additional grid capacity that the TPP network upgrades will provide. The ISO will then allocate the resulting MW volumes of "Transmission Plan Deliverability" or "TP Deliverability" to those proposed generating facilities in each area that are determined to be most viable based on a set of specified project development milestones. Entities proposing generating facilities that are not allocated TP Deliverability and still want to build their projects and obtain deliverability status would be responsible for funding their needed network upgrades without ultimately receiving cash reimbursement from ratepayers.

In addition to the above summary of the central design elements of the TPP-GIP tariff amendment, the TPP-GIP tariff amendment contains a number of improvements to the process for identifying and funding generator-driven transmission upgrades:

- establishes rules and procedures whereby new generation projects that utilize transmission approved under the TPP to meet their deliverability needs will have their required delivery network upgrades paid for by ratepayers, while preserving the option for customers who wish to obtain deliverability in excess of that provided by the transmission plan to construct and fund delivery network upgrades, though without cash ratepayer reimbursement;

- revises the interconnection process timeline to better align with the timeline for the TPP, and provides for crucial information flows between the TPP and the interconnection process;

- revises the interconnection study methodologies to produce meaningful results even when the queue volume is very large;

- establishes a plan-of-service reassessment process whereby network upgrade needs are re-evaluated when earlier-queued projects downsize or withdraw from the interconnection queue;

- provides an objective method for awarding the deliverability created by TPP-approved transmission to generation projects most likely to successfully achieve commercial operation, in areas of the grid where the volume of interconnection requests exceeds the capacity of transmission developed through the planning process; and

- institutes limits on cash reimbursement for the costs of network upgrades in certain circumstances, with the balance of any reimbursement being made in the form of financial transmission rights, in a manner similar to other independent system operators and regional transmission organizations ("ISOs/RTOs").

By making these changes, the TPP-GIP amendment will achieve the following important objectives:

- provide incentives for generation developers to choose interconnection points that are consistent with public policy-driven transmission development, and limit ratepayer responsibility for inefficient or underutilized network upgrades.

- produce more realistic study results and cost estimates with respect to network upgrades requirements and costs, thereby improving the chances that viable projects will achieve commercial operation.

- provide greater certainty for generation developers that the delivery network upgrades needed by their projects will be granted permits by the relevant state siting authority.

- provide greater transparency into transmission development, because the TPP is an open stakeholder process.

- provide increased opportunities for independent transmission developers to build and own transmission – both ratepayer-funded and non-ratepayer funded – that becomes part of the ISO controlled grid.[5]

In summary, the tariff revisions proposed herein are consistent with Commission precedent and strike an appropriate balance between promoting viable generation projects necessary to achieve the RPS, providing ratepayers with protection against excessive upgrade costs, and continuing to ensure that all projects have fair and open access to interconnect with the ISO controlled grid.

I. Background

This TIP-GIP tariff amendment culminates the ISO's most recent and comprehensive stakeholder initiative to integrate its processes for transmission planning and generator interconnection. Efforts to integrate those processes began in a more limited fashion with two stakeholder initiatives in 2010. Although those efforts were a good start, the ISO and stakeholders ultimately recognized that more far-reaching and

[5] As explained later in this transmittal letter, a feature of this TPP-GIP tariff amendment is that construction of Area Delivery Network Upgrades that are identified in and approved as part the annual Transmission Planning Process will be open to competitive solicitation.

comprehensive integration efforts were needed to address challenges presented by recent events in California.

Over the past several years, the ISO has seen a dramatic increase in the number of requests to interconnect generating facilities to the ISO controlled grid.[6] A primary driver of the increasing number of interconnection requests is the state of California's RPS, which requires load-serving entities in California to meet 33 percent of their customers' electricity demand on an annual basis from renewable resources by 2020.[7] Development of generation to meet the RPS mandate has resulted in a volume of interconnection requests that is approximately four times the amount of new generation needed.

Given the ratio of proposed new generation to actual need, the industry conventional wisdom, shared alike by developers, potential power purchasers, state regulators, and the ISO, is that 75 percent or more of the proposed new capacity is not likely to materialize. Although, arguably, this makes for an attractively competitive market for buyers, the ISO's current interconnection procedures were not designed to manage this level of "excess" generation, and therefore, are not well equipped to provide project developers and potential buyers with the level of certainty they desire with regard to what network upgrades are needed, much less with regard to the costs and time it will take to complete the required network upgrades. This lack of certainty can create significant barriers to bilateral contracting and project financing.

This uncertainty is, in large part, due to the fact that the interconnection study process is designed to identify transmission upgrades needed for later-timed requests based on the assumption that prior interconnection requests will culminate in generating facilities that achieve commercial operation. But that assumption is not reliable in the current RPS context where the volume of interconnection requests is roughly four times

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[6] This increase in interconnection requests is well documented. *See, e.g.*, *California Independent System Operator Corp.*, 138 FERC ¶ 61,060, at P 2 (2012) ("In GIP Phase 1, CAISO sought to harmonize its large and small generator interconnection procedures to address inefficiencies due to an increasing volume of small generator interconnection requests"); *California Independent System Operator Corp.*, 137 FERC ¶ 61,143, at P 3 (2011) ("CAISO stated that the targets for renewable resources have already led to a dramatic increase in requests to interconnect variable energy resources to the CAISO controlled grid"); *California Independent System Operator Corp.*, 133 FERC ¶ 61,223, at P 80 (2010) ("[T]he rapid increase in interconnection requests in California and the growing backlog for serial studies lead us to conclude that delaying reform for several years does not make sense here").

[7] California's RPS was established in 2002 under Senate Bill 1078 (Sher), Stats. 2002, ch. 516, accelerated in 2006 under Senate Bill 107, and expanded in 2011 under Senate Bill 2X signed into law by Governor Jerry Brown in April 2011. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020. An overview of California's RPS can be found on the California Energy Commission's website at http://www.energy.ca.gov/renewables/ and information on RPS procurement efforts is accessible on the website of the California Public Utilities Commission ("CPUC") at http://www.cpuc.ca.gov/PUC/energy/Renewables/index.htm.

the amount of new generation needed, meaning that three out of four interconnection requests will probably fail to be completed. At the same time, in setting up the interconnection studies it is impossible to know with high confidence which of the proposed generation projects will succeed and which ones will not. As a result, the interconnection network upgrades identified to serve those projects are rendered uncertain, and consequently later-timed interconnection requests are studied and further network upgrades are identified for these requests, based upon upgrade assumptions that will likely be invalid.

In addition, the limited coordination between transmission planning and generation interconnection processes, combined with the large volume of projects in the interconnection queue, casts doubt on whether the regulatory body responsible for issuing permits (primarily the CPUC) will ultimately approve or deny permits for the needed transmission upgrades. These uncertainties make it difficult for the generation developer to construct bids responding to load-serving entities' requests for offers for renewable energy. This uncertainty also makes it challenging for the load-serving entities and the CPUC to evaluate the "all-in" costs of those bids for power purchase contracts, which should reflect their associated transmission costs.

Another significant concern is that, under the ISO's current interconnection process, although interconnection customers initially fund their needed network upgrades, ratepayers ultimately provide cash reimbursement to them for all of these costs. This structure mutes developer incentives to interconnect at grid locations that make the most efficient use of transmission capacity, meaning that ratepayers could be required to fund excessive amounts of network upgrade costs to accommodate interconnections. This cost concern becomes particularly critical given the large volume of interconnection requests and the uncertainty as to which ones will culminate in operating generating facilities, which increases the risk that ratepayers will be required to fund inefficient or underutilized network upgrades.

In 2010 the ISO filed and the Commission approved substantial revisions to the ISO's TPP, most notably to establish provisions for identifying and approving a public policy-driven category of transmission additions and upgrades. Given the public policy mandate – the 33 percent RPS – that is driving the volume of interconnection requests, these TPP revisions offer a logical and effective means to address the interconnection process challenges described above by integrating and coordinating the ISO's interconnection procedures with the TPP.

As part of the TPP, the ISO considers the need for policy-driven infrastructure upgrades by developing, with the CPUC, other state agencies, and stakeholders, renewable generation scenarios based on tariff criteria, including commercial interest in various locations as evidenced by activity in the ISO queue and the status of power purchase agreements for the output of proposed projects in the queue. The ISO made significant progress toward alignment with the CPUC's procurement and permitting decision processes through a memorandum of understanding that the ISO and the

CPUC executed in May 2010 ("2010 MOU"), under which the CPUC now provides input on renewable resource development into the ISO's Transmission Planning Process.[8] The ISO is now in the midst of the third TPP cycle using the revised planning process.

The 2010 MOU and TPP provisions have not, to date, been directly utilized to address the concerns discussed above regarding the generator interconnection process, which up to now has been used to identify transmission upgrades on a separate track. However, given the development of a robust process within the TPP for identifying and developing transmission upgrades based on public policy requirements, the ISO, with stakeholder input, determined that the process for determining transmission upgrades needed to integrate the substantial amounts of new generation coming online in California could be significantly improved by increasing the coordination between the TPP and the generator interconnection process. The main feature of this increased coordination involves making the TPP the primary vehicle for identifying large-scale transmission upgrades needed to realize California's RPS goals.

To design a balanced and effective approach for integrating generator interconnection into the TPP, the ISO and stakeholders conducted a robust stakeholder process over the past ten months in order to develop the tariff modifications contained in this filing.[9] These stakeholder efforts included:

- three rounds of straw proposals, a draft final proposal, and a final proposal issued by the ISO;
- six stakeholder meetings and conference calls, and meetings of individual stakeholder work groups;
- input and a written opinion provided by the ISO's Market Surveillance Committee;[10] and
- six opportunities for stakeholders to submit written comments on the proposals and draft tariff provisions developed in the stakeholder process.[11]

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[8] The 2010 MOU is available on the ISO's website at http://www.caiso.com/2799/2799bf542ee60.pdf.

[9] This stakeholder process is sometimes referred to as the "TPP-GIP Integration" initiative. The ISO webpage devoted to the stakeholder process can be accessed at http://www.caiso.com/informed/Pages/StakeholderProcesses/TransmissionPlanning_GeneratorInterconnectionIntegration.aspx. The ISO originally proposed to address some of the issues discussed in this filing in the GIP Phase 2 stakeholder initiative but subsequently determined that the scope of the issues meant that resolving them could only be done in the separate TPP-GIP Integration initiative.

[10] The MSC Opinion, issued March 9, 2012, can be accessed on the ISO website at http://www.caiso.com/Documents/MSCFinalOpinion-Integration-TransmissionPlanning-GeneratorInterconnectionProcedures.pdf.

The ISO Board of Governors authorized the preparation and filing of this tariff amendment at its March 23, 2012 meeting.[12]

Overall, stakeholders have been very supportive of the objectives of this filing. After the extensive series of proposals, meetings, and discussions in the stakeholder process, most stakeholders recognize that the ISO's proposal provides a workable process for new generator interconnections and meaningful integration with the Transmission Planning Process. The components of this filing were generally supported by all industry segments of the stakeholders. In this regard, only two out of the ten parties from the generation and transmission development community voiced opposition to this proposal at the Board of Governor's meeting where it was approved, with the other eight parties in that community supporting the filing with qualifications. The other industry segments, consisting of participating TOs and load-serving entities, municipalities, and the CPUC staff, expressed similar support. Thus, this filing reflects a carefully crafted balance of multiple objectives and diverse stakeholder interests that were discussed and considered in the stakeholder process.[13] The ISO discusses and responds to certain specific stakeholder concerns in Section III below.

II. Proposed Tariff Revisions

This section of the transmittal letter, along with supporting testimony, describes in detail the ISO's tariff revisions and process modifications that will be made to implement this proposal. Despite the many details and complexities that were identified and resolved as part of this stakeholder initiative, the overall framework of the proposed new generation interconnection process (known as the Generator Interconnection and Deliverability Allocation Procedures or "GIDAP") is logical and straightforward, and does not require significant departures from the existing processes.[14]

In particular, there are no proposed modifications to the TPP tariff provisions set forth in ISO Tariff Section 24. The "integration" of the GIP and the TPP simply means that the ISO's proposed GIDAP will utilize the annual TPP – primarily the resource

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[11] A list of key dates in the stakeholder process is provided in Attachment J to this filing.

[12] Materials related to the ISO Governing Board's authorization to prepare and submit this filing are available on the ISO website at http://www.caiso.com/informed/Pages/BoardCommittees/BoardGovernorsMeetings.aspx. These materials include a memorandum requesting Board action that was provided on March 16, 2012 by Keith Casey, Vice President, Market and Infrastructure Development for the ISO. This memorandum is also provided in Attachment K to this filing.

[13] *See* March 16 ISO Governing Board memorandum (Attachment K), at p. 5.

[14] As discussed below, this filing also includes a new Large Generator Interconnection Agreement ("LGIA") and Small Generator Interconnection Agreement ("SGIA") to implement the GIDAP. In addition, this filing adds and revises defined terms in Appendix A to the ISO tariff.

portfolios developed for identifying public policy-driven transmission additions and upgrades and the resulting annual comprehensive transmission plan – to (1) provide for the large-area delivery network upgrade needs of target amounts of generating facilities in the interconnection queue, and (2) establish the amount of such generation whose needed delivery network upgrades will be funded by transmission ratepayers. This does not require any changes to the TPP. Under this proposal, if the deliverability needs of the proposed generation in a particular area exceed the amount provided through the TPP, some generating facilities may fund the necessary network upgrades and receive congestion revenue rights ("CRRs") in compensation for these upgrades. The changes needed for this element of the GIDAP are fully within the scope of the Generation Interconnection Procedures (and associated definitions and pro forma agreements), and do not require amendments to the TPP provisions set forth in ISO Tariff Section 24.

Moreover, the proposed GIDAP uses the same cluster study approach for interconnection requests, and preserves the Phase I and Phase II study structure, whereby customers receive cost estimates and are required to post financial security in three increments to stay in the interconnection queue and proceed to construction. These elements of the GIDAP are congruent to today's GIP. The only significant process modification to the existing GIP is a slightly longer time period for the entire Phase I and Phase II studies and generation interconnection agreement (GIA) negotiation process. This longer timeframe is necessary to accommodate one additional new step in the existing process – a reassessment study to update previously identified network upgrade requirements and a capacity allocation process that will take place following Phase 2 and is the cornerstone of the GIDAP proposal.

For ease of reference, the ISO has included a basic outline of the GIDAP proposal as Attachment A to provide a simple roadmap, the details of which will be discussed below.

A. Overview of Tariff Revisions and Consistency with Order No. 2003

The tariff revisions proposed in this filing are described below. To a significant extent, the provisions in the GIDAP, the LGIA, and the SGIA included in this filing track the corresponding provisions in the GIP, the LGIA contained in Appendix Z to the ISO tariff, and the SGIA contained in Appendix T to the ISO tariff. The discussion below primarily addresses how the provisions in the GIDAP, the LGIA, and the SGIA differ from those existing tariff provisions in order to permit implementation of the integrated approach to transmission planning and generator interconnection set forth in this filing. The tariff revisions contained in this filing include:

- New and modified defined terms and concepts to implement the integrated approach.

- Revisions in the GIDAP to the interconnection study processes set forth in the GIP, including the addition of a new "reassessment" interconnection study conducted between the Phase I and Phase II interconnection studies.

- A process for allocating TP Deliverability to interconnection customers in queue cluster 5 and subsequent queue clusters, following the completion of their Phase II studies.

- Provisions in the GIDAP that build upon the provisions regarding interconnection financial security contained in the GIP, in order to apply them to the integrated approach set forth in this filing.

- Provisions in the GIDAP to adapt existing provisions in the GIP regarding the obligation to construct network upgrades.

- Provisions in the GIDAP to implement compensation to interconnection customers for network upgrade costs in accordance with the integrated approach, including compensation in the form of congestion revenue rights rather than cash in certain circumstances.

- Application of the GIDAP to queue cluster 5 and subsequent queue clusters, but not to earlier-queued interconnection requests, in order to avoid disrupting steps the ISO is taking to address issues with interconnection requests that precede cluster 5 and the expectations of the associated interconnection customers.

- Revised cluster application windows and process timeline under the GIDAP.

- Miscellaneous tariff revisions.

This filing also includes two sets of prepared direct testimony that provide further discussion of the tariff revisions. The first set of testimony is provided by Songzhe Zhu, who is employed as a Lead Regional Transmission Engineer for the ISO. Dr. Zhu explains the interconnection study methodologies and other technical details regarding the GIDAP.[15] The second set of testimony is provided by Deborah A. Le Vine, the Director of Interconnection Implementation for the ISO. Ms. Le Vine addresses matters related to the GIDAP regarding customer information flows, impacts on the generator interconnection agreements, queue management, and other interconnection customer-related issues.[16]

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[15] Dr. Zhu's testimony ("Zhu Testimony") is provided in Attachment B to this filing.

