Stakeholder Comments Template

Subject: Small and Large Generator Interconnection Procedures Draft Final Proposal and Meeting

Submitted by	Company	Date Submitted
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IREC is a non-profit organization that has worked for nearly three decades to accelerate the sustainable deployment of renewable energy resources. IREC focuses its efforts on developing programs and policies that reduce barriers to renewable energy deployment, including development of interconnection standards for distributed generation.

IREC has significant experience with the Small Generator Interconnection Procedures (SGIP) developed at FERC and at issue in this stakeholder process. IREC participated at FERC in the development of the SGIP and has authored several papers for the Solar America Board of Codes and Standards (Solar ABCs) on interconnection procedures for distributed generation resources. (see http://www.solarabcs.org/) Currently, IREC is serving as lead author on a new Solar ABCs report that proposes reforms to the FERC SGIP.

IREC has also developed model rules for interconnecting distributed generation (see http://irecusa.org/wp-content/uploads/2010/01/IREC-Interconnection-Procedures-2010final.pdf), which are based on FERC's SGIP but incorporate best practices that have been implemented in state interconnection procedures, including states in which IREC has been an active participant in interconnection rulemakings, such as California, Hawaii, New Mexico, Hawaii, Illinois, Iowa, Vermont, North Carolina, Virginia, Florida, Kansas, Utah and Colorado.

IREC appreciates the opportunity to comment on the CAISO's proposal for reforming its SGIP.

Overall Assessment of the ISO Proposal