



# Memorandum

**To:** ISO Board of Governors

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

**Date:** September 1, 2010

**Re:** **Decision on Improvements to the Generator Interconnection Procedures**

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*This memorandum requires Board action.*

## EXECUTIVE SUMMARY

The California Independent System Operator Corporation has a significant role in helping load serving entities meet California's renewable portfolio standard (RPS). In addition to facilitating the interconnection of all new transmission-level generation projects, the ISO, as the transmission system operator, must ensure that all generator interconnections are safe and reliable. Currently, the ISO has separate processes for large generators (greater than 20 MW) and small generators (20 MW or less) interconnection requests. In 2008, the ISO revised its large generator interconnection process to more efficiently and effectively complete the interconnection process for proposed large generation projects.

The state's RPS has led to a recent dramatic increase in the number of small generator requests for interconnection to the ISO-controlled grid and an even more dramatic increase of interconnection requests to transmission owners for connection to their distribution-level grids. Studying these requests under the current serial process is creating a backlog, and, based on our experience with the Large Generator Interconnection Procedures, will delay development of these projects if the ISO does not take timely action. To address this concern, the ISO proposes to combine the large and small interconnection study processes into a single process that no longer requires one-by-one studies but instead studies groups of electrically related projects on a set schedule.

Management's proposed improvements to the small generator interconnection procedures will not only allow interconnection requests to be studied more quickly and efficiently, but also restructure the overall interconnection study process to recognize the increasing interdependency of interconnection requests to each other and to the overall transmission system. Additional features of the proposal include:

- Creating a single, unified interconnection process, for all projects regardless of size;

- Making deliverability assessments available for all interconnection projects, including existing energy-only generation projects; and
- Realigning study costs and interconnection customer funding of the interconnection facilities to better reflect actual costs and risks.

Management is seeking Board approval to file tariff language with FERC to improve the generator interconnection procedures. Management has worked extensively with stakeholders to understand the issues from the perspectives of both those that perform the interconnection studies and those that wish to connect to the electric system. The final proposal described below was developed to provide solutions to the issues that were identified through the stakeholder process. Based on stakeholder feedback, the ISO made changes to the proposal to balance stakeholder interests.

***Moved, that the ISO Board of Governors approves the proposed tariff change regarding the generator interconnection procedures, as detailed in the memorandum dated September 1, 2010; 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.***

## **BACKGROUND**

As stated earlier, the state's RPS goals have led to a dramatic increase in the number of small generator interconnection requests to the ISO controlled grid. Prior to 2008 only a few applications were received annually. However from 2008 through 2010 the ISO has received over 150 small generation interconnection applications, 96 of which were received this year. The large number of interconnection requests requiring study has overwhelmed the ISO small generator interconnection process. Under this process, each project has to be studied one at a time in a serial manner. As such, all lower queued requests have to wait while the higher queued projects are completed. Every change or withdrawal of a higher queued project hinders the progress of lower queued projects moving through the interconnection process.

Additionally, since the ISO is managing a single electric grid, the impacts of both small and large interconnection requests must be considered. Before the significant increase in requests, the ISO was able to quickly study projects one at a time because the projects were scattered throughout the transmission system. Generally, small projects could easily be studied and their impacts were minimal. With the large number of requests and their collective impact on the transmission system, there is an increasing interdependency between projects, leading to the need for projects to be studied together as a group or cluster. The impacts of these small generation projects can be cumulative and in many instances look electrically the same as a large generation project. For this reason, Management is proposing to study both small and

large interconnection requests in a single, unified interconnection process that provides options for faster studies under certain circumstances.

## **PROPOSAL**

Management's proposal includes improvements which will facilitate the study of large numbers of interconnection requests, while providing reliable cost and schedule information. Under this proposal, both small and large generator interconnection requests will be studied in a single, unified interconnection process with two optional study tracks.

### **Cluster Study Track**

Most projects will be studied in a cluster, where the most effective transmission solutions will be determined for projects that have mutual dependencies on common transmission circuits. The proposed timeline for the cluster study track was accelerated compared to the existing large generator interconnection procedures. In fact, the proposed cluster study process timeline is approximately 420 calendar days which is comparable to the current small generator interconnection procedures timeline of approximately 390 calendar days.

### **Accelerated Study Tracks**

The proposal adds more flexibility to the interconnection process by providing two interconnection alternatives for generation projects meeting certain criteria: 1) the independent study track, and 2) the fast track. The eligibility criteria for these two alternatives are structured so that projects can be studied more quickly without creating new interdependencies and process slowdowns. Generation developers can request studies through these alternative tracks at any time, rather than within the time frames for the cluster study work.

Most of the present interconnection requests will have options for how they proceed through the revised process. While newly submitted interconnection requests have more limited options, a significant number of projects will have the option to choose between moving to this revised process and remaining in the existing serial interconnection study process with its inherent uncertainties. Achievement of interconnection study process milestones will determine what options will apply to a particular interconnection request.

The need for generation projects to demonstrate their ability to deliver energy and capacity to the electric system is taking on increasing importance in commercial transactions for generation facility development. The ability to meet resource adequacy capacity requirements is a highly desired characteristic of generators selling energy and capacity under a power purchase agreement. Some developers have had to choose between a quicker interconnection study process and capacity payments. With the changes proposed by Management, developers will have both a quicker interconnection study process and the option to be fully deliverable as capacity resources that will be eligible as resource adequacy resources.