[16] Ms. Le Vine's testimony ("Le Vine Testimony") is provided in Attachment C to this filing.

The enclosed tariff revisions accord with Commission precedent recognizing the benefits of integrating transmission planning and generator interconnection processes. In Order No. 2003, which standardized procedures and agreements for interconnecting large generating projects, the Commission explained that "the principal benefit of studying Interconnection Requests in clusters is that it allows the Transmission Provider to better coordinate Interconnection Requests with its overall transmission planning process, and, as a result, achieve greater efficiency in both the design of needed Network Upgrades and in the use of its planning resources."[17]

Subsequently, the Commission found that the ISO's clustering approach to the study of interconnection requests would help to achieve these efficiencies.[18] The Commission also urged other ISOs/RTOs to better integrate their transmission planning and generator interconnection processes.[19] The tariff revisions contained in this filing are consistent with these Commission directives and will further the Commission's goal of achieving efficiencies in the design of needed network upgrades and the use of the ISO's planning resources.

The tariff revisions contained in this filing differ somewhat from the standardized pro forma interconnection procedures and agreement contained in Order No. 2003. However, the differences reflected in this TPP-GIP tariff amendment satisfy the Order No. 2003 "independent entity variation" standard applicable to ISOs/RTOs such as the California ISO. In addressing the issue of variations from the pro forma interconnection procedures and agreement set forth in Order No. 2003, the Commission stated that it would allow ISOs/RTOs "more flexibility to customize an LGIP and LGIA to meet their regional needs" with regard to terms, conditions, and pricing policies.[20] ISOs/RTOs

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[17] *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146, at P 153 (2003) ("Order No. 2003"), *order on reh'g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160 (2004) ("Order No. 2003-A"), *order on reh'g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005). The Commission reiterated this point in Paragraph 120 of Order No. 2003-A.

[18] "The Commission found that CAISO's proposal, which adopts a clustering approach to interconnection requests, 'will improve the efficiency of the CAISO's interconnection process, clear the CAISO's interconnection backlog, and allow the interconnection process to be better integrated into the CAISO's transmission planning process.'" *California Independent System Operator Corp.*, 126 FERC ¶ 61,191, at P 24 (2009) (quoting *California Independent System Operator Corp.*, 124 FERC ¶ 61,292, at P 2 (2008)).

[19] *Midwest Independent Transmission System Operator, Inc.*, 137 FERC ¶ 61,074, at P 199 (2011) ("The Commission strongly encourages Midwest ISO and its stakeholders to use the stakeholder process for the evaluation of reforms to transmission planning and cost allocation to more efficiently plan transmission expansions interconnecting and integrating new generation resources."); *PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,079, at P 87 (2006) ("Although we believe that forward procurement provides a much better solution to RTEP [Regional Transmission Expansion Plan] integration than the current generation interconnection procedures, which are subject to high levels of project withdrawals, generation and transmission planning processes must be better coordinated.").

[20] Order No. 2003 at P 26. The Commission noted that the degree of latitude that would be allowed

were therefore permitted to submit interconnection procedures and agreements that meet this independent entity variation standard that is more flexible than the regional difference and "consistent with or superior to" standards.[21] Further, tariff revisions under the independent entity variation standard must be shown to be just and reasonable and to accomplish the purposes of Order No. 2003.[22]

The tariff revisions contained in this filing satisfy the independent entity variation standard set forth in Order No. 2003. In addition, as discussed below, the ISO's proposal to limit the circumstances under which interconnection customers may receive cash reimbursement for their network upgrade costs is also consistent with both directives in Order No. 2003 and tariff provisions that the Commission has approved for other ISOs/RTOs regarding compensation for network upgrades.[23]

Although the proposed GIDAP does not have explicit intersection with the Commission's Order No. 1000 or the ISO's compliance with that Order,[24] the ISO expects the GIDAP to further a key objective of Order No. 1000. Specifically, one result of the GIDAP will be to increase opportunities for independent transmission developers to build and own ratepayer-funded transmission. Under the GIDAP, public policy-driven transmission elements approved under the TPP, which are eligible to be included in the ISO's competitive solicitation under the provisions of the revised TPP, will offset the need for transmission to provide deliverability for new generating facilities that would otherwise be developed under the interconnection process – which is not open to competition from independent developers.

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for variations from the *pro forma* provisions would be greater for independent entities such as ISOs/RTOs, because they are "less likely to act in an unduly discriminatory manner than is a market participant." *Id.* at P 827.

[21] In Order No. 2006, which standardized procedures and agreements for interconnecting small generating projects, the Commission stated that the independent entity variation standard also applied to variations proposed by ISOs/RTOs to the standardized *pro forma* interconnection procedures and agreement set forth therein. *Standardization of Small Generator Interconnection Agreements and Procedures*, Order No. 2006, FERC Stats. & Regs. ¶ 31,180, at PP 548-49 (2005) ("Order No. 2006"), *order on reh'g*, Order No. 2006-A, FERC Stats & Regs. ¶ 31,196, *order on reh'g*, Order No. 2006-B, FERC Stats & Regs. ¶ 31,221 (2006).

[22] *Interconnection Queuing Practices*, 122 FERC ¶ 61,252, at P 13 n.10 (2008).

[23] The relevant provisions of Order No. 2003 and the Commission's approvals for other ISOs/RTOs are discussed in Section III.F.2 of this filing.

[24] *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 (2011) ("Order No. 1000"). The ISO's filing to comply with Order No. 1000 is not yet due and thus has not yet been submitted to the Commission. *See id.* at P 792.

B. New and Modified Defined Terms and Concepts

This TPP-GIP tariff amendment introduces the new and modified defined terms and concepts discussed below, which are also addressed in the testimony of Dr. Zhu.[25] These terms and concepts are necessary to implement the rest of the tariff provisions discussed in later sections of this filing.

1. TP Deliverability and Other Deliverability Concepts

New definition: *TP Deliverability*. The current ISO tariff includes defined terms that reflect the concept of deliverability, but the tariff does not currently include any definition of deliverability itself. In order to provide a means of allocating transmission deliverability to interconnection customers, the ISO proposes to add the new defined term *TP Deliverability* ("*TPD*") to the ISO tariff. TP Deliverability is defined as the capability, measured in MW, of the ISO controlled grid as modified by transmission upgrades and additions modeled or identified in the annual Transmission Plan to support the interconnection with full capacity deliverability status or partial capacity deliverability status of additional generating facilities in a specified geographic or electrical area of the ISO controlled grid.[26]

A central principle of the GIDAP is that providing deliverability to interconnecting generating facilities is a necessary and appropriate objective of public policy-driven transmission planning in the context of California's RPS mandate. TP Deliverability and its allocation are the mechanisms by which the GIDAP addresses this objective in an efficient and equitable manner. In particular, the ISO anticipates that obtaining TP Deliverability will be necessary for many generation projects in queue cluster 5 and subsequent queue clusters due to the nature of the California resource adequacy program and its impact on bilateral contracting for energy and generating capacity.[27]

New definitions: *Full Capacity Deliverability Status*, *Partial Capacity Deliverability Status*, and *Deliverability Status*. Pursuant to existing provisions in the

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[25] Zhu Testimony at 4-6.

[26] This same definition is included in Appendix A to the ISO tariff, in Article 1 to the LGIA, and in Attachment 1 to the SGIA provided in this filing.

[27] Generators must have deliverability in order to be eligible to sell capacity under the resource adequacy program. Moreover, because load-serving entities have requirements to procure sufficient resource adequacy capacity in addition to renewable energy, many projects need to be designated as resource adequacy resources in order to obtain power purchase agreements that will enable them to obtain project financing. Having power purchase agreements and securing project financing are both, in turn, required in order for the generating facilities to be built that will enable California load-serving entities to achieve the state's RPS mandate. Thus, the resource adequacy program plays a significant role in shaping the public policy requirements that will be addressed in transmission planning, through the vehicle of TP Deliverability.

ISO tariff, each generating facility that can provide deliverability to the ISO controlled grid may have one of three deliverability statuses: full capacity deliverability status,[28] partial deliverability status,[29] or energy-only deliverability status.[30] In this filing, the ISO proposes to modify the definitions of the first two of these terms, and to add the generic term *Deliverability Status* to Appendix A to the ISO tariff, in order to refer to any of these three statuses.

Deliverability Status is defined as an attribute of a generating facility that is requested by an interconnection customer for the generating facility, assigned by the ISO to the generating facility through the GIP, GIDAP, or other process specified in the ISO tariff, and that affects the maximum net qualifying capacity[31] to which the generating facility could be entitled.

The ISO is proposing changes to the definitions of *Full Capacity Deliverability Status* and *Partial Capacity Deliverability Status* because certain modifications are needed to align these definitions with how variable renewable resources are counted in the resource adequacy program. Because renewable resource deliverability is a key driver of the GIDAP proposal, these definition changes are a logical component of the overall process.

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[28] The current definition of *Full Capacity Deliverability Status* is discussed below.

[29] *Partial Deliverability Status* is currently defined in Appendix A to the ISO tariff as the condition whereby a large generating facility interconnected with the ISO controlled grid can deliver an elected amount of output that is less than the full output of the large generating facility to the aggregate of load on the ISO controlled grid, consistent with the ISO's reliability criteria and procedures and the ISO on-peak deliverability assessment. In this TIP-GIP tariff amendment, the definition of Partial Deliverability Status has been modified to rename the term *Partial Capacity Deliverability Status*.

[30] *Energy-Only Deliverability Status* is currently defined in Appendix A to the ISO tariff as a condition elected by an interconnection customer for a large generating facility interconnected with the ISO controlled grid the result of which is that the interconnection customer is responsible only for the costs of reliability network upgrades and is not responsible for the costs of delivery network upgrades, but the large generating facility will be deemed to have a net qualifying capacity of zero, and, therefore, cannot be considered to be a resource adequacy resource.

[31] The purpose of net qualifying capacity is to refine the resource adequacy metric (the qualifying capacity) of a resource to account for its operational characteristics based upon generating facility attributes such as the technology (wind, solar photovoltaic, solar thermal, gas turbine) of the facility's prime mover, and to account for transmission congestion that would limit the ability of the resource to deliver the full output of its qualifying capacity to load (*i.e.*, "deliverability"). Appendix A to the ISO tariff defines *Net Qualifying Capacity* as the qualifying capacity reduced, as applicable, based on: (1) testing and verification; (2) application of performance criteria; and (3) deliverability restrictions. The net qualifying capacity determination shall be made by the ISO pursuant to the provisions of this ISO tariff and the applicable business practice manual. Appendix A currently defines *Qualifying Capacity* as the maximum capacity of a resource adequacy resource which is generally determined by criteria established by the CPUC or other applicable local regulatory authority.

The proposed changes to these two definitions are best explained by comparing the existing definitions in the ISO tariff and another related existing tariff provision. The current definition of full capacity deliverability status in Appendix A to the tariff is:

> The condition whereby a Large Generating Facility interconnected with the CAISO Controlled Grid, under coincident CAISO Balancing Authority Area peak Demand and a variety of severely stressed system conditions, can deliver the Large Generating Facility's full output to the aggregate of Load on the CAISO Controlled Grid, consistent with the CAISO's Reliability Criteria and procedures and the CAISO On-Peak Deliverability Assessment.

The most problematic phrase in this definition is "full output." The crucial point is that "full output" is not the appropriate reference amount against which to measure the deliverability of a generating facility. Rather, deliverability must be measured against the facility's qualifying capacity. When the ISO determines a resource's net qualifying capacity each year in accordance with ISO Tariff Section 40.4.6.1, in order to set the maximum amount of resource adequacy capacity the facility can provide in the coming year, the starting point is the facility's qualifying capacity, which represents the upper boundary of the net qualifying capacity. This principle is expressed in ISO Tariff Section 40.4.6.1, which addresses the ISO's annual assessment of deliverability for facilities within the ISO balancing authority area, as follows:

> To the extent the deliverability study shows that the Qualifying Capacity is not deliverable to the aggregate of Demand under the conditions studied, the Qualifying Capacity of the Resource Adequacy Resource will be reduced on a MW basis for the capacity that is undeliverable.

This tariff provision makes it clear that the facility's qualifying capacity – not its "full output" – is the appropriate reference amount against which to measure the facility's deliverability.

In the case of conventional, dispatchable thermal or hydro resources, a facility's qualifying capacity tends to be practically the same as its "full output" or its installed capacity, so any discrepancy between the current definition and the provisions regarding net qualifying capacity assessment had little, if any, impact in the context in which the original definition was adopted. But the situation is dramatically different in the case of variable renewable resources such as wind and solar photovoltaic, because the qualifying capacity of such a facility is determined by actual energy output – either historical or forecasted – during the high-load hours designated for qualifying capacity assessment, and typically such energy output is much less than the facility's full output or installed capacity. As a result, it is now necessary and appropriate to revise the definitions of full capacity deliverability status and partial capacity deliverability status to refer to the facility's qualifying capacity rather than its full output as the reference output level.

To be specific, the definitions proposed in this filing are:

Full Capacity Deliverability Status

Full Capacity Deliverability Status entitles a Generating Facility to a Net Qualifying Capacity amount that could be as large as its Qualifying Capacity and may be less pursuant to the assessment of its Net Qualifying Capacity by the CAISO.

Partial Capacity Deliverability Status

Partial Capacity Deliverability Status entitles a Generating Facility to a Net Qualifying Capacity amount that cannot be larger than a specified fraction of its Qualifying Capacity, and may be less pursuant to the assessment of its Net Qualifying Capacity by the CAISO. An Interconnection Customer requesting Partial Capacity Deliverability Status must specify the fraction of Full Capacity Deliverability Status it is seeking in its Interconnection Request.

According to these proposed definitions, when an interconnection customer requests full capacity deliverability status for a generating facility, the customer is requesting that the ISO assess its net qualifying capacity using its full qualifying capacity as the starting point. When a customer requests partial capacity deliverability status for a facility, the customer must specify in its interconnection request the precise fraction or percentage of full capacity deliverability status that it wants, which means that the ISO will assess its net qualifying capacity using that same fraction of its qualifying capacity as the starting point. In addition, the definitions are no longer applicable only to "large" generating facilities; they can apply to both large and small facilities.

New definition: *Qualifying Capacity*. This TIP-GIP tariff amendment revises the definition of *Qualifying Capacity* so that it is more accurate, and, as discussed above, removes the outmoded reference to qualifying capacity as the maximum capacity, a connotation suggesting full output of the resource. The connotation is now outmoded by virtue of the CPUC's adoption of rules for calculating qualifying capacity based on the historical or forecasted output of certain types of resources during high load "assessment hours," which, when applied, typically render the qualifying capacity for variable resources lower than their maximum output. Accordingly, Qualifying Capacity is redefined as the maximum resource adequacy capacity that a resource adequacy resource may be eligible to provide. The criteria and methodology for calculating the qualifying capacity of resources may be established by the CPUC or other applicable local regulatory authority and provided to the ISO. However, a resource's eligibility to provide resource adequacy capacity may be reduced below its qualifying capacity through the ISO's assessment of net qualifying capacity.

New definition: *Deliverability*. The ISO also proposes to modify Appendix A to its tariff to define *Deliverability* in a more generic sense than TP Deliverability.

Deliverability is defined as:

(1) the annual net qualifying capacity of a generating facility, as verified through a deliverability assessment and measured in MW, which specifies the amount of resource adequacy capacity the generating facility is eligible to provide; or

(2) the annual maximum import capability of an intertie, which specifies the amount of resource adequacy capacity, measured in MW, that load-serving entities collectively can procure from imports at that intertie to meet their resource adequacy requirements.[32]

Thus, deliverability is defined with reference to both (1) generating facilities and (2) interties.

Modification to existing definition of *Deliverability Assessment*. In connection with the definition of deliverability with reference to generating facilities, the ISO also proposes to modify the Appendix A definition of *Deliverability Assessment* to describe it as an evaluation performed pursuant to the ISO on-peak deliverability assessment methodology posted on the ISO website to determine if a generating facility or a group of generating facilities could provide energy to the ISO controlled grid and be delivered to the aggregate of load on the ISO controlled grid at peak load, under a variety of severely stressed conditions.

2. Deliverability Constraints and Network Upgrades

The ISO's TPP identifies the need for large network upgrades that provide widespread or area-wide benefits by relieving deliverability constraints in areas of the ISO controlled grid specified for generation development through the TPP resource portfolios. But the TPP does not typically identify the need for smaller network upgrades that provide local benefits by relieving deliverability constraints in those locations, because they tend to be specific to the locations of individual generation projects or small groups of generation projects located very close together electrically and not studied in the transmission planning process.

