



# Memorandum

**To:** ISO Board of Governors

**From:** Keith Casey, Vice President, Market and Infrastructure Development

**Date:** September 10, 2015

**Re:** **Decision on interconnection process enhancements**

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***This memorandum requires Board action.***

## EXECUTIVE SUMMARY

California's ambitious renewable portfolio standards and environmental goals have resulted in significant development of new generation projects in recent years, especially new renewable solar and wind projects. The majority of project developers request interconnection to facilities under the operational control of the ISO. Over the years, the ISO has made numerous policy and process improvements to how it manages the interconnection study process and queue. These changes, many of which were designed to address specific concerns of renewable energy developers, have resulted in a very effective interconnection process. The ISO is now in a position of continuous improvement where certain refinements and clarifications to the interconnection process are required to manage projects in the current interconnection queue and to provide additional structure and clarification for projects seeking to interconnect in future queue clusters.

The ISO and its stakeholders identified a total of eleven (11) topics for inclusion in the interconnection process enhancements initiative this year. Two topics, "affected systems" and "time-in-queue limitations" are still being finalized in the stakeholder process and are expected to be brought to the Board in November. The other nine (9) topics have reached successful conclusion in the stakeholder process and are being presented here for Board consideration. The majority of these proposed tariff changes are i) clarifications consistent with ISO implementation; ii) changes to streamline processes and be more responsive to project needs; iii) changes to close some identified gaps in the current interconnection process; and iv) changes to reflect management of projects since the Generator Interconnection and Deliverability Allocation Procedures were put in place in 2012. The bulk of these proposed tariff changes are broadly supported by stakeholders. Remaining stakeholder concerns are

discussed later in this memo and summarized in the accompanying stakeholder matrix (Attachment A). The specific nine topics being presented here for Board consideration include the following:

1. Align the timeline for negotiation of generator interconnection agreements with interconnection customer proposed commercial operation date and construction timelines for network upgrades.
2. Provide interconnection customers with greater study cost certainty by modifying interconnection request study deposits to \$150,000 for both small and large generators from the current deposit requirement of \$50,000 plus \$1,000 per megawatt up to \$250,000 and adding study deposit requirements of \$10,000 for limited operation studies, repowering studies, and modifications requested after the commercial operation date.
3. Mitigate cost-shifting risks to participating transmission owners and interconnection customers by requiring security for self-build stand-alone network upgrades until the generator interconnection agreement is signed.
4. Expand project changes allowed between phase I and phase II studies to include in-service date, trial operation date, commercial operation date, and point of interconnection.
5. Allow the ISO to issue updates to the phase II study results for changes due to interconnection customer or participating transmission owner modification requests.
6. Update generator interconnection agreement insurance requirements and language to be consistent with current insurance industry standards.
7. Clarify the earliest date interconnection financial security postings may be made, when study report revisions associated with errors and omissions may adjust posting dates, how the ability to obtain interconnection financial security refunds associated with failure to secure a power purchase agreement applies to interconnection customers that have attested to balance sheet financing.
8. Clarify that the non-refundable portion of funds from withdrawn interconnection customers during the downsizing process is based on the pre-downsizing capacity of the project.
9. Clarify that projects electing transmission plan deliverability option B can proceed as energy-only deliverability status or withdraw.

Management recommends the following motion:

***Moved, that the ISO Board of Governors approves the proposed interconnection process enhancements, as described in the memorandum dated September 10, 2015; and***

***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.***

## **DISCUSSION AND ANALYSIS**

The ISO currently has 273 active projects in the interconnection queue that have not achieved commercial operation. Ninety-nine (99) of these were submitted during the open application window in April of this year. The ISO has been more successful in moving projects to completion or withdrawal over the past several years with the formation of the queue management team. However, the queue continues to grow at a rapid pace given California's aggressive clean energy policies, particularly Governor Brown's 50% renewable energy goal by 2030. Continuous improvement in the form of policy modifications and clarifications to the interconnection process are required in order to maintain the ISO's ability to effectively manage the queue. To that end, Management is seeking Board approval of the following items:

**Negotiation timeline:** Currently the start of interconnection agreement negotiation is based on interconnection study timelines. The agreement is tendered within 30 days of the final results and intended to be negotiated and executed within 120 days. This timing often conflicts with the interconnection customer's actual need for an effective agreement because they typically have not secured a power purchase agreement or a commitment for financing at the time the interconnection study is completed. Currently the ISO has 38 projects that are in the queue (some since 2007), that have long ago received their study results and have yet to execute their generator interconnection agreement because the negotiations can be extended indefinitely by mutual agreement of the ISO and participating transmission owner, and such agreement cannot be unreasonably withheld. To address the conflict between the current timing of agreement tendering and negotiation versus when the interconnection customer needs an executed agreement for financing and construction of the project, Management proposes to start the negotiation timeline based on the project's in-service date and transmission construction timeline rather than so many days after posting of its final study report.

Management is also proposing to change the impasse clause in the tariff. The current tariff only allows the interconnection customer to declare that negotiations of the interconnection agreement are at an impasse, which then requires the participating transmission owner and ISO to file the agreement unexecuted with the Federal Energy Regulatory Commission. This is problematic because these agreements are three-party agreements among the ISO, participating transmission owner, and the interconnection customer, so the ISO and participating transmission owner also should have the same rights. Management therefore proposes to clarify that any party may declare that negotiations are at an impasse. The ISO and participating transmission owner may declare an impasse only after the 120-day negotiation period, and the interconnection

customer will have three weeks' notice before the participating transmission owner or the ISO files the agreement unexecuted at FERC.

The last clarification proposed for negotiating generator interconnection agreements is that the interconnection customer must keep its project's in-service date and commercial operation date viable. In many cases the interconnection customer remains in the interconnection queue with milestones or a commercial operation date that has already passed or has become infeasible. Management proposes to hold interconnection customers responsible for requesting extensions to their in-service date and commercial operation date, as appropriate, while in the ISO interconnection queue. The ISO will notify the interconnection customer that its project milestone dates are outdated and allow it time to enter the modification assessment process to request new dates. If the interconnection customer does not timely request a modification assessment, then based on existing tariff authority the ISO will notify the interconnection customer that the project will be deemed withdrawn. The proposal includes a thirty day cure period, after which the project will be withdrawn from the queue.

**Study Deposits:** With the implementation of the cluster study process, and the generator interconnection and deliverability allocation procedures, the current deposit for interconnection requests of \$50,000 plus \$1,000 per requested megawatt is insufficient to cover the actual interconnection study costs that are charged to interconnection customers at the end of the study process. This is particularly problematic for new developers with small generator projects that need significant guidance from the ISO and the participating transmission owner, resulting in a surprise invoice at the end of the study process because the developer posted a smaller deposit but ended up being charged a larger amount that reflects the actual study and consultation costs incurred for its project. Additionally the current deposit structure does not accurately reflect the current study cost allocation, which assigns costs equally to each project in a cluster. For these studies, size is irrelevant to, regardless of whether they are a small or large generator because the engineering work performed by the ISO and participating transmission owner staff is no different for a small versus a large project. The average study costs of a project for the most recently completed queue cluster was \$156,500, with a range of \$60,339 to \$233,749. The cost difference is not driven by the size of the project, it is driven by the length of time the project is in the study process (e.g. phase I or phase I and phase II) and the interconnection customer support provided by the ISO and participating transmission owner. Therefore, there is no justification for a lower deposit for small projects. Accordingly, the ISO proposes changing interconnection request study deposits to \$150,000 for all projects entering the queue. While slightly less than last year's average, the ISO believes this figure is reasonable based on efficiencies gained from the ISO and participating transmission owner's recent experience in cluster studies.