The stakeholder process revealed that a number of existing projects that chose to be energy-only want to change their deliverability status so that the project can be eligible for resource adequacy. All existing energy-only generation projects will have a one-time opportunity to apply for and receive a deliverability assessment. The deliverability assessment will allow an existing energy-only generation project to sell both energy and capacity.

While all interconnection customers pay actual study costs, the study deposits under the existing small generator interconnection procedures are \$1,000, which cover only initial project setup costs. Management is proposing to increase the amount of the study deposit so that it will cover a significant portion of the ISO study costs of interconnection studies. Actual costs are charged to interconnection customers, and any leftover deposit funds are returned to the interconnection customers with interest. Management's proposal encourages project developers to size their generation projects appropriately by charging a \$50,000 base deposit and incrementing study deposit amounts by \$1,000 for each MW of a project's size.

Interconnection customers post a financial security for required transmission upgrades to ensure that the developer will proceed with its project through commercial operation. Small generation projects can require significant upgrades to the electric system for a safe and reliable interconnection. Therefore, the proposed interconnection procedures provide that projects make financial security postings commensurate with the cost of the required upgrades.

## **POSITIONS OF THE PARTIES**

This stakeholder process had many participants because the ISO's small and large generator interconnection processes touch so many entities. Moreover, distribution level developers also participated in this process because distribution utilities have looked to the ISO's interconnection process to develop their distribution level processes. The changes proposed by Management do not resolve distribution level issues, and the interaction between these processes remains a concern of small generators. In the past, utilities have developed these processes and filed them with FERC without soliciting public comments. In this proceeding, however, representatives of SCE, PG&E and SDG&E have acknowledged that additional work with stakeholders would be valuable and have indicated their intent to consult with stakeholders on changes to their distribution level interconnection processes before filing changes with FERC.

In the context of the ISO's authority over transmission level interconnections, Management worked very closely with stakeholders to develop the proposed tariff changes. First, Management met with interconnection customers and transmission owners to ensure it understood what was not working with the interconnection process from both perspectives. The issues were presented to all interested stakeholders and brainstorming sessions took place to find solutions to the identified issues. A volunteer working group made up of stakeholders worked closely with Management to assess the brainstormed solutions. The recommended solutions were then presented to stakeholders for comment. The working group convened again to review the comments and suggest changes that helped form the final proposal before the Board.

Early in the process it was clear to Management that, given the divergence of viewpoints and interests among the many stakeholders, a proposal with unanimous support from all interested stakeholders would not be possible. Management believes this proposal appropriately balances the differing stakeholder interests while achieving the greatest level of consensus possible. Working groups were used largely for this purpose so that discrete issues could be discussed in small groups. While the proposed tariff changes do not have unanimous stakeholder support, the key elements of the proposal are largely supported.

Management made the following changes to the proposal in response to stakeholder comments:

- Shortened the length of the cluster study process;
- Added an additional scoping meeting opportunity;
- Relaxed the criteria to qualify for the independent study process;
- Added an objective, transparent test to determine a project's impact to other projects;
- Increased the size limit for qualifying for the fast track study process from 2MW to 5MW;
- Relaxed the fast track study process screening criteria by removing a controversial criterion;
- Changed study deposit levels from tiered to volumetric;
- Made study deposits the same regardless of the deliverability status being sought; and
- Allowed projects wanting full capacity to proceed to finish in their current study effort and then join the next cluster for a deliverability assessment.

A number of participants also requested that the ISO provide more information on favorable locations on the grid for generation interconnections. They argue that this information would allow them to more efficiently utilize existing grid capacity and expedite their interconnection process. Management supports this recommendation and will work with stakeholders to further define the information requirements and develop an implementation plan.

Stakeholder comments and concerns are summarized in a stakeholder matrix which is *Attachment A* to this memo.

Stakeholders identified many issues with both the small and large generator interconnection processes that needed to be addressed. Not all identified issues are addressed in this proposal. This final proposal focuses largely on the immediate need to make improvements that will accommodate the study of large numbers of interconnection requests – an issue that is critical and needs to be addressed as soon as possible. The other issues still need to be addressed and will be in a stakeholder process beginning in early 2011. Some of the key issues that will be considered are:

- Repayment of amounts paid by interconnection customers for network upgrades in circumstances where a customer has phased the generating facility;
- Feasibility study/preliminary scoping meetings to provide early feedback to project developers;

- Entry into an existing cluster in the interconnection study process;
- Enhanced data availability so that project developers can identify favorable places to locate generation;
- Re-visit financial security required if the transmission owner provides upfront funding;
- Per-unit costs and cost allocation methodology; and
- Interconnection of energy storage devices.

## **MANAGEMENT RECOMMENDATION**

Management recommends that the Board approve the generator interconnection procedures proposal as described in this memo with an implementation target of January 2011. The implementation of the proposed generator interconnection procedures will streamline the study of generator interconnection requests, thus allowing the ISO to ensure that more generation resources are safely and reliably connected to California's electric system.