Such local network upgrades are typically identified in the interconnection study process. However, the current ISO tariff does not include any defined terms that specifically distinguish between *area-wide* and *local* network upgrades. Instead, the

[32] ISO Tariff Section 40.4.6.2 governs the ISO's annual calculation and allocation to load-serving entities of maximum import capability at the interties.

current tariff contains the defined term *Delivery Network Upgrades*, which covers both area-wide and local network upgrades that relieve transmission constraints.[33]

New types and definitions of Delivery Network Upgrades: *Area Delivery Network Upgrades* and *Local Delivery Network Upgrades*. In this filing, the ISO proposes to add definitions to the ISO tariff to distinguish between two types of delivery network upgrades: *Area Delivery Network Upgrades* (*ADNUs*) and *Local Delivery Network Upgrades* (*LDNUs*).

The GIDAP, the LGIA, and the SGIA contained in this filing include numerous provisions that make distinctions between the identification and treatment of ADNUs and LDNUs.[34] For example, as discussed below, *Option (A) Generating Facilities* are defined as those that require TP Deliverability and thus are not responsible for paying the costs of LDNUs or ADNUs, yet will be required to post reimbursable financial security for LDNUs but not for ADNUs,[35] while *Option (B) Generating Facilities* do not require TP Deliverability and thus are responsible for paying the costs of both LDNUs and ADNUs.

The terms *ADNU* and *LDNU* are defined by reference to the types of deliverability constraints they are intended to address. Specifically, an ADNU is defined as a transmission upgrade or addition identified by the ISO to relieve an area deliverability constraint,[36] and an LDNU is defined as a transmission upgrade or addition identified by the ISO in the GIDAP interconnection study process to relieve a local deliverability constraint. The logic for this structure of definitions, *i.e.*, starting with the constraints and then defining the upgrades by reference to the constraints they relieve, is explained below and in the testimony of Dr. Zhu in the context of the GIDAP study process.[37]

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[33] Currently, *Delivery Network Upgrades* are defined in Appendix A to the ISO tariff as transmission facilities at or beyond the point of interconnection, other than reliability network upgrades, identified in the interconnection studies to relieve transmission constraints on the ISO controlled grid. *Transmission Constraints* are defined in Appendix A as physical and operational limits on the transfer of electric power through transmission facilities.

[34] Under the GIDAP, the LGIA, and the SGIA, references to references to delivery network upgrades or DNUs, when used without specifying whether the DNUs are ADNUs or LDNUs, mean both ADNUs and LDNUs.

[35] Option (A) projects will be required to post financial security for LDNUs, but will be fully reimbursed after achieving commercial operation.

[36] Examples of delivery network upgrade projects currently under development that could be considered to be ADNU if identified under the tariff revisions contained in this filing are the Tehachapi Renewable Transmission Project, Sunrise Powerlink, and Colorado River-Devers-Valley transmission projects.

[37] Zhu Testimony at 7-10.

The ISO proposes to define an *Area Deliverability Constraint* as a transmission system operating limit that would constrain the deliverability of a substantial number of generators if the ISO were to assign full capacity or partial capacity deliverability status to additional generating facilities in one or more specified geographic or electrical areas of the ISO controlled grid in a total amount that is greater than the TP Deliverability for those areas. The definition also states that an area deliverability constraint may be a transmission system operating limit that constrains a quantity of generation in a local area of the grid that is larger than the generation amount identified in the applicable Transmission Planning Process portfolio for the entire portfolio area, or a transmission system operating limit that constrains all or most of the same generation already constrained by a previously identified area deliverability constraint.

A *Local Deliverability Constraint* is defined as a transmission system operating limit modeled in the GIDAP study process that would be exceeded if the ISO were to assign full capacity or partial capacity deliverability status to one or more additional generating facilities interconnecting to the ISO controlled grid in a specific local area, and that is not an area deliverability constraint.[38]

The GIDAP, the LGIA, and the SGIA contained in this filing also include numerous provisions that make distinctions between the treatment of ADNUs and LDNUs and the treatment of Reliability Network Upgrades ("RNUs").[39] The ISO proposes to retain the existing definition of RNUs, with the minor change that the definition of that term in Appendix A to the ISO tariff has been modified to replace the narrower phrase "thermal overloads" with the more inclusive "system operating limits."[40] This modification is necessary to make the definition of RNUs consistent with actual operating requirements the ISO must address in identifying RNUs, and aligns with the definitions of ADNUs and LDNUs, which reference system operating limits.

An interconnecting generating facility may require delivery network upgrades only if the interconnection customer wants the generating facility to be fully or partially deliverable in order to be eligible to provide resource adequacy capacity to meet the resource adequacy requirements of one or more load-serving entities. In contrast, any interconnecting generating facility may require RNUs to ensure reliable grid operation once the facility is operational. As explained later in this filing, under the GIDAP proposal the TPP will typically identify and approve new transmission that will offset

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[38] These same definitions are included in Appendix A to the ISO tariff, in Article 1 to the LGIA, and in Attachment 1 to the SGIA.

[39] RNUs are identified through interconnection studies, not the Transmission Planning Process, and are specific to generation project locations. RNUs are distinct from LDNUs (and also ADNUs) in that RNUs are needed to address issues that cannot be dealt with through the ISO's congestion management process, whereas LDNUs and ADNUs are required to reduce congestion to provide deliverability to a generation project.

[40] This same definition is included in Article 1 to the LGIA and in Attachment 1 to the SGIA.

needs for ADNUs – *i.e.*, network upgrades that can provide deliverability for several generating facilities comprising a significant amount of new generating capacity within an electrical grid study area. TPP-approved transmission will most likely not offset needs for interconnection-driven RNU or LDNU, both of which tend to be local and specific to each generating facility. This filing will explain how the GIDAP addresses all three categories of network upgrades (ADNUs, LDNUs, and RNUs) needed by interconnecting generating facilities.

3. Options (A) and (B) for Generating Facilities Seeking Full Capacity or Partial Capacity Deliverability Status

In the GIDAP, the ISO proposes to require each interconnection customer that makes an interconnection request for either full capacity deliverability status or partial capacity deliverability status for a generating facility to choose between two options.[41] Interconnection customers will make this choice between Phase I and Phase II of the interconnection study process, and will be subject to different cost responsibility for delivery network upgrades depending on which option they choose. However, the choice between the options is solely the interconnection customer's, and the ISO will treat Option (A) and Option (B) generating facilities in a non-discriminatory manner. In particular, both Option (A) and Option (B) projects will be eligible for allocation of TP Deliverability, as described below.

Option (A). The first option is called *Option (A)*, which means that the generating facility requires TP Deliverability to be able to continue to commercial operation. If the interconnection customer selects Option (A), then the interconnection customer will be required to make an initial posting of interconnection financial security under the GIDAP for the cost responsibility assigned to it in the Phase I interconnection study for RNUs and LDNUs.[42] However, an Option (A) generating facility will not be assigned any cost responsibility for ADNUs, and thus will not have to post any interconnection financial security for ADNUs.

An Option (A) generating facility is not assigned cost responsibility for ADNUs because the premise behind an interconnection customer's choice of Option (A) for a project is that in order to be commercially viable the facility must receive enough TP Deliverability to match the facility's desired Deliverability Status. Therefore, either the facility will be allocated TP Deliverability that meets its requirements for ADNUs, or the facility will convert to energy-only or withdraw from the queue. In any case, the facility will not be responsible for funding ADNUs.

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[41] GIDAP Section 7.2.

[42] This definition in the GIDAP is cross-referenced in the definition of an *Option (A) Interconnection Customer* contained in Article 1 to the LGIA and in Attachment 1 to the SGIA.

Option (B). The second option is called *Option (B)*, which means that the interconnection customer is willing and able to assume cost responsibility for delivery network upgrades (both ADNUs and LDNUs, to the extent applicable) without cash reimbursement under the GIDAP if TP Deliverability is not allocated to the generating facility. If the interconnection customer selects Option (B), then the interconnection customer will be required to make an initial posting of interconnection financial security under the GIDAP for the cost responsibility assigned to it in the Phase I interconnection study for RNUs, LDNUs, and ADNUs.[43]

The ISO anticipates that most interconnection customers are likely to choose Option (A), because they require TP Deliverability in order to continue to commercial operation and they will seek to avoid cost responsibility for ADNUs. An interconnection customer may choose Option (B), however, if the generating facility's business model does not need TP Deliverability, or the customer believes that any obligation to pay for ADNUs and LDNUs will not be onerous.

Energy-Only Deliverability Status. An interconnection customer that makes an interconnection request for energy-only deliverability status is not eligible for either Option (A) or Option (B) and is responsible for the costs of RNUs but not for LDNUs or ADNUs. This is because an energy-only generating facility has chosen not to seek eligibility to provide resource adequacy capacity and therefore will not require any delivery network upgrades.

Participating TO Interconnection Facilities. Regardless of whether a generating facility is in the Option (A), Option (B), or energy-only category, the customer will be responsible for the costs of participating TO interconnection facilities and all other facilities costs besides the costs of ADNUs, LDNUs, and RNUs discussed above. The scope of this TPP-GIP tariff amendment and the GIDAP only extends to network upgrades and does not modify existing principles that a customer bears cost responsibility for interconnection facilities (participating TO interconnection facilities and interconnection customer interconnection facilities).

C. Interconnection Studies

1. Overview

Under the GIP, the interconnection studies for interconnection requests in a queue cluster consist of a Phase I interconnection study and a Phase II interconnection study. In order to implement the integrated approach to transmission planning and generator interconnection set forth in this filing, the GIDAP includes modified versions of each of those interconnection study phases and adds a new reassessment process (intended in part to "true-up" the base case before commencement of Phase II studies,

[43] This definition in the GIDAP is cross-referenced in the definition of an *Option (B) Interconnection Customer* contained in Article 1 to the LGIA and in Attachment 1 to the SGIA.

to reflect developments in the immediately preceding interconnection study cycle) that will be conducted between the Phase I and Phase II interconnection studies.

Deliverability Assessment. For both the Phase I interconnection study and the Phase II interconnection study, the ISO will conduct on-peak deliverability assessments for interconnection customers selecting full capacity or partial capacity deliverability status.

The deliverability assessment conducted in each interconnection study phase will consist of two rounds: the first round will identify LDNUs to relieve the local deliverability constraints and the second round will identify ADNUs to relieve the area delivery constraints.

The results of the two-round deliverability assessment for the Phase I interconnection study will be reassessed in the reassessment process to be conducted between the Phase I and Phase II interconnection studies, in order to permit the ISO to conduct the Phase II interconnection study based on the latest available data.[44]

The interconnection studies under the GIDAP are discussed below and further details are provided in the attached testimony of Dr. Zhu and Ms. Le Vine.[45] The tariff revisions to implement these interconnection studies will allow the ISO to better coordinate the TPP and the generator interconnection processes, which will result in greater efficiency in the design of network upgrades and the use of planning resources. Therefore, the tariff revisions satisfy the purposes of Order No. 2003 and the independent entity variation standard set forth in that Order.[46]

2. Phase I Interconnection Study

The GIDAP includes a Phase I interconnection study process that is similar to the Phase I study process under the GIP in many respects,[47] with the important difference that the Phase I interconnection study process under the GIDAP includes modifications to implement the integrated approach to transmission planning and generator

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[44] Section 2.4.3 of the GIDAP describes the main features of the Phase I interconnection study, the "reassessment" interconnection study, and the Phase II interconnection study. Detailed tariff provisions regarding each of the Phase I, reassessment and Phase II study processes are set forth in, respectively, Section 6, Section 7, and Section 8 of the GIDAP.

[45] Zhu Testimony at 4-14 and Attachments 1 and 2; Le Vine Testimony at 5-10, 15-16.

[46] *See* Order No. 2003 at PP 26, 153. See also the discussion in Section II.A of this filing.

[47] For example, as is the case under the GIP, the Phase I interconnection studies under the GIDAP will identify direct interconnection facilities and required RNUs necessary to interconnect the generating facility, mitigate thermal overloads and voltage violations, and address short circuit, stability, and reliability issues associated with the requested interconnection service.

interconnection set forth in this filing. In particular, the modified Phase I interconnection study process will produce more realistic and informative results than the current GIP even when there is a massive volume of generator interconnection requests in the interconnection queue.

Like the GIP, the GIDAP groups interconnection requests within a cluster into group studies that are defined electrically for the purpose of conducting the interconnection studies. The GIDAP advances the GIP study process significantly, however, by taking into consideration the most recent annual ISO transmission plan as well as the resource portfolios identified for the next TPP cycle, in order to determine, for each group study electrical area, the extent to which transmission approved through the TPP will meet the ADNU needs for projects in the queue and to identify incremental ADNU that would be needed if generation development in an area exceeds the amount assumed in the TPP portfolio.[48] In adopting these advances, however, the GIDAP still requires the Phase I interconnection study to achieve all of the purposes required of the Phase I interconnection study under the GIP, and also to achieve the following purposes specific to the integrated approach set forth in this filing:

- Preliminarily identify all LDNUs and RNUs needed to address the impacts on the ISO controlled grid of the interconnection requests;

- Establish the maximum cost responsibility for LDNUs and RNUs assigned to each interconnection request;

- Provide a cost estimate of ADNUs for each generating facility in a queue cluster group study (which will be applicable to generating facilities that adopt Option (B)) after Phase I is completed.

Identifying LDNUs and ADNUs. To implement the integrated approach, the GIDAP states that the ISO's on-peak deliverability assessment will consist of two rounds, the first of which will identify any transmission constraints that limit the deliverability of the generating facilities in the group study and will identify LDNUs to relieve the local deliverability constraints, and the second of which will identify ADNUs to relieve the area deliverability constraints.[49]

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[48] *Compare* Section 6.1.3 of the GIDAP *with* Section 6.3 of the GIP.

[49] GIDAP Section 6.3.2.1. Further details regarding the two rounds of both the Phase I and the Phase II interconnection studies are provided in Dr. Zhu's testimony at pages 8 to 10. Regarding these details, Section 6.3.2.1.1 of the GIDAP states that the methodology for the on-peak deliverability assessment will be published on the ISO website or, when effective, included in a business practice manual. Accordingly, the ISO plans to include the methodology for the on-peak deliverability assessment under the GIDAP in a business practice manual. This same tariff language is set forth in Section 6.5.2.1 of the GIP.

Determining the margin of TP Deliverability above the TPP-designated level. For each area deliverability constraint, the ISO will model an amount of generation that fully utilizes the TP Deliverability plus an additional amount of generation that would, if ultimately built, trigger a significant transmission upgrade to provide additional deliverability above the level of TP Deliverability.[50]

The GIDAP includes this margin above the level of TP Deliverability pursuant to requests by many stakeholders for the Phase I interconnection study to provide more useful information. These stakeholders urged the ISO to set the amount of generation studied for deliverability in Phase I to an amount that is more in line with expected generation development, plus an additional margin to indicate the approximate incremental transmission cost if more generation is developed in a particular area. In this way, the Phase I interconnection studies will provide useful information for bilaterally contracting parties (generation developers and load-serving entities), and the regulatory authorities that oversee resource procurement, regarding the cost impacts in each area that may result if procurement exceeds the amount of new generation supported by TP Deliverability. The ISO believes that this information will also be useful for interconnection customers in deciding whether to advance to Phase II under Option (A) or Option (B).

The ISO agreed with the stakeholders and, accordingly, will set the level of the margin such that, if the queue contains an extremely large amount of additional generation in the area, the ISO will limit the amount studied for deliverability to provide the desired incremental transmission cost estimates while keeping delivery network upgrade facilities, costs, and construction times within the realm of realistically expected generation development.

Determining LDNU and ADNU cost responsibility. The GIDAP explains how cost responsibility for the LDNUs and ADNUs will be determined. The on-peak deliverability assessment will be used to establish the maximum cost responsibility for LDNUs for each interconnection customer selecting full capacity or partial capacity deliverability status,[51] and LDNU costs will be estimated using the same methodology as currently applies under the GIP for estimated delivery network upgrade costs.[52] For ADNU costs, the ISO will calculate a per-MW rate equal to the estimated cost of the facility required to provide additional deliverability divided by the additional MW amount of deliverability above the level of TP Deliverability. The Phase I interconnection studies will thus provide a cost estimate for each proposed generating facility which equals the

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[50] GIDAP Section 6.3.2.1.2.

[51] GIDAP Section 6.3.2.1.1.