Current tariff provisions require the interconnection customer to pay for study costs based on the actual cost incurred by the ISO and participating transmission owner, including those for limited operation studies, repowering studies, and modifications that

are requested after the commercial operation date has passed. However, the ISO can only invoice interconnection customers after the studies have been completed. To provide consistency with the study deposit requirements for all other study work, the ISO proposes to require a \$10,000 study deposit for limited operation studies, repowering studies, and modifications after the commercial operation date.

**Self-build stand-alone network upgrades:** Self-build stand-alone network upgrades are upgrades that the interconnection customer itself may construct if they are not required for any other project and will not affect ISO operations. The ISO and the participating transmission owner must provide consent to any self-build stand-alone network upgrade. Current policy allows the interconnection customer to forgo posting financial security for self-build upgrades; however, this has proven problematic in two ways. First, interconnection customers often have used this ability to avoid posting financial security for the self-build stand-alone network upgrade, which results in a lower posting and therefore, if the project withdraws there is a lower amount of non-refundable security.

Second, if later queued projects are relying on the self-build stand-alone network upgrade as a critical base case assumption for their interconnection requirements and the interconnection customer that elected to self-build stand-alone network upgrade withdraws, the participating transmission owner must then upfront finance the network upgrade for the subsequent cluster without sufficient forfeited funds.<sup>1</sup> Therefore, the ISO proposes that the interconnection customer be required to post financial security for self-build stand-alone network upgrades until an interconnection agreement is executed. The ISO will incorporate in the interconnection agreement the cost responsibility for both the self-build stand-alone network upgrade and the participating transmission owner's financing the stand-alone network upgrade. This will allow the ISO and participating transmission owner to allocate financial risk and contemplate resolution in the agreement in case this issue should arise. This change creates a more level playing field among interconnection customers that propose to self-build stand-alone network upgrade and other interconnection customers.

**Allowable changes between phase I and phase II generator interconnection studies:** Currently, interconnection customers can only make limited types of changes between the phase I and the phase II study results without the need to enter into the material modification process. Management proposes to expand the scope of allowable changes to include in-service date, trial operation date, commercial operation date, and point of interconnection. This will allow the information going into the phase II studies to more accurately represent the project that will ultimately be built.

**Updates to the phase II study results:** The ISO currently does not have explicit authority to issue updates to the phase II study results for changes that are due to

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<sup>1</sup> This has been very problematic when the initial project is building its own switchyard to interconnect to the participating transmission owner facilities and a project in a subsequent cluster selects the switchyard as its point of interconnection.

interconnection customer or participating transmission owner modification requests, including project scope changes that happen after the study results have been published. The ISO only has the authority to issue updates for errors or omissions, and for system changes associated with the annual reassessment. This is problematic because changes resulting from an interconnection customer or participating transmission owner request can impact a project's maximum cost responsibility and financial security requirements. Without the ability to issue an update to the final study report, the ISO is not able to capture these cost changes in the agreement. Management therefore proposes to modify the tariff to allow updates to the phase II study results for changes due to interconnection customer or participating transmission owner modification requests.

**Generator interconnection agreement insurance:** Some of the existing insurance coverage provisions of the large generator interconnection agreement are commercially outdated or no longer available. The ISO proposes to update insurance terms and conditions that reflect current insurance industry standards.

**Interconnection Financial Security:** A number of changes have been requested by interconnection customers to clarify the security posting process. While the tariff is clear that postings are due no later than a specified number of days after study results are issued, there has been some confusion as to the earliest date that the posting can be made.<sup>2</sup> Management proposes to clarify that the earliest date a financial security posting can be made is upon issuance of the associated study report.

When interconnection studies are found to have errors or omissions, they can affect a project's maximum cost responsibility and financial security requirements or posting dates. There has been some confusion as to whether adjustments to the posting date applies to study report changes that occur after the initial and second postings have been made. Therefore, Management proposes to allow modification to financial security posting dates if errors or omissions are identified prior to the initial or second posting dates. The third (and final) posting occurs when construction of the network upgrades or interconnection facilities is started by the participating transmission owner and consequently the associated posting date cannot be impacted by report revisions.