[52] *Compare* Sections 6.3.2.1.1 and 6.4 of the GIDAP *with* Sections 6.5.2.1 and 6.6 of the GIP.

rate for ADNU costs multiplied by the requested deliverable MW capacity of the generating facility in the interconnection request.[53]

Time frames for interconnection studies and customer pre-Phase II information submittal under the GIDAP. The ISO anticipates that, under the Phase I interconnection study process set forth in the GIDAP, the ISO may sometimes require more time to issue the Phase I interconnection study report than the one hundred thirty-four (134) days set forth under the GIP for issuance of that report.[54] Therefore, the GIDAP states that the ISO will use reasonable efforts to complete and issue the Phase I interconnection study report to interconnection customers within *two hundred (200) days* after the commencement of the Phase I interconnection study for queue cluster 5 and within *one hundred-seventy (170)* days after the annual commencement of the Phase I interconnection study beginning with queue cluster 6.[55] While these time frames are somewhat longer than the GIP (which provides a 134-day duration), the ISO believes that the revised time frame will result in more meaningful study reports for customers, as the ISO explains in Section II.C(4) of this transmittal letter.

The GIDAP also increases (compared to the time given under the GIP), from five (5) business days to *ten (10) business days*, the amount of time that an interconnection customer has following the Phase I interconnection study results meeting to submit written modifications to any information provided in the interconnection request.[56] This change provides the interconnection customer with more time to digest feedback and comments it received from the ISO and participating TO at its results meeting, consider what if any changes it wants to make to its interconnection request, tender them to the ISO, and, under the GIDAP, evaluate whether to seek TP Deliverability as an Option (A) or an Option (B) facility.

3. Reassessment and Other Requirements Prior to Phase II Interconnection Study

The ISO will conduct the reassessment after the Phase I interconnection studies are completed, as part of the process of preparing the base case for the Phase II interconnection studies. For queue cluster 5, which will be the first cluster to proceed under the GIDAP, the purpose of the reassessment is simply to enable the ISO to conduct the Phase II interconnection study based on the latest available data, most importantly with regard to the status of interconnection requests earlier in the queue.[57]

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[53] GIDAP Section 6.3.2.1.2.

[54] GIP Section 6.8.

[55] GIDAP Section 6.6.

[56] *Compare* Section 6.7.2.2 of the GIDAP *with* Section 6.9.2.2 of the GIP.

[57] The ISO anticipates that the first reassessment, applicable to the queue cluster 5 interconnection study cycle, will be conducted after the Phase I interconnection study in 2013, and will take into account

For queue cluster 6 and beyond, the reassessment will involve two sequential stages, with the allocation of TP Deliverability performed between the two stages. The first stage is to establish the basis for allocating TP Deliverability to the cluster that just completed its Phase II studies (*e.g.*, cluster 5 at the end of 2013). Then, once the allocation is completed, the second stage of the reassessment is to set up the model and assumptions for the next cluster's Phase II studies (*e.g.*, cluster 6, early in 2014). Dr. Zhu explains the reassessment process in greater detail in her testimony.

In preparation for the Phase II interconnection study, the GIDAP requires each interconnection customer, within ten (10) business days after the Phase I interconnection study results meeting, to confirm or modify its desired deliverability status (full capacity, partial capacity, or energy-only) and, for interconnection customers seeking full capacity or partial capacity deliverability status, to select either Option (A) or Option (B).[58]

As discussed further below, the allocation of TP Deliverability depends on what deliverability status each generating facility has elected and whether the interconnection customer selects Option (A) or Option (B). Thus, the provision of this required information by interconnection customers will enable the ISO to identify those proposed generating facilities for which the Phase II study must identify any ADNUs needed to increase deliverability in each group study area beyond the TP Deliverability amount reflected in the latest transmission plan.[59]

The GIDAP also adapts provisions contained in the GIP regarding initial posting and cost responsibility, in order to reflect the integrated approach to transmission planning and generator interconnection set forth in this filing.[60] The GIDAP provisions state that, until the Phase II interconnection study report is issued to the interconnection customer, the costs assigned for RNUs and LDNUs in the Phase I interconnection study report will establish the maximum value for each interconnection customer's cost responsibility and the initial posting of interconnection financial security required from each interconnection customer for such network upgrades.[61] The Phase I

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the status of interconnection customers in the serial study group, the transition cluster, and queue clusters 1 through 4. Zhu Testimony at 18-26.

[58] GIDAP Sections 7, 7.1, and 7.2. The provisions in Sections 7 and 7.1 of the GIDAP are similar to the provisions in Section 6.9.3 of the GIP.

[59] In conjunction with the TP Deliverability allocation process, as described further below, interconnection customers that have already completed the Phase II study process will be required to submit additional information to the ISO to enable the ISO to determine their eligibility for the upcoming TP Deliverability allocation and, for projects previously allocated TP Deliverability, to verify on an annual basis that they have met the criteria for retaining previously allocated TP Deliverability.

[60] *Compare* Section 7.3 of the GIDAP *with* Section 6.7 of the GIP.

[61] The GIP provisions regarding the posting of interconnection financial security are discussed in Section II.E of this transmittal letter.

interconnection study report will set forth the applicable cost estimates for RNUs, LDNUs, ADNUs, and Participating TO interconnection facilities that will be the basis for the initial interconnection financial security posting.[62]

The GIDAP specifies that the ISO's reassessment process, in order to develop the base case for the Phase II studies for the current queue cluster,[63] will include an evaluation of the impacts of status changes of earlier queued projects on the network upgrades that were identified in the *previous interconnection studies* (which were initially performed in prior interconnection study cycles and were assumed in the present interconnection study cycle Phase I interconnection study). This evaluation will consider the impact of:

(a) withdrawals of earlier queued interconnection requests that occurred after the ISO completed the Phase II interconnection studies for the immediately preceding queue cluster;

(b) performance of earlier queued interconnection customers with executed generator interconnection agreements with respect to required milestones and other obligations;

(c) compliance of earlier-queued interconnection customers that were allocated TP Deliverability under the GIDAP with the retention criteria set forth in Section 8.9.3 of the GIDAP;

(d) the results of the TP Deliverability allocation from the prior interconnection study cycle; and

(e) transmission additions and upgrades approved in the most recent Transmission Planning Process cycle.[64]

Where, as a consequence of the reassessment, the ISO determines that changes to the delivery network upgrades previously identified in queue clusters before the current interconnection study cycle will cause changes to plans of service set out in executed generator interconnection agreements, such changes will serve as a basis for amendments to those agreements.[65]

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[62] GIDAP Section 7.3. The ADNU cost estimates referenced in Section 7.3 of the GIDAP are the cost estimates calculated pursuant to Section 6.3.2.1.2 of the GIDAP.

[63] GIDAP Section 7.4.1.

[64] *Id.*

[65] GIDAP Section 7.4.2. These same provisions are also set forth in Article 5.20 of the LGIA and in Article 12.13 of the SGIA contained in this filing.

4. Phase II Interconnection Study

The Phase II interconnection study under the GIDAP is similar in a number of respects to the Phase II interconnection study under the GIP. However, there are also significant differences between those studies. This is because the GIDAP Phase II interconnection study makes use of the classification of projects as Option (A) or Option (B) to focus on needed ADNUs only for the Option (B) projects, while identifying final LDNUs and RNUs for all generating facilities, and determining final cost estimates for all needed network upgrades.[66] In this regard, the GIDAP states that the Phase II interconnection study will accomplish all of the following (with only item (iv) below being a new component of the GIDAP):

(i) update, as necessary, analyses performed in the Phase I interconnection studies to account for the withdrawal of interconnection requests from the current queue cluster;

(ii) identify final reliability network upgrades needed to physically and reliably interconnect the generating facilities and provide final cost estimates;

(iii) identify final LDNUs needed to interconnect those generating facilities selecting full capacity or partial capacity deliverability status and provide final cost estimates;

(iv) identify final ADNUs for interconnection customers selecting Option (B) and provide revised cost estimates;

(v) identify, for each interconnection request, the participating TO's interconnection facilities for the final point of interconnection and provide a plus or minus 20 percent cost estimate; and

(vi) coordinate in-service timing requirements based on operational studies in order to facilitate achievement of the commercial operation dates of the generating facilities.[67]

As with the Phase I interconnection study under the GIDAP, the GIDAP Phase II interconnection study includes an on-peak deliverability assessment that consists of two rounds, the first of which will identify LDNUs to relieve local deliverability constraints and the second of which will identify ADNUs to relieve area deliverability constraints. Final

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[66] Under the GIP, there is no subdivision of delivery network upgrades into LDNU and ADNU, and so the GIP simply identifies final delivery network upgrades.

[67] GIDAP Section 8.1.1. Items (i), (ii), (v), and (vi) listed above are similar to the corresponding provisions in Section 7.1 of the GIP; item (iii) is similar to the corresponding GIP provision except for the use of the new label "LDNU."

LDNUs and also final RNUs will be identified on the basis of all Interconnection Customers in the current queue cluster regardless of whether they have selected Option (A) or (B).[68]

Final ADNUs will be identified for interconnection customers who have selected Option (B) pursuant to the following methodology.[69] The deliverability assessment base case for the Phase II interconnection study will include Option (A) generating facilities in the current interconnection study cycle and earlier-queued generating facilities that will utilize TP Deliverability in a total amount that fully utilizes but does not exceed the available TP Deliverability.

- If the MW capacity of the Option (A) and earlier-queued generating facilities utilizing TP Deliverability in an electrical area, as described above, is equal to or less than the total TP Deliverability in the area, the deliverability assessment base case will include all such Option (A) and earlier-queued generating facilities in the electrical area. In this case there may be some TP Deliverability available in a given area that may reduce the need for incremental ADNUs for Option (B) projects in the Phase II study.

- If the MW capacity of the Option (A) and earlier-queued generating facilities utilizing TP Deliverability in an electrical area exceeds the TP Deliverability in the area, the deliverability assessment base case will include a representative subset of generating facilities that fully utilizes but does not exceed the TP Deliverability. In this case, the Phase II study assumes that there is no TP Deliverability in the given area that could reduce the need for incremental ADNUs for Option (B) projects.

After the ISO has modeled the generating facilities as described above, the ISO will add Option (B) generating facilities to the deliverability assessment base case. Next, ADNUs that are identified as needed for each electrical area will be assigned to Option (B) generating facilities based upon their flow impacts.[70] It is important to note that the Phase II modeling approach just described is designed to identify the "worst case" ADNU requirements for Option (B) projects, assuming they do not receive any allocation of TP Deliverability. In the actual allocation process following the Phase II study, Option (B) projects will be eligible for TP Deliverability allocation as explained below, in which case these "worst case" requirements will be revised for any affected Option (B) projects.

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[68] GIDAP Section 8.2.1.

[69] The methodology is set forth in Section 8.2.2 of the GIDAP.

[70] GIDAP Section 8.2.2.

After final RNUs, LDNUs, and ADNUs are identified, cost responsibility for each of those types of final network upgrades will be assigned pursuant to the GIDAP:

- Cost responsibility for final RNUs identified in the Phase II interconnection study of an interconnection request will be assigned to interconnection customers regardless of whether the interconnection customers have selected Option (A) or (B) or energy-only deliverability status.[71]

- Cost responsibility for final LDNUs will be assigned to all interconnection requests for which full capacity or partial capacity deliverability status is selected, regardless of whether the interconnection customer has selected Option (A) or Option (B).[72]

- Cost responsibility for final ADNUs will be assigned to Option (B) generating facilities with full capacity or partial capacity deliverability status based on a flow impact methodology similar to the methodology that applies to LDNUs.[73]

Time frames for the Phase II interconnection study. Under the GIDAP Phase II interconnection study process, the ISO will commence the Phase II interconnection study on a different schedule than applies under the GIP, and the ISO anticipates that it may sometimes require more time to issue the Phase II interconnection study report than the one hundred ninety-six (196) days set forth under the GIP for issuance of that report.[74]

Accordingly, the GIDAP states that the ISO will use reasonable efforts to commence the Phase II interconnection study by *May 1* of each year (rather than by January 15 of each year, as under the GIP), and to complete and issue the Phase II interconnection study report to interconnection customers within two hundred-five (205) calendar days after the annual commencement of the Phase II Interconnection Study.[75]

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[71] GIDAP Section 8.3. That section of the GIDAP includes provisions for assigning cost responsibility for final short circuit-related RNUs pro rata on the basis of short circuit duty contribution, and to all other final RNUs pro rata on the basis of maximum megawatt electrical output. The provisions are similar to provisions in the GIP. *Compare* Section 8.3 of the GIDAP *with* Section 7.3 of the GIP.

[72] GIDAP Section 8.4. That section of the GIDAP includes provisions for assigning cost responsibility for final LDNUs based on flow impact. The provisions are similar to provisions in the GIP. *Compare* Section 8.4 of the GIDAP *with* Section 7.4 of the GIP.

[73] GIDAP Section 8.4.1. The ADNU cost estimates provided in the Phase II interconnection study will be included in establishing the basis for the second interconnection financial security posting for interconnection customers selecting Option (B). *Id.*

[74] GIP Section 7.5.

[75] GIDAP Section 8.5.

Further, the GIDAP revises the GIP schedule to state that the GIDAP Phase II interconnection study will be completed within one hundred-fifty (150) calendar days following the later of (1) the initial posting of interconnection financial security or (2) the completion of the reassessment conducted prior to the Phase II interconnection study.[76]

While the time frame is longer than the GIP (which provides a 196-day duration), the ISO believes that the revised time frame will result in more meaningful study reports at the conclusion of Phase II. In its processing of the initial clusters, the ISO has received customer requests to consider and incorporate changing circumstances in the post-Phase II study phase. These requests were numerous enough that, in the GIP Phase 1 and GIP Phase 2 stakeholder processes, participants discussed whether the ISO should consider a post Phase II re-study process.[77] A commonly voiced reason to consider a post Phase II re-study process was the desire of interconnection customers that the ISO consider and provide guidance – after Phase II studies were issued but before second posting deadlines – regarding the *potential* cost and interconnection configuration consequences if the ISO *anticipated and assumed* the withdrawal of some of the generation MW within particular study groups or assumed certain changes to the customer's interconnection method of service set out in the study report. The GIDAP study methodology will serve in large part to ameliorate network upgrade cost estimates and configurations which interconnection customers felt were too high and unrealistic because they were based on assumptions that all MW of generation in the group study would move forward. But an increased time frame to conduct the Phase II interconnection study will also provide greater opportunity to formulate study assumptions that incorporate late-arising circumstances, pertaining to and reducing the need for customer guidance and clarification in a post-Phase II setting.

D. Allocation of TP Deliverability

After the Phase II interconnection study reports are issued, the ISO will allocate available TP Deliverability to interconnection customers who demonstrate that they meet the requirements for such allocation.

As discussed below, to be allocated TP Deliverability, interconnection customers must demonstrate that their generation projects are viable as evidenced by their attainment of certain project development milestones, and in order to keep allocated TP Deliverability, such customers must demonstrate that their generation projects remain viable.

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[76] GIDAP Section 8.6.

[77] Materials related to the GIP Phase 1 and Phase 2 stakeholder processes are available on the ISO website at http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorInterconnectionProcedures.aspx.

Parking a generating facility project. Interconnection customers with Option (A) generating facilities that are not allocated TP Deliverability during the first allocation cycle for their queue cluster may elect to "park" their interconnection requests until the next allocation cycle and seek to be allocated TP Deliverability for the project along with eligible projects in the next cluster.[78] Further details regarding the allocation of TP Deliverability are provided in the attached testimony of Dr. Zhu and Ms. Le Vine.[79] Dr. Zhu's testimony includes flowcharts and a hypothetical example showing how the process for allocating TP Deliverability will work.

How TP Deliverability is Allocated. On an annual basis, after the Phase II interconnection study report is issued, the ISO will issue a market notice to inform interested parties as to the timeline for commencement of TP Deliverability allocation activities, interconnection customer submittal of eligibility status and retention information,[80] and anticipated release of allocation results to interconnection customers. There are two components to the allocation process:

(1) accounting for TP Deliverability used by prior commitments; and

(2) allocating the remaining TP Deliverability to Option (A) and Option (B) interconnection customers who meet the criteria set forth in the GIDAP.[81]

These two components are described in more detail below.

Component (1): accounting for TP Deliverability used by prior commitments. As to the first of these components, the ISO will identify the prior commitments that will use TP Deliverability, which consist of the following:

(a) Proposed generating facilities corresponding to earlier-queued interconnection requests that meet the following criteria:[82]

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[78] "Parked" generating facilities compete for TP Deliverability in the next interconnection study cycle on an even playing field with Option (A) and Option (B) generating projects in that interconnection study cycle and are not given any preference based upon the earlier vintage of their interconnection requests.

[79] Zhu Testimony at 14-25; Le Vine Testimony at 7-18. For example, Dr. Zhu explains that the ISO anticipates the TP Deliverability allocation for queue cluster 5 will take place in approximately January-March 2014. Zhu Testimony at 20-21.

[80] GIDAP Section 8.9. Ms. Le Vine explains that interconnection customers will be required to provide information about the status of their projects in approximately January to early February of each year. Le Vine Testimony at 7.

[81] GIDAP Section 8.9.

[82] GIDAP Section 8.9.1. Ms. Le Vine describes affidavit requirements that earlier-queued interconnection customers must meet in order to satisfy criteria set forth in GIDAP Section 8.9.1(a). Le Vine Testimony at 7-9, 11.

(i) proposed generating facilities in queue cluster 4 or earlier that have executed power purchase agreements with load serving entities and have generator interconnection agreements that are in good standing; and

(ii) proposed generating facilities in queue cluster 5 and subsequent queue clusters that were previously allocated TP Deliverability and have met the criteria discussed below for retaining their allocations.

(b) Any maximum import capability included as a planning objective in the Transmission Plan.

(c) Any other commitments to provide deliverability having a basis in the tariff.

Component (2): allocating the remaining TP Deliverability to Option (A) and Option (B) generating facilities that meet viability criteria set forth in the GIDAP. Regarding the second component of the process for allocating TP Deliverability, if the ISO determines that any TP Deliverability remains available for allocation after taking into account the prior commitments under the first component discussed above, then the ISO will allocate that remaining TP Deliverability to generating facilities in the current interconnection study cycle who demonstrate that they meet specified eligibility criteria, and also to eligible "parked" interconnection requests from the previous interconnection study cycle.[83] The ISO discusses the eligibility criteria and the concept of parked interconnection requests below.

An interconnection customer in the current interconnection study cycle will be eligible to be allocated TP Deliverability based on a demonstration that its generating facility is moving toward commercial operation with regard to its permitting status, its financing status, and acquisition of land required for the project.[84] Pursuant to a methodology to be set forth in the business practice manual, the ISO will also assign numerical scores to projects eligible for TP Deliverability based on the extent to which they have been shown to meet those criteria for viability.[85]

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[83] GIDAP Section 8.9.2.

[84] *Id.* At a minimum, the interconnection customer must demonstrate that it has applied for the necessary governmental permit or authorization for the construction and that either (i) there is a commitment of project financing, and there is a regulator-approved power purchase agreement or the interconnection customer is proceeding to commercial operation without a power purchase agreement, or (ii) the interconnection customer does not have an executed power purchase agreement but is included on an active short list or other recognized method of preferential ranking of power providers by a load serving entity that is a prospective purchaser. *Id.*

[85] *Id.*

Subsequent to the allocation: options available to the generating facility, including opportunities to park the generating facility for one allocation cycle. If the amount of generating facilities meeting the eligibility criteria can be fully accommodated by the available amount of TP Deliverability, the ISO will allocate TP Deliverability to all of them. If, however, if the amount of projects meeting the minimum eligibility criteria cannot be fully accommodated by the available amount of TP Deliverability, the ISO will allocate the available TP Deliverability to those generating facilities with the highest numerical scores until the available TP Deliverability is fully allocated. Thus, if the amount of projects meeting the eligibility criteria exceed the amount of TP Deliverability, it is possible that a generating facility may be allocated all, none, or a portion of its requested deliverability capacity. The GIDAP tariff provides options for interconnection customers under each of these circumstances, including the option to decline some or all of the amount of TP Deliverability that has been allocated.

In each category there will be opportunities for an Option (A) project to "park" its interconnection request; meaning that the generating facility may participate in a second TP Deliverability allocation on the same basis as the generating facilities participating in the allocation for the first time.[86] The options available to interconnection customers are described below and also discussed by Ms. Le Vine in her testimony.[87]

The ISO incorporated the parking option into the GIDAP in response to many stakeholders who were concerned that the length of the allocation window following the completion of the Phase II interconnection study may not be sufficient for some viable projects to achieve the project development milestones needed to obtain a TP Deliverability allocation. The ISO believes that allowing Option (A) projects to park for one additional cycle is a reasonable accommodation, since these projects have declared that they would not be viable absent a TP Deliverability allocation and would otherwise be required to withdraw from the queue or, at a minimum, downgrade their project to energy-only deliverability status.

In the stakeholder process, some stakeholder comments argued that interconnection requests should be allowed to park for *more than one cycle*. The ISO considered this, but determined that any longer parking limit would render the Phase II interconnection study results for the parked projects obsolete, while refreshing the study results every year would maintain a potentially large volume of projects in the study process and would thus exacerbate the current problems caused by excessive queue size. Therefore, the ISO concluded that the ability to park for only one allocation cycle strikes an appropriate balance between allowing potentially viable Option (A) projects a second chance in the process for allocating TP Deliverability and preventing less viable projects from lingering in the queue and complicating the study process.

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[86] *Id.*

[87] Le Vine Testimony at 13-18.

(a) Generating Facilities Not Allocated TP Deliverability

If an Option (A) generating facility is allocated less TP Deliverability than it requested or does not desire to accept the amount allocated, the interconnection customer must select one of the following options for further processing of its interconnection request:[88]

(1) Withdraw its interconnection request;

(2) Enter into a generator interconnection agreement, in which case the interconnection request will automatically convert to energy-only deliverability status.[89] In such circumstances, upon execution of the generator interconnection agreement, any interconnection financial security will be adjusted to remove the obligation for security pertaining to LDNUs; or

(3) Park the interconnection request, in which case the interconnection request may remain in the interconnection queue (*i.e.*, remain parked) until the next annual allocation of TP Deliverability in which it may participate. Parking an interconnection request does not confer a preference relative to any other interconnection requests with respect to allocation of TP Deliverability.

If an Option (B) generating facility is not allocated TP Deliverability, the interconnection customer must withdraw its interconnection request or enter into a generator interconnection agreement committing to fund, without reimbursement, the necessary ADNUs and LDNUs.

(b) Partial Allocations of TP Deliverability

As described above, it is possible for a project to be allocated TP Deliverability in the current interconnection study cycle in an amount less than the amount of TP Deliverability requested. If that occurs and the interconnection customer wants to accept the lower amount, the customer selecting either Option (A) or Option (B) must choose one of the following options:

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[88] GIDAP Section 8.9.5.

[89] For an Option (A) generating facility not allocated TP Deliverability that converts to energy-only deliverability status, the GIDAP provides the annual option to be studied to determine whether that customer can be designated for full capacity deliverability status using available transmission capacity. This provision in the GIDAP builds upon a similar provision in the GIP that provides the same annual option to a generating facility previously studied as energy-only deliverability status under the ISO tariff. *Compare* Section 9.2.1 of the GIDAP *with* Section 8.2.1 of the GIP.

(i) Accept the allocated amount of TP Deliverability and reduce the MW generating capacity of the proposed generating facility such that the allocated amount of TP Deliverability will provide the requested deliverability status to the reduced generating capacity;

(ii) Accept the allocated amount of TP Deliverability and adjust the deliverability status of the proposed generating facility to achieve partial capacity deliverability status corresponding to the allocated TP Deliverability;

(iii) For an Option (A) generating facility, accept the allocated amount of TP Deliverability, park the interconnection request, and seek additional TP Deliverability for the remainder of the requested deliverability of the interconnection request in the next allocation cycle. In this case the customer will execute an interconnection agreement for the full MW size of the project with partial capacity deliverability status based on the allocated amount of TP Deliverability, with the understanding that the interconnection agreement will be amended if additional TP Deliverability is allocated to it in the next cycle; or

(iv) Decline the allocated amount of TP Deliverability and either withdraw the interconnection request or convert to energy-only deliverability status. An interconnection customer having an Option (A) generating facility that has not previously parked may decline the allocation of TP Deliverability and park until the next cycle of TP Deliverability allocation.[90]

(c) Declining TP Deliverability Allocation

If an interconnection customer having an Option (A) or (B) generating facility that has not previously parked and is allocated the entire amount of requested TP Deliverability may decline all or a portion of the TP Deliverability allocation and may park as described under item (3) of subsection (a), above.[91]

Required Customer Response to TP Deliverability Allocation. After the ISO releases the results of the TP Deliverability allocation, interconnection customers will have seven days to inform the ISO of their courses of action. After receiving this notice from all affected interconnection customers, the ISO will provide updates where needed to the Phase II interconnection study reports for all generating facilities whose network

[90] GIDAP Section 8.9.5.

[91] GIDAP Section 8.9.6.

upgrades have been affected.[92] The ISO anticipates that approximately 30 days will be required to provide these updates.[93]

In her testimony, Dr. Zhu provides a hypothetical example showing how the process for allocating TP Deliverability will work. The example illustrates how the various components of the process operate in concert to yield allocations of TP Deliverability in accordance with the provisions of the GIDAP discussed above.[94]

Once an interconnection customer is allocated TP Deliverability, it may retain the allocation only if it makes an annual demonstration (up until the time it achieves commercial operation) that it continues to meet the retention criteria specified in the GIDAP.[95] If an interconnection customer fails to retain its allocation of TP Deliverability, the deliverability status of its project will convert to energy-only deliverability status.[96] Ms. Le Vine discusses the actions that interconnection customers must take to demonstrate that they are eligible to be allocated and to retain TP Deliverability and the timing of the required demonstrations.[97]

E. Interconnection Financial Security

The GIDAP carries over a number of provisions from the GIP regarding posting of interconnection financial security by Interconnection Customers and also addresses the use of interconnection financial security in the context of different elements of the new integration approach, including ADNUs, LDNUs, Option (A), and Option (B).[98]

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[92] GIDAP Section 8.9.8;

[93] Zhu Testimony at 16; Le Vine Testimony at 17. After the updated costs and construction schedules have been determined, generator interconnection agreements will be provided and interconnection customers will move toward negotiation and execution of those agreements as described in Ms. Le Vine's and Dr. Zhu's testimony. As Ms. Le Vine notes, developing construction schedules for updated network upgrade costs could take up to an additional 70 days, which may substantially lengthen the time period between completion of the second component of the TP Deliverability allocation and the tendering of generator interconnection agreements to customers. Le Vine Testimony at 17-18.

[94] Zhu Testimony at 18-25.

[95] GIDAP Section 8.9.3. The interconnection customer's obligation to satisfy the retention criteria in order to retain the allocation of TP Deliverability is also set forth in Article 4.6 of the LGIA and in Article 1.10 of the SGIA. Furthermore, Section 3.5.1.4 of the GIDAP states that the ISO's agreement to an extension of the proposed commercial operation date does not relieve the interconnection customer from compliance with the retention criteria.

[96] GIDAP Section 8.9.7.

[97] Le Vine Testimony at 8-9, 11-13.

[98] *Compare* Section 11 of the GIDAP *with* Section 9 of the GIP.

A primary purpose of the interconnection financial security provisions contained in the GIDAP, like those contained in the GIP, is to ensure that developers have sufficient "skin in the game" such that they are encouraged to make decisions regarding the status of their projects as early in the process as possible, and so that projects that are not sufficiently mature to be considered viable for continuation can be identified so that they do not inhibit the overall progress of projects that are ready to progress through the interconnection study cycle. The Commission expressly accepted this interconnection process design element as a just and reasonable, integral component of the ISO's queue cluster process.[99] This reduces the incentive for non-viable projects to remain in the interconnection queue. The interconnection financial security provisions thus satisfy the purposes of Order No. 2003 and the independent entity variation standard.

The initial posting requirement. Under the GIDAP, separate requirements apply to the initial posting of interconnection financial security for by customers selecting Option (A), Option (B) and energy-only deliverability status.

Specifically, interconnection customers (for both large and small generating facilities) selecting Option (A) full capacity or partial capacity deliverability status must initially post for the costs of LDNUs and RNUs in amounts based on the same percentages and dollar limits that currently apply to such customers when they initially post for the costs of network upgrades under the GIP.[100]

Interconnection customers selecting Option (B) full capacity or partial capacity deliverability status must initially post for the costs of ADNUs, LDNUs, and RNUs in amounts based on the same percentages and dollar limits that currently apply to such customers when they initially post for the costs of network upgrades under the GIP.[101] A new feature of the GIDAP, however, as noted earlier, is that when there is an exceptionally large volume of interconnection requests in the queue in a particular area, relative to the amount of TP Deliverability for that area based on the most recent transmission plan, the Phase I study will model a representative amount of new generation in that area in order to identify the next significant incremental ADNU that will be needed, and the ISO will use this incremental ADNU to calculate a per-MW ADNU rate on which to base the initial ADNU posting requirements for Option (B) projects.

Interconnection customers selecting energy-only deliverability status must initially post for the costs of RNUs in amounts based on the same percentages and dollar limits

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[99] *California Independent System Operator Corp.*, 124 FERC ¶ 61,292, at PP 151-57 (2008).

[100] *Compare* Section 11.2.3.1(2) of the GIDAP *with* Section 9.2.3 of the GIP; *compare* Section 11.2.3.2(2) of the GIDAP *with* Section 9.2.3 of the GIP.

[101] *Compare* Section 11.2.3.1(3) of the GIDAP *with* Section 9.2.3 of the GIP; *compare* Section 11.2.3.2(3) of the GIDAP *with* Section 9.2.3 of the GIP.

that currently apply to such customers when they initially post for the costs of network upgrades under the GIP.[102]

In addition, all interconnection customers assigned to a queue cluster must initially post for the costs of participating TO interconnection facilities in amounts based on the same percentages and dollar limits that currently apply to such customers when they initially post for the costs of those interconnection facilities under the GIP.[103]

The GIDAP also specifies if the costs of either the estimated network upgrades or the participating TO interconnection facilities are less than the minimum posting amounts that would apply under the GIDAP, then the initial posting amount required will be equal to the estimated network upgrades amount or the participating TO interconnection facilities amount.[104]

The second posting requirement. Turning to the second posting of interconnection financial security, the GIDAP includes provisions to extend the posting due date to take into account certain circumstances that customers selecting Option (A) may face relating to their requested deliverability.

In particular, for a customer selecting Option (A) whose generating facility was not allocated TP Deliverability in the first TP Deliverability allocation following its receipt of the final Phase II interconnection study, and who chooses to park the interconnection request, the posting due date will be extended by 12 months.[105]

For an Option (A) customer whose generating facility was allocated TP Deliverability for less than the full amount of its interconnection request, and who chooses to seek additional TP Deliverability for the remainder of the requested deliverability of the interconnection request in the next interconnection study cycle, the full posting amounts for participating TO interconnection facilities and for RNUs, and the partial amount for LDNUs corresponding to the initial allocation of TP Deliverability, will be due in accordance with the schedule specified in the GIDAP for the second posting of interconnection financial security (which is the same as the schedule included in the

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[102] *Compare* Section 11.2.3.1(1) of the GIDAP *with* Section 9.2.3 of the GIP; *compare* Section 11.2.3.2(1) of the GIDAP *with* Section 9.2.3 of the GIP.

[103] *Compare* Section 11.2.4.1 of the GIDAP *with* Section 9.2.4.1 of the GIP; *compare* Section 11.2.4.2 of the GIDAP *with* Section 9.2.4.2 of the GIP.

[104] GIDAP Section 11.2.5. By comparison, Section 9.2.4.3 of the GIP only addresses cost estimates less than minimum posting amounts for the costs of estimated participating TO interconnection facilities.

[105] GIDAP Section 11.3.1.3. As Ms. Le Vine explains, this 12-month extension period will allow the second posting of interconnection financial security to be made up to 18 months after the initial Phase II interconnection study results are published (*i.e.*, the normal six-month period for posting set forth in Section 11.3.1.2 of the GIDAP, plus the 12-month extension period). Le Vine Testimony at 20.

GIP). The posting due date for the LDNUs corresponding to the remainder of the requested deliverability will be extended by 12 months, so that the requirement can reflect the outcome of the next allocation cycle.[106]

The same provision will apply to an Option (A) generating facility that was allocated more TP Deliverability than the customer is ready to accept, and who decides to turn down some or all of the allocation and seek TP Deliverability when it is allocated in the next interconnection study cycle.

As is the case with the initial posting of interconnection financial security, separate requirements apply under the GIDAP to the second posting of interconnection financial security by customers selecting Option (A), Option (B) or energy-only deliverability status, depending on the types of network upgrades for which each of those interconnection customers are required to post interconnection financial security pursuant to the relevant studies.