Further, the amount of non-refundable interconnection financial security upon withdrawal is adjusted if an interconnection customer is unable to obtain a power purchase agreement. In reviewing the transmission plan deliverability process, Management has identified a gap in the tariff that has allowed interconnection customers to obtain higher refund amounts by claiming that they were unable to obtain a power purchase agreement when in fact they had previously attested that they were willing to self-finance the network upgrades and interconnection facilities for their project and proceed without a power purchase agreement. The ISO proposes to close this gap

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<sup>2</sup> The first posting is due on or before 90 days after issuance of the final phase I interconnection study report, and the second posting is due on or before 180 days after issuance of the final phase II interconnection study report.

by eliminating the ability of an interconnection customer that has attested to balance sheet financing in the transmission plan deliverability affidavit from obtaining interconnection financial security refunds associated with failure to secure a power purchase agreement.

**Forfeiture of funds for withdrawal during the downsizing process:** Current tariff language associated with the generator downsizing process has resulted in an unintended loophole regarding the amount of refundable financial security when an interconnection customer withdraws during or after the downsizing process. Consequently, some interconnection customers have used the downsizing process merely as a means to reduce their financial security before they withdraw. Management proposes to modify the tariff language to explicitly state that projects may not withdraw during the downsizing process, and refunds of interconnection financial security if a project withdraws after the downsizing study is completed will be based on the pre-downsized capacity of the project. This tariff change closes an unintended loophole and ensures that all withdrawing customers are treated similarly.

**Transmission plan deliverability option B clarification:** Before their phase II study, generators must elect to move forward only if they receive deliverability transmission planning deliverability allocation (Option A); or to move forward with the obligation to fund all deliverability upgrades if a transmission plan deliverability allocation is not received (Option B). Option A interconnection customers who do not receive deliverability are able to withdraw, convert to energy only, or park for one year until the next deliverability allocation. Currently, there are limitations on interconnection customers electing Option B that force them to withdraw under certain circumstances. Management proposes to relax some of these limitations and allow Option B interconnection customers also to proceed as energy only.

## **POSITIONS OF THE PARTIES**

The ISO conducted several rounds of stakeholder outreach on these topics consisting of an issue paper/straw proposal, revised straw proposal, and draft final proposal. Stakeholders were able to provide comments at each phase. Attachment A provides the specific dates of the initiative activities along with the final specific comments received from stakeholders and the ISO's response.

The bulk of the proposals that are the subject of this memo received broad stakeholder support. There was initial opposition to the self-build stand-alone network upgrade proposal from EDF Renewable Energy and the Large Scale Solar Association, who indicated that there should be cost cap modifications upon execution of the generator interconnection agreement. The ISO agreed and has provided this clarification in a revised draft final proposal.

Several parties, including S-Power, Large Scale Solar Association, Independent Energy Producers, and NRG Energy oppose the proposal for basing refundable portion of financial security based on pre-downsizing capacity in the event the customer withdraws

from the queue. These parties would prefer that the capacity be based on the post-downsizing capacity in certain situations and that implementation be delayed until after the 2015 annual downsizing process. The intent of the annual downsizing process—as developed in a past stakeholder process—is for projects to use the downsizing process to “right size” their projects and develop them and not merely to reduce the non-refundable portion of financial security prior to withdrawal. However, the tariff did not strictly preclude this practice and some customers used the downsizing process for the purpose of reducing the non-refundable portion of their financial security prior to withdrawal. Management is proposing to close this loophole so that all customers that withdraw will be subject to the same impact regardless of whether they have elected to go through the downsizing process. Accordingly, Management believes that implementation for the 2015 annual downsizing process is appropriate.

## **CONCLUSION**

Management recommends that the Board approve the nine changes proposed in this memorandum. These changes are generally supported by stakeholders and were refined to address many of their comments and concerns throughout the stakeholder process. The proposed modifications will greatly improve the ISO’s ability to administer the queue more efficiently as we move closer to meeting California’s ambitious renewable energy and environmental goals.