Similar to the initial posting, the percentages and dollar limits applicable to the second posting under the GIDAP are keyed to the percentages and dollar limits that apply to the second posting for the costs of network upgrades under the GIP.[107] Further, as to interconnection customers selecting Option (B), the GIDAP specifies that, to the extent that the customer's generating facility is allocated TP Deliverability, the cost responsibility assigned to the customer for ADNUs will be adjusted to reflect the allocation of TP Deliverability.[108] This adjustment is required to appropriately calculate the cost responsibility of an Option (B) generating facility that is allocated TP Deliverability.

The third posting requirement. With regard to the third interconnection financial security posting, the GIDAP requires interconnection customers to "true-up" their interconnection financial security posting amounts so that the security instruments reflect one hundred percent of the total cost responsibility assigned to the interconnection customers for network upgrades (and participating TO interconnection facilities), which is also a requirement under the GIP.[109]

In addition, the GIDAP specifies that an interconnection customer whose Option (B) generating facility was not allocated TP Deliverability and elects to have a party other than the applicable participating TO(s) construct an LDNU or ADNU is not

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[106] GIDAP Section 11.3.1.3. Section 11.3.1.2 of the GIDAP and Section 9.3.1.2 of the GIP specify the same schedule for the second posting of interconnection financial security.

[107] *Compare* Sections 11.3.1.4.1 and 11.3.1.4.2 of the GIDAP *with* Section 9.3.1.2 of the GIP.

[108] GIDAP Sections 11.3.1.4.1(3)(b) and 11.3.1.4.2(3)(b).

[109] *Compare* Section 11.3.2.1 of the GIDAP *with* Section 9.3.2 of the GIP.

required to make the third posting in favor of the participating TO for its cost responsibility for such LDNU or ADNU.[110]

Instead, this interconnection customer will be required to demonstrate its financial capability to pay for the full cost of construction of its share, as applicable, of the LDNU or ADNU consistent with ISO Tariff Section 24.4.6.1, which is the merchant transmission developer model. Once construction of network upgrades commences and the interconnection customer demonstrates that the funds expended equal the avoided cost of the third posting, the interconnection customer will be refunded that portion of its second posting of interconnection financial security corresponding to the facilities whose construction it is undertaking. Interconnection customers may make other arrangements with the participating TO for the return of the second posting.[111]

Partial refund of financial security postings upon withdrawal. The GIDAP includes the same list of circumstances set forth in the GIP that entitle an interconnection customer to recover a portion of the customer's interconnection financial security upon withdrawal of an interconnection request or termination of a generator interconnection agreement.[112] In addition, the GIDAP lists two other circumstances specific to Option (A) and Option (B) that also entitle such an Interconnection Customer to partial recovery of its Interconnection Financial Security:

(1) If a customer selecting Option (A) is not allocated TP Deliverability and notifies the ISO of its election to withdraw by the deadline for the second posting of interconnection financial security. If the customer parks the interconnection request until the next allocation cycle, the deadline for notification of withdrawal is extended to 18 months after the customer receives its final Phase II study results; or

(2) If a customer selecting Option (B) receives a Phase II interconnection study cost estimate for ADNUs that exceeds its Phase I interconnection study cost estimates for ADNUs by either twenty (20) percent or $20 million, whichever is less, and notifies the ISO of its election to withdraw by the deadline for the second posting of interconnection financial security.[113]

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[110] GIDAP Section 11.3.2.1.

[111] *Id.*

[112] *Compare* Section 11.4.1 of the GIDAP *with* Section 9.4.1 of the GIP.

[113] GIDAP Sections 11.4.1(e) and 11.4.1(f). These two additional circumstances are also discussed in Ms. Le Vine's testimony at page 20.

The first of these additional circumstances is available only to an Option (A) interconnection customer because an interconnection customer electing Option (B) has thereby indicated its willingness and ability to pay for ADNUs. However, in view of the fact that the Phase I interconnection study process does not provide a customer selecting Option (B) with cost caps on its ADNUs, the ISO proposes to include the second of the above-listed additional circumstances to allow an Option (B) customer to recover a portion of its interconnection financial security if the specified increase in interconnection study cost estimates for ADNUs occurs.

These additional provisions in the GIDAP benefit customers selecting Option (A) and Option (B), respectively, by enhancing their ability to partially recover interconnection financial security in appropriate circumstances. The GIDAP also streamlines the schedule set forth in the GIP for refunding that portion of interconnection financial security to interconnection customers, and lists in a more easily understandable format the formula included in the GIP for calculating the refund amount.[114]

The GIDAP revises the provisions in the GIP regarding establishment of cost responsibility for interconnection customers to specify the maximum values of interconnection financial security required for LDNUs and RNUs, for interconnection customers in a queue cluster and in the independent study process. Cost estimates for ADNUs in any study report will not establish a maximum cost responsibility for ADNUs but are estimates only.[115] The GIDAP also states that, for customers selecting Option (B), the most recent annual reassessment study report will provide the most recent cost estimates for the interconnection customer's ADNUs and the customer will adjust its interconnection financial security for ADNUs to correspond to the most recent estimate.[116] This may be significant if, following the results of the TP Deliverability allocation process, some projects decide to downsize or withdraw from the queue, which in turn reduces some of the network upgrade requirements and costs facing the Option (B) projects. These provisions in the GIDAP are needed to set forth the means of establishing the maximum values of interconnection financial security required for LDNUs and RNUs for different interconnection customers, and to make clear that no such maximum values apply to ADNUs.

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[114] *Compare* Section 11.4.2 of the GIDAP *with* Section 9.4.2 of the GIP.

[115] GIDAP Section 10.

[116] GIDAP Section 11.5.

F. Construction of and Payment for Network Upgrades

1. Construction Obligation

Similar to provisions in the GIP, the GIDAP requires applicable participating TO(s) to finance and construct any network upgrades necessary to support the interconnection of the generating facility of an interconnection customer with a generator interconnection agreement whenever the network upgrades were included in the interconnection base case data for a Phase II interconnection study, on the basis that they were network upgrades associated with generating facilities of interconnection customers that have an executed or unexecuted generator interconnection agreement (or its equivalent predecessor agreement) filed with the Commission, and such agreement specifies that the participating TO would construct the network upgrades, and either:

(i) the network upgrades will not otherwise be completed because such agreement or equivalent predecessor agreement was subsequently terminated or the Interconnection Request has otherwise been withdrawn; or

(ii) the network upgrades will not otherwise be completed in time to support the interconnection customer's in-service date because construction has not commenced in accordance with the terms of such agreement.[117]

To address the construction of ADNUs for an Option (B) generating facility in one of these types of situations, the GIDAP also states that, where the participating TO is constructing ADNUs for customers and one of the two conditions described above occurs, the participating TO will continue to construct such ADNUs with financing provided from the interconnection financial security of those customers, with any additional financing requirements to be reapportioned among those remaining Option (B) generating facilities who still need the ADNUs.[118] These provisions are necessary to ensure the financing required to construct the ADNUs.

The GIDAP also specifies that the applicable participating TO(s) are required to construct network upgrades, with the exception of LDNUs and ADNUs for Option (B) generating facilities that were not allocated TP Deliverability and that make the following choice. For those LDNUs and ADNUs, interconnection customers may instead, at their discretion, select parties other than the applicable participating TOs to perform the construction if the LDNUs and ADNUs are eligible for construction by parties other than the applicable participating TOs pursuant to ISO Tariff Section 24.5.2. Such ADNUs

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[117] *Compare* Section 14.2.2 of the GIDAP *with* Section 12.2.2 of the GIP.

[118] GIDAP Section 14.2.2.

and LDNUs will be incorporated into the ISO controlled grid pursuant to the provisions for merchant transmission facilities in ISO tariff Sections 24.4.6.1 and 36.11.[119]

2. Initial Funding and Repayment Regarding Network Upgrades

i. Initial Funding of Network Upgrades

Similar to the GIP provisions regarding initial funding of RNUs and delivery network upgrades, the GIDAP states that RNUs and LDNUs will be funded by the interconnection customer(s) either by means of drawing down the interconnection financial security or by the provision of additional capital, at each interconnection customer's election, up to a maximum amount no greater than that established by the cost responsibility assigned to each interconnection customer.[120] Further, the applicable participating TO(s) will be responsible for funding any capital costs for the RNUs and LDNUs that exceed the total cost responsibility assigned to the interconnection customers.[121] Like the GIP, the GIDAP also addresses funding responsibility and invoicing for network upgrades that have been assigned to one or more interconnection customers, based on their assigned cost responsibilities.[122]

ii. Compensation for Network Upgrade Costs

A key element of this filing involves modifying the existing model for customer reimbursement for the costs of network upgrades. Under the ISO's current interconnection process set forth in the GIP, generation developers are guaranteed cash reimbursement from ratepayers on a dollar for dollar basis for 100 percent of the financial security they have posted and that has been expended to cover the costs of their RNUs and DNUs, regardless of the costs of those upgrades.[123] This is the case with respect to both the upgrades necessary to reliably connect a customer to the ISO controlled grid (RNUs) as well as those upgrades driven by a customer's request to obtain deliverability for purposes of meeting California's resource adequacy requirements (DNUs).

Present GIDAP limitation feature. In this filing, as discussed below, the GIDAP includes a limit on eligibility for cash reimbursement for network upgrade costs under certain circumstances, while providing that customers will receive congestion revenue

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[119] GIDAP Section 14.3. Similar provisions are set forth in Article 5.1.5 of the LGIA and Article 5.2.1 of the SGIA included in this filing.

[120] *Compare* Section 14.3.1 of the GIDAP *with* Section 12.3.1 of the GIP.

[121] *Compare* Section 14.3.1 of the GIDAP *with* Section 12.3.1 of the GIP.

[122] GIDAP Section 14.3.1.

[123] GIP Section 12.3.2.1.

rights (*i.e.*, the ISO's financial transmission rights) associated with transmission capacity added to the grid by any upgrades that are not subject to cash reimbursement. The two main reasons for these revisions are to:

(1) ensure that the reimbursement provisions are consistent with and support the goal of identifying major network upgrades necessary to realize California's renewable policy objectives through the ISO's TPP; and

(2) promote efficient siting decisions on the part of generation developers in order to protect ratepayers against excessive costs with respect to those network upgrades that will still be identified in the interconnection process and built.

Consistency with Order No. 2003. These revisions are consistent with Commission precedent and strike an appropriate balance between promoting viable projects necessary to achieve California's renewable energy goals, providing ratepayers with protection against excessive upgrade costs, and continuing to provide a reasonable path for projects to obtain interconnection to the ISO controlled grid.

As a general matter, the ISO's proposal to limit the circumstances under which interconnection customers are eligible for cash reimbursement for their network upgrade costs is consistent with Order No. 2003 and the tariff provisions of other ISOs/RTOs regarding compensation for network upgrades. It is well established that ISOs/RTOs are required to compensate interconnection customers for their contributions to the cost of network upgrades, but that ISOs/RTOs are not required to compensate interconnection customers for their contributions to the cost of network upgrades solely in the form of cash repayment. Instead, an ISO/RTO may provide compensation to such interconnection customers in the form of financial transmission rights, which constitutes a type of participant funding.[124]

In Order No. 2003, the Commission recognized that "providing transmission service credits [*i.e.*, cash repayment] for the cost of network upgrades that would not be needed but for the interconnection of the new generating facility mutes somewhat the interconnection customer's incentive to make an efficient siting decision that takes new transmission costs into account."[125]

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[124] "Participant funding means requiring the interconnection customer to pay for network upgrades in exchange for some type of financial transmission right and, while such financial rights may ultimately yield some type of congestion revenue, the actual cost of the network upgrade is never credited back to the interconnection customer as it would be in the normal Order No. 2003 crediting scheme." *California Independent System Operator Corp.*, 124 FERC ¶ 61,292, at P 131 (2008).

[125] Order No. 2003 at P 695.

To address this issue, the Commission explained that "a well-designed and independently administered participant funding policy for Network Upgrades offers the potential to provide more efficient price signals and a more equitable allocation of costs than the crediting approach."[126] The Commission stated that it would allow each ISO/RTO "flexibility regarding the interconnection pricing policy that each independent entity chooses to adopt, subject to Commission approval" – including the flexibility for the ISO/RTO to adopt participant funding.[127] In this regard, the Commission stated that "when the Transmission Provider is an independent entity, the Commission is much less concerned that all generation owners will not be treated comparably because independence ensures that the Transmission Provider has no incentive to treat Interconnection Customers differently."[128]

Consistent with the directives in Order No. 2003, the Commission has authorized provisions in the tariffs of other ISOs/RTOs to provide participant funding for network upgrades in the form of financial transmission rights:

- Under the Midwest ISO tariff, "an interconnection customer that funds or is charged network upgrade costs, that are not repaid, is entitled to FTRs [financial transmission rights], as well as long term transmission rights based on any additional transmission capacity created by the upgrades."[129]

- "Consistent with the guidelines set forth in Order No. 2003, and generator interconnection principles approved for other ISOs/RTOs, the [New York ISO] Deliverability Plan requires interconnection customers to fund transmission

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[126] *Id.*

[127] *Id.* at P 698. The Commission had approved participant funding proposals by ISOs/RTOs even before the Order No. 2003 proceeding. The Commission explained in Order No. 2003-A that "we have permitted the direct assignment of Network Upgrade costs by an independent Transmission Provider when the Interconnection Customer receives well-defined congestion rights in return." Order No. 2003-A at P 692 (citing *Pennsylvania-New Jersey-Maryland Interconnection*, 81 FERC ¶ 61,257, at 62,259-60 (1997), *order on reh'g and clarification*, 92 FERC ¶ 61,282, at 61,955-56 (2000), *remanded on other grounds sub nom. Atlantic City Elec. Co. v. FERC*, 295 F.3d 1 (D.C. Cir. 2002)).

[128] Order No. 2003 at P 701.

[129] *Midwest Independent Transmission System Operator, Inc. and the Midwest ISO Transmission Owners*, 129 FERC ¶ 61,060, at P 27 n.38 (2009). *See also Midwest Independent Transmission System Operator, Inc.*, 114 FERC ¶ 61,106, at P 65 (2006) ("Regarding the concern that it is unclear whether Interconnection Customers will receive FTRs for their transmission expansion investments, we believe that [the Midwest ISO tariff] allows Interconnection Customers to receive FTRs made feasible by such projects"). These provisions are contained in Section 46 of the Midwest ISO tariff. Subsequently, the Commission also approved the use of this methodology for allocating the costs of a new category of transmission projects in the Midwest ISO designated as Multi Value Projects ("MVPs"). *Midwest Independent Transmission System Operator, Inc.*, 133 FERC ¶ 61,221, at P 332 (2010), *order on reh'g*, 137 FERC ¶ 61,074, at P 210 (2011).

upgrades in return for the opportunity to receive valuable, tradable TCCs [transmission congestion contracts]."[130]

- The PJM tariff requires the interconnection customer to pay 100 percent of the costs of the minimum amount of local upgrades and network upgrades necessary to accommodate its new service request and that would not have been incurred under PJM's Regional Transmission Expansion Plan but for the new service request, for which the interconnection customer receives capacity interconnection rights and incremental auction revenue rights.[131]

- The Commission approved Southwest Power Pool's proposal that "Interconnection Customers will pay the 'but for' costs of the interconnection and in return receive a valuable right to future revenues when the Network Upgrades funded by the customer are used by other customers."[132]

Like these other ISOs/RTOs, the ISO proposes to provide financial transmission rights (specifically, CRRs) to an interconnection customer as compensation for contributing to the cost of network upgrades, to the extent the interconnection customer does not receive cash repayment. The ISO, as an independent entity, will apply this participant funding proposal consistently across all interconnection customers in queue cluster 5 and subsequent queue clusters, consistent with the requirements of Order No. 2003. Thus, the ISO's proposal is just and reasonable and consistent with Order No. 2003 and the tariff provisions of other ISOs/RTOs.

ADNU and LDNU cost reimbursement. In the GIDAP, the ISO proposes to limit cash reimbursement for ADNUs and LDNUs as follows:

- Option (B) generating facilities that were not allocated TP Deliverability will not receive cash repayment for ADNUs or LDNUs. For LDNUs, except for LDNUs for Option (B) generating facilities that were not allocated TP Deliverability, the interconnection customer will receive cash reimbursement in accordance with the customer's assigned cost responsibility.

- To the extent the interconnection customer does not receive cash reimbursement for ADNUs or LDNUs, the interconnection customer will be eligible for

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[130] *New York Independent System Operator, Inc. and New York Transmission Owners*, 122 FERC ¶ 61,267, at PP 42-43 (2008). The provisions to implement this component of the New York ISO Deliverability Plan are contained in Section 25.7.2 of Attachment S to the New York ISO Open Access Transmission Tariff.

[131] *PJM Interconnection, L.L.C.*, 108 FERC ¶ 61,025, at PP 19-20 (2004). These provisions are contained in Sections 217(3), 230, and 231 of the PJM tariff.

[132] *Southwest Power Pool, Inc.*, 122 FERC ¶ 61,060, at P 30 (2008). These provisions are contained in Attachment Z2 of the Southwest Power Pool tariff.

compensation in the form of merchant transmission CRRs associated with the network upgrades or portions thereof that were funded by the interconnection customer.[133]

The GIDAP provisions requiring interconnection customers to elect Option (A) or Option (B) for each of their projects, and the related provisions establishing, for each of these options, the cost responsibilities, financial security requirements, reimbursement rules, opportunities for TP Deliverability allocation, and the choices available to projects following the allocation process, all fit together to comprise a central design feature of the GIDAP which addresses one of the primary objectives of the entire TPP-GIP integration initiative. Specifically, a key objective the ISO articulated at the start of this initiative was to limit the exposure of transmission ratepayers to excessive costs for interconnection-driven transmission expansion, in a manner that creates financial incentives for generation developers to locate in areas where transmission is being developed through the TPP and to make progress in developing their projects, while ensuring non-discriminatory open access for all interconnection customers. The Option (A) and Option (B) structure and associated tariff provisions form the mechanism by which the GIDAP accomplishes this objective. As such, the requirement that Option (B) projects not allocated TP Deliverability that want to continue to achieve their requested deliverability status must commit to fund their needed LDNUs and ADNUs as merchant transmission is crucial to this aspect of the GIDAP proposal.

Further, with respect to ADNUs and LDNUs that will still be identified in the interconnection process, limitations on cash reimbursement provide an incentive for interconnection customers to make efficient siting decisions that take new transmission costs into account, as the Commission recognized in Order No. 2003. This incentive means that interconnection customers will be less likely to make siting decisions that result in ratepayers having to fund ADNUs and LDNUs that are underutilized or unutilized or that would not have been necessary if better siting decisions had been made.

RDNU cost reimbursement. As to the repayment of RNUs, the GIDAP provides that:

- the interconnection customer will receive cash repayment for RNUs in accordance with its assigned cost responsibility, up to a maximum of $60,000 per MW of generating capacity.

- To the extent the cost of an interconnection customer's RNUs exceed the cash repayment maximum, the interconnection customer will be eligible for compensation in the form of merchant transmission CRRs associated with the

[133] GIDAP Section 14.3.2.1. Article 11.4.1.1 of the LGIA and Article 5.3.1.1 of the SGIA provide for compensation for ADNUs and LDNUs on this same basis.

transmission capacity added to the ISO grid by those RNUs or portions thereof that were funded by the interconnection customer.[134]

The repayment limit of $60,000 per MW for RNUs is appropriate based on an analysis conducted by the ISO. To determine the repayment limit, the ISO calculated the average of GIP Phase 2 RNU costs per MW of installed generating capacity, for all transition cluster projects and all projects in queue clusters 1 and 2.[135] The repayment limit of $60,000 per MW, besides being slightly above the arithmetic mean of the cost distribution for these projects, is the 71st percentile of the cost distribution, *i.e.*, 71 percent of the total project MW included in the ISO's historical data set had per-MW RNU costs below $60,000.[136] Thus, the $60,000-per-MW limit can be expected to result in full cash repayment for RNUs for the majority of projects, and will provide an incentive for interconnection customers to avoid siting their projects in locations where the costs of RNUs needed to support the interconnections will be inappropriately high.[137]

G. Application of the GIDAP to Queue Cluster 5 and Subsequent Queue Clusters

The GIDAP will apply to interconnection requests that are assigned to queue cluster 5 and subsequent queue clusters, but will not apply to pre-cluster 5 projects, which are already subject to the GIP.[138]

In the stakeholder process for this filing, some stakeholders suggested that the ISO should also make the GIDAP applicable to the earlier queue clusters. The ISO considered these comments but determined that it is more appropriate to apply the GIDAP only to queue cluster 5 and subsequent queue clusters because making earlier queue clusters subject to the GIDAP would be problematic at this late date. In this regard, the Phase II interconnection study processes for queue clusters 1 and 2 have

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[134] GIDAP Section 14.3.2.1; LGIA Article 11.4.1.1; SGIA Article 5.3.1.1.

[135] "Integration of Transmission Planning and Generator Interconnection (TPP-GIP Integration) Final Proposal" at slide 16 (Mar. 16, 2012) ("March 16 Presentation"). The March 16 Presentation is available on the ISO's website at http://www.caiso.com/Documents/Presentation-TransmissionPlanning-GeneratorInterconnectionProceduresIntegration.pdf. In the stakeholder process for this filing, the ISO originally proposed a repayment limit for RNUs of $40,000 per MW, based on the approximate average of GIP Phase 2 RNU costs for Cluster 1 and 2 projects, excluding the four highest-cost-per-MW projects. *Id.* However, the ISO subsequently determined that the proposed limit should be raised to $60,000 per MW based on calculation of the average per-MW cost of RNUs using a larger and more inclusive historical data set. Attachment A to March 16, 2012 Board Memorandum (Attachment K to this filing) at 3.

[136] March 16 Presentation at slide 16.

[137] Zhu Testimony at 4.

[138] GIDAP Section 1. The GIDAP will also apply to interconnection requests submitted for the Independent Study Process or the Fast Track Process after the effective date of this filing. *Id.*

been completed, the study process for clusters 3 and 4 is well underway, and customers with projects in these clusters or even earlier in the queue have proceeded thus far on the expectation that the current GIP provisions would apply to them. Moreover, the ISO is already taking steps under the current GIP provisions to address issues with those queue clusters.

In particular, the ISO has reassessed the Phase II interconnection study results for queue clusters 1 and 2 to identify and remove from the study results those delivery network upgrades that would:

(1) be costly and require large postings of interconnection financial security by interconnection customers in queue clusters 1 and 2;

(2) take many years to build, thus delaying deliverability for queue cluster 1 and 2 generating facilities and adversely affecting their ability to provide resource adequacy capacity as required by their bilateral power purchase agreements; and

(3) be unlikely to be needed based on the amount of new generation expected to actually receive power purchase agreements and become commercially viable, thus adding uncertainty regarding when the successful projects will achieve their requested deliverability status.

On this basis, the ISO has provided addenda to the Phase II interconnection study results for queue clusters 1 and 2 that remove the delivery network upgrades meeting the three criteria discussed above.[139]

The ISO is now performing the Phase II interconnection study process for queue clusters 3 and 4, taking into account the results of the reassessment performed for queue clusters 1 and 2, and will apply a similar evaluation of the delivery network upgrades required for projects in clusters 3 and 4 as part of the process to finalize their Phase II study results.[140]

These evaluations for queue clusters 1 through 4 are expected to result in significant savings to ratepayers because they will not be required to fund the costly and unnecessary delivery network upgrades initially identified in the cluster study process.

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[139] The ISO described this reassessment process in a technical bulletin issued on January 31, 2012, as revised on February 2, 2012 ("Reassessment Technical Bulletin"). At the same time, the ISO also posted a technical report documenting the results of its reassessment of the network upgrade requirements for Clusters 1 and 2. The Reassessment Technical Bulletin is available on the ISO website at http://www.caiso.com/Documents/TechnicalBulletin-GeneratorInterconnectionProcedures-DeliverabilityRequirements-Clusters1-4Jan31_2012.pdf, and the technical report is available on the ISO website at http://www.caiso.com/Documents/TechnicalReport_cluster1_2DeliverabilityRe-Assessment.pdf

[140] Reassessment Technical Bulletin at 12-13.

These evaluations will also benefit the interconnection customers for these projects by relieving them of upgrade cost obligations, associated with large network upgrades driven by unrealistic queue volumes, which were impeding their ability to negotiate power purchase agreements and obtain project financing. The results of these evaluations to address issues with queue clusters 1 through 4 should be permitted to stand, without introducing the complications that would result from trying to apply the provisions of the GIDAP to those queue clusters.

Declining to apply the GIDAP to queue clusters 1 through 4 is also consistent with guidance provided by the Commission as to reforms affecting late-stage interconnection requests. The Commission has recognized that

> reforms that would affect existing interconnection requests that are in later stages of the [interconnection] process . . . could significantly disrupt the activities of customers who may have taken action in reliance upon the existing process.[141]

The ISO's Phase II interconnection study processes for queue clusters 1 through 4 (as modified by the ISO evaluations described above) are in their later stages, and interconnection customers in those queue clusters entered the interconnection queue and have made significant expenditures and commitments based on the expectation that the existing tariff rules would apply. Therefore, in the ISO's assessment, applying the GIDAP to those earlier queue clusters would significantly disrupt the ISO's interconnection process and should not be required.[142]

H. Cluster Application Windows

The ISO proposes to revise the schedule in the GIDAP for submitting interconnection requests for a queue cluster from the schedule set forth in the corresponding provisions of the GIP. Specifically, GIDAP will discontinue the GIP structure providing for two cluster application windows associated with each interconnection study cycle.[143]

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[141] *Interconnection Queuing Practices*, 122 FERC ¶ 61,252, at P 19.

[142] Although the GIDAP will not apply to pre-cluster 5 projects, the allocation of TP Deliverability under the GIDAP, discussed in Section II.D of this transmittal letter, does take into account the status of projects earlier in the queue for the purpose of determining how much TP Deliverability should be reserved for the earlier projects and not allocated to projects in queue cluster 5 and subsequent queue clusters. This assessment, referred to as step 1 of the TP Deliverability allocation process, is essential to prevent excessive allocation of TP Deliverability which could, in turn, drive a need for additional transmission expansion in the TPP beyond the transmission required by the resource portfolios formulated for identifying public policy-driven transmission.

[143] Under the GIP, there is an initial cluster window that that opens on October 15 and closes on November 15 of the calendar year before the year in which the ISO will conduct the interconnection study cycle. This early window gives customers the opportunity to submit an interconnection request package

Instead, the GIDAP specifies that a single cluster application window for queue cluster 5 opened on March 1, 2012 and closed on March 31, 2012, and, starting with queue cluster 6, a single cluster application window will open on April 1 and close on April 30 of each year.[144] These revisions are needed to more closely align the timeline under the GIDAP with the Transmission Planning Process timeline.[145]

The ISO recognizes that the March 31, 2012 closing date for queue cluster 5 is already past and thus interconnection customers in that queue cluster did not have an opportunity to decide prior to March 31 whether to wait until the Commission issued an order on the GIDAP before deciding whether to enter the queue cluster. Therefore, the ISO has included a provision in the GIDAP that gives each interconnection customer in queue cluster 5 the choice to withdraw from the interconnection queue within ten (10) calendar days of the date of issuance of a Commission order on the GIDAP, with a refund of the interconnection customer's interconnection study deposit *less actual costs expended on interconnection studies to date of withdrawal*.[146] In advance of this tariff filing, the ISO issued a market notice on February 10, 2012 to inform interested parties that the ISO would include this withdrawal feature in the ISO's TPP-GIP tariff amendment filing.[147]

Because cluster 5 interconnection customers will have the option to withdraw after a Commission order is issued, the Phase I interconnection studies cannot begin until the cluster composition is finalized. Thus, as discussed in Dr. Zhu's and Ms. Le Vine's testimony and in Section IV below, the careful coordination of the cluster 5 and 6 studies with the TPP is very dependent upon timely Commission approval of the ISO's GIDAP proposal.

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to the ISO and have a scoping meeting in the December-January time frame, and obtain preliminary feedback on the request information, even though the studies relating interconnection request application will not commence until after the second window (March 1-31) closes and applications collected in this window are processed. In the GIP Phase 1 stakeholder process, stakeholders indicated that the "early look" opportunity of the October 15-November 15 window would be valuable, and so the ISO incorporated it into the GIP. Under the GIDAP, however, the timing of the study processes and the inclusion of a mid-stage reassessment process make having a similar early window unworkable.

[144] GIDAP Section 3.3.1.

[145] The timeline for the Transmission Planning Process is provided in Attachment L to this filing.

[146] In this respect, the "forfeiture element" of GIDAP Section 3.5.1.1(b) will not be applied to customers withdrawing from queue cluster 5 within the 10-day period after the Commission order is issued.

[147] The ISO's February 10, 2012 market notice can be accessed on the ISO's website at http://www.caiso.com/Documents/GeneratorInterconnectionProcedures-QueueCluster5.htm.

I. Miscellaneous Tariff Revisions

In addition to the tariff revisions discussed above, this filing contains the miscellaneous revisions described below.

1. Inclusion of References to the GIDAP in Pertinent ISO Tariff Definitions

In this filing, the ISO proposes to define the GIDAP in the ISO tariff as the interconnection procedures applicable to an interconnection request pertaining to a generating facility processed under Appendix DD to the tariff. The ISO also proposes to modify the existing definitions of the terms *Fast Track Process*, *Independent Study Process*, *Interconnection Study Cycle*, *On-Peak Deliverability Assessment*, *Queue Cluster*, *Reasonable Efforts*, and *Roles and Responsibilities Agreement* to make those terms applicable under both the GIP and the GIDAP.

2. Inclusion of GIP Definitions in Appendix A

For ease of reference, the ISO proposes to include, in Appendix A to the ISO tariff, the definitions of the terms *Force Majeure*, *Governmental Authority*, and *Phased Generating Facility* contained in the GIP.

3. Appendices to the GIDAP

In this filing, the ISO proposes to include certain provisions in the appendices to the GIDAP that differ from the corresponding provisions in the GIP. For example, Attachment A to Appendix 4 of the GIDAP contains different Phase I and Phase II timelines than does the GIP. These differences are intended to reflect the timelines and other features specific to the GIDAP.

The ISO also proposes to omit certain provisions from the appendices to the GIDAP that are included in the appendices to the GIP. They have been omitted from the GIDAP because they are inapplicable to it. For example, the GIDAP omits Appendix 2 to the GIP, which contains Large Generator Interconnection Procedures relating to the Large (L) transition cluster, because there GIDAP does not provide for the transition of any cluster 1-4 projects to the new process and thus there is no GIDAP transition cluster.

III. Stakeholder Concerns Voiced and Other Design Elements Discussed During Stakeholder Process

As discussed above, the ISO conducted a robust and lengthy stakeholder process, solicited comments, and incorporated many stakeholder suggestions and concerns into the final GIDAP proposal approved by the ISO Board of Governors.

Other issues raised by stakeholders during the final stages of the initiative sought further clarification of specific GIDAP concepts or proposed tariff language

A. The Possibility that Large Amounts of Proposed Generation in a Study Area Will Drive Excessive LDNU Costs

Stakeholders expressed concern that, although ADNUs are likely to be large infrastructure upgrades identified and approved through the TPP, it is possible that large volumes of interconnection requests within a study area could require costly LDNUs. According to the GIDAP design and the proposed tariff language, Option (A) generating facilities allocated TP Deliverability are not required to post financial security for ADNUs but are required to make postings for RNUs and LDNUs. Stakeholders argued that excessive LDNU costs, where the needs for the LDNUs are based on a volume of proposed projects that is unlikely to move forward to completion or that result from a high concentration of proposed generation projects within a smaller sub-area of a resource development area specified in the TPP portfolios, will create barriers to achieving power purchase agreements and financing that are comparable to the barriers now being created under GIP by large area network upgrade costs.

The ISO recognizes this concern and has provided an appropriate and effective remedy, as described in Dr. Zhu's testimony. As she explains, LDNUs relieve local deliverability constraints that affect generators located on a few buses electrically close to each other and that should not, due to their local configuration, trigger high cost upgrades. If the ISO finds, during the interconnection study process, that the geographic or electrical pattern of interconnection requests within a sub-area of a TPP portfolio resource area triggers an exceptionally costly local network upgrade, then the limiting constraint would be classified as an area deliverability constraint since it will affect a substantial portion of the proposed generation projects within the relevant TPP portfolio area.

As Dr. Zhu explains, the ISO would identify such a situation and make the appropriate classification as part of the Phase I study process.[148] Once the constraint is classified in this manner, the network upgrades needed to mitigate it would not appear as LDNUs associated with the generation projects in the area.

B. Participating TO Up-Front Funding for Delivery Network Upgrades

Under GIP Section 9.3.3, a participating TO could commit to up-front fund network upgrades that the participating TO is required to construct and for which interconnection customers are assigned cost responsibility. In such situations, the interconnection customer would be relieved of the obligation to make the second and third financial security postings for such upgrades. This provision is not included in

[148] Zhu Testimony at 8-10.

GIDAP Appendix DD. Although the issue was discussed during the TPP-GIP integration initiative, some stakeholders questioned the rationale for eliminating the participating TO up-front funding option as the tariff language was being developed.

During the early meetings when the ISO's straw proposals were first vetted with stakeholders, the ISO made it clear that integrating the generation interconnection process with the TPP involved a significant paradigm shift with which the concept of participating TO upfront funding for network upgrades was not compatible. Specifically, the GIP participating TO funding option caused a disconnection between the TPP and the GIP because large participating TO-funded network upgrades developed in the GIP were not subject to the ISO's holistic transmission planning and the ISO Board of Governors approval process, but instead were simply included in base case planning assumptions once the generator interconnection agreement had been executed and the up-front funding provisions accepted by the Commission in the proceeding in which the non-conforming interconnection agreement was filed. Furthermore, participating TOs had the discretion to choose particular generation interconnection projects to which to grant up-front funding, creating the possibility of discrimination among potentially similarly situated interconnection requests.

In the context of the GIDAP, such discretionary granting of benefits to specific projects would tend to confound key elements of the GIDAP proposal designed to incentivize interconnection customers to elect Option (A) or (B) based on the strengths and merits of their projects and to allocate TP Deliverability based on project development milestones as objective indicators of project viability. Finally, generating facilities with network upgrades funded by the participating TO would be more likely to enter into generation interconnection agreements simply to preserve the up-front funding benefit, regardless of the other factors that the GIDAP would consider regarding the viability of the project. This would add to the backlog of customers remaining in the ISO's queue without necessarily making progress towards construction milestones.

Thus, maintaining participating TO up-front funding of network upgrades would not be consistent with the GIDAP objectives to facilitate a holistically-planned transmission network to meet public policy goals, and provide a framework for allocating TP Deliverability to projects that align most efficiently with the development of public policy-driven transmission approved through the TPP.

C. Limitation on Reimbursement for Network Upgrades

As discussed above in Section II.F(2) of this transmittal letter, the GIDAP places a repayment limitation on recovery of RNU costs. In the stakeholder process, and particularly at the March 23, 2012 meeting before the ISO Board of Governors, some stakeholders from the generator community argued that this dollar repayment amount for RNUs was too low, while other parties, particularly parties from non-CPUC jurisdictional load-serving entities, argued that the dollar reimbursement amounts were too high and did not sufficiently rein in ratepayer cost responsibility for repayment to

interconnecting generators. The ISO contends that these disparate positions help to illustrate that the GIDAP proposal has struck the right balance of interests with respect the desire of interconnecting generators for cash repayment and the desire of ratepayer constituents who pay the ISO's transmission access charge to place appropriate cost limitations on such repayments. Moreover, as explained above, the ISO's analysis of recent RNU cost data that was used to establish the $60,000 per MW of installed capacity upper limit demonstrates that over 70 percent of all project capacity would have their RNU costs fully reimbursed, which the ISO finds to be convincing evidence that the limit effectively protects ratepayers against excessive costs without imposing an undue burden on project developers.

D. The ISO's Deliverability Assessment

The California Wind Energy Association ("CalWEA") participated actively in the TPP-GIP integration stakeholder process and submitted several versions of comments in response to the ISO's straw proposals and draft final proposals. CalWEA expressed support for many of the overall design objectives, and made suggestions that are consistent, at high level, with the final proposal approved by the ISO Board of Governors.[149] However, CalWEA expressed such fundamental concerns with the ISO's on-peak deliverability assessment methodology, along with some later-developed design elements, that towards the end of the stakeholder initiative CalWEA no longer supported the proposal.[150]

CalWEA's concerns with the ISO's on-peak deliverability assessment methodology are misplaced. Essentially, CalWEA's recommendations as to methodology would increase the amount of generation within a constrained grid area that is designated as "deliverable," but this would come at the cost of reducing the effectiveness of the resource adequacy program. Moreover, the ISO's fundamental deliverability methodology with which CalWEA takes issue, which is used not only in the

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[149] For example, in comments submitted to the ISO on January 31, 2012, CALWEA agreed with the concepts that TPP Deliverability should be allocated based on readiness milestones, that interconnection requests meeting milestones should be allowed to park and participate in the next cycle, and that the ISO should base Phase I delivery network upgrades costs on a portion of the large delivery network upgrades being triggered by the cluster. CalWEA's January 31 comments can be accessed on the ISO website at http://www.caiso.com/Documents/CalWEAComments-SecondRevisedStrawProposal_TransmissionPlanning_GeneratorInterconnectionIntegration.pdf. All written stakeholder comments submitted during the ISO's TPP-GIP integration initiative are posted to the ISO's webpages for this initiative, and can be accessed at http://www.caiso.com/Documents/Transmission%20planning%20and%20generator%20interconnection%20integration%20-%20stakeholder%20comments.

[150] See the comments that CalWEA submitted to the ISO on March 1, 2012, which are available on the ISO website at http://www.caiso.com/Documents/CalWEA_Comments_TransmissionPlanning_GeneratorInterconnectionProceduresIntegrationDraft%20Final%20Proposal.pdf.

generation interconnection process but also in the ISO's transmission planning process, is beyond the scope of and is not modified by this TPP-GIP initiative.

CalWEA's comments about the deliverability assessment methodology do not reflect an accurate understanding of the methodology and its importance for ensuring the effectiveness of the resource adequacy program. CalWEA recommends a number of changes to modeling assumptions in the deliverability studies that would make it easier for more generating capacity to be found to be deliverable in an area, with the practical result that under certain realistic stress conditions the ISO would not be able to utilize the full amount of resource capacity to meet load. Specifically, CalWEA states that "the import dispatch on a particular intertie should be limited to the Maximum Import Capacity (MIC) of that intertie," and that "the dispatch level of an existing inside-CAISO-BAA generator must limited to the assigned deliverability level for that generator."[151] However, MIC is expressly used for import assumptions in the ISO's methodology, and other than intermittent generation, qualified capacity is also expressly used as the maximum generation output assumption in the ISO's methodology.

CalWEA also suggests, without support or rationale, that wind generation should be modeled at "30% of nameplate capacity as opposed to the 40% to 64% nameplate capacity as typically assigned by the CAISO."[152] CalWEA overlooks the fact that the ISO's deliverability study methodology is based on ensuring that generation in a generation pocket is deliverable 80 percent of the time during summer peak load hours. Therefore, for wind generation, the ISO studies a production level during summer peak load hours that will ensure this level of deliverability is feasible over 80 percent of the rate of production levels used to calculate its qualified capacity when it is needed.

CalWEA also suggests that the ISO's assessments of Category C contingencies under "super-stressed" conditions are unnecessary. The fact is, however, that the ISO required by reliability standards of the North American Electric Reliability Corporation ("NERC") to analyze these conditions as part of its interconnection studies. Finally, CalWEA accuses the ISO of "refusing to take into consideration" lower cost solutions to criteria violations, such as congestion management or the use of special protection schemes ("SPS") and load shedding. These recommendations are also inappropriate, since the ISO has often considered and adopted SPS for Category C contingencies. Congestion management is not a viable option for these contingencies, however, because curtailed generation is not available for resource adequacy purposes.

As a practical matter, the ISO's proposal addresses many of CalWEA's concerns with the GIP and the high costs of DNUs being driven by queue cluster generation in various resource areas. The Commission should not consider CalWEA's challenges to

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[151] *Id.* at Attachment, p. 3.

[152] *Id.*

the ISO's deliverability assessment methodology as raising fundamental flaws in the ISO's TPP-GIP integration proposal.

E. "First-Mover, Late-Comer" Provisions

In the stakeholder process to develop the GIDAP proposal, the ISO agreed to include "first-mover, late-comer" provisions, based on the same principles on which the Midwest ISO adopted comparable provisions accepted by the Commission.[153] The idea behind "first-mover, late-comer" provisions is that when an Option (B) generating facility ("project 1") pays for network upgrades without cash reimbursement, and those upgrades provide transmission capacity beyond the needs of project 1 which then reduce the need for network upgrades for a generating facility ("project 2") in a subsequent cycle, project 2 would reimburse project 1 for a share of the cost of project 1's upgrades, in proportion to project 2's flow impacts on those facilities. In developing the revised tariff provisions for the GIDAP, however, the ISO discovered that these "first-mover, late-comer" provisions would never be triggered due to the introduction of the Option (A) and Option (B) provisions and the design of the TP Deliverability allocation process in the GIDAP.

This is because the extra capacity of the delivery network upgrades paid for by project 1 will become part of the overall transmission capacity and therefore part of TP Deliverability that will be allocated to eligible Option (A) and (B) generating facilities in the next cycle, and, according to the GIDAP construct, will not be paid for by these generating facilities. Thus the design of the GIDAP allocation process would always lead to the result that any extra TP Deliverability created by a customer-funded ADNU would be allocated to eligible projects in a subsequent TP Deliverability allocation cycle. Regardless of whether the generating facility in the subsequent cycle is Option (A) or Option (B), the facility would not be responsible for the cost of ADNUs under the GIDAP structure if it is allocated TP Deliverability. Therefore the ISO would not collect funds from the later project 2 with which to reimburse the earlier project 1.[154]

The ISO also considered whether ratepayer funds should be used to compensate project 1 for project 2's utilization of the ADNU paid for by project 1. However, this approach would undermine a fundamental objective of the GIDAP: to limit ratepayer exposure to the costs of major deliverability upgrades to transmission additions or upgrades approved in the TPP. The whole reason why the ADNU needed to be funded by project 1 was because there was not sufficient ratepayer funded transmission capacity – as calculated from the existing transmission grid as modified by approved

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[153] *Midwest Independent Transmission System Operator, Inc.*, 129 FERC ¶ 61,301, at P 29 (2009).

[154] The same outcome would result for an LDNU because, again, subsequent projects that utilize the additional TP Deliverability would utilize it as a result of the allocation process and would have no cost responsibility for the LDNU. Although one could argue that projects allocated TP Deliverability do have financial security posting requirements associated with LDNUs, such postings are fully refundable and would not be used to compensate project 1 for the cost of its upgrades.

transmission additions and upgrades up through the most recent comprehensive transmission plan – to provide deliverability to project 1. Once constructed, the ADNU will be included in a subsequent TPP along with project 1, and the unused deliverability it provides will be available for allocation in the TP Deliverability allocation process. If project 2 receives an allocation of TP Deliverability and the ISO were to require ratepayers to reimburse project 1 for a portion of the cost of an ADNU, then ratepayers would be required to fund a potentially costly network upgrade that was not found to be needed under the TPP criteria. In this manner, a first mover could create a situation where ratepayers are required to reimburse some of the cost of an ADNU that was never approved in the TPP. The inefficiency of such an outcome is especially obvious in a situation where the customer-funded ADNU does not even support generation projects in any of the TPP portfolio study areas. Project 1 could decide to interconnect in an area of the grid that was not designated as an area for generation development to meet the public policy requirements address in the TPP. Yet the ADNU it pays for could create extra capacity in that area that would be allocated as available TP Deliverability to subsequent projects. The ISO believes that ratepayer reimbursement to project 1 in such a situation would clearly be inappropriate.

With regard to RNUs, the ISO believes that implementing "first-mover, late-comer" provisions also would not be appropriate. First of all, based on historical estimates, roughly 70 percent RNU costs will be fully reimbursed.[155] Second, if a generating facility is responsible for multiple facilities that may comprise its RNUs, it would be arbitrary to assign any customer-funded portion of the costs to specific facilities for purposes of tracking cost shares of subsequent projects. Third, most RNUs will be specific to an individual project, or potentially a few projects on network nodes very close together, and so in most cases they would provide little or no benefit to subsequent projects. Fourth, it would be extremely complicated and to a large extent arbitrary to try to track the flow impacts of all new projects on the small amounts of incremental capacity created by RNUs that represent portions of the RNU capacity that is not reimbursed to the interconnection customers, with very minor financial benefits resulting from such efforts.

As a result of the above considerations, the ISO has concluded that "first-mover, late-comer" provisions, though conceptually appealing, would not be consistent with the GIDAP proposal because, given the design of the TP Deliverability allocation process and the Option (A) and Option (B) distinction, these provisions would never be triggered. Since the Commission has previously found that allocation of merchant CRRs commensurate with the incremental CRR capacity added to the ISO grid is just and reasonable compensation to a party that bears the cost of merchant transmission projects, the ISO is not proposing to also include "first-mover, late-comer" provisions in the GIDAP filing.

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[155] Zhu Testimony at 4.

IV. Effective Date

The ISO requests that the tariff revisions contained in this filing be made effective sixty-one (61) days after the date of this filing, *i.e.*, July 25, 2012. This timing is critically important to the carefully phased coordination of studies between the transmission planning process and the Phase I and II studies for queue clusters 5 and 6.

As Dr. Zhu explains,[156] the cluster 5 Phase I study must be completed by January 2013 so that the Phase II study can begin in May 2013, which is two months before the cluster 6 Phase I study begins. This timing is important to ensure coordination between clusters 5 and 6 and also to provide cluster 5 customers sufficient time between the Phase I and Phase II studies to select Option (A) or (B) and to post the appropriate financial security deposit.

In order for the cluster 5 Phase I study to be completed by January 2013, the study must begin as promptly as possible. However, as discussed above and described in Dr. Zhu's testimony, cluster 5 interconnection customers will have the opportunity to withdraw from the queue within ten days of a Commission order on this proposal and with a full refund of their initial study deposit (less actual expenditures). Thus, the cluster 5 Phase I study cannot begin until the ten-day withdrawal period is completed. If the date of the Commission order is later than July 25, 2012, the Phase I study period will be compressed and the required mid-January completion date will be in danger of slipping, which will throw off the entire schedule.

If the date of the Commission order is later than July 25, the ISO will either have to make some problematic adjustments to the planned schedules for cluster 5 and cluster 6 interconnection study processes, or forego application of the new GIDAP to cluster 5 entirely and process the roughly 17,000 MW of new interconnection requests under the current GIP provisions. Adjustments to the planned study schedules would mean that the Phase I study period will be compressed and the required mid-January completion date will be in danger of slipping. Pushing out the cluster 5 Phase I study results will delay the beginning of the cluster 5 Phase II studies, thereby either delaying the cluster 6 Phase I study development, or compromising the coordination between the study assumptions used in transmission planning and the cluster 5 and cluster 6 interconnection studies.

Alternatively, treating cluster 5 under the current GIP tariff instead of the GIDAP would forego, for a significant volume of new interconnection requests, the opportunity to apply GIDAP's more effective cost responsibility incentives to these projects in order to encourage them to select efficient points of interconnection and encourage non-viable projects to withdraw from the queue sooner. The ISO's current process would perpetuate the requirement for transmission ratepayers to fully reimburse

[156] Zhu Testimony at 25-26.

interconnection customers in cash for all network upgrades needed by projects that achieve commercial operation, wherever the projects are located and regardless of whether the interconnection costs align with the benefits derived by the system from the generation addition.

The ISO understands that this proposed coordination of its two major infrastructure improvement procedures is complex. However, the ISO has gone to great lengths to involve its stakeholders in the development of the GIDAP, and has attempted to balance competing interests wherever possible, including the development of proposed tariff language. It is hoped that the ISO's efforts in this regard will narrow the focus of parties' comments and possible protests in this docket and that this will facilitate an order within the requested 61-day time period.

V. Communications

Correspondence and other communications regarding this filing should be directed to:

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VI. Service

The ISO has served copies of this filing on the CPUC, the California Energy Commission, and all parties with Scheduling Coordinator Agreements under the ISO tariff. In addition, the ISO has posted a copy of the filing on the ISO website.

VII. Contents of this Filing

In addition to this transmittal letter, this filing includes the following attachments:

Attachment A	Tariff Roadmap
Attachment B	Prepared Direct Testimony of Songzhe Zhu (Exhibit No. ISO-1)
Attachment C	Prepared Direct Testimony of Deborah A. Le Vine (Exhibit No. ISO-2)
Attachment D	Clean Tariff Sheets for Revisions to ISO Tariff Appendix A and for the GIDAP (ISO Tariff Appendix DD)
Attachment E	Clean Tariff Sheets for the GIDAP LGIA (ISO Tariff Appendix EE)
Attachment F	Clean Tariff Sheets for GIDAP SGIA (ISO Tariff Appendix FF)
Attachment G	Redlined Revisions to ISO Tariff Appendix A and for the GIDAP
Attachment H	Redlined GIDAP LGIA
Attachment I	Redlined GIDAP SGIA
Attachment J	List of Key Dates in the Stakeholder Process
Attachment K	ISO Governing Board Memorandum
Attachment L	Timeline for Revised Transmission Planning Process

VIII. Conclusion

The ISO respectfully requests that the Commission accept the tariff revisions proposed in this filing effective as of July 25, 2012.

Respectfully submitted,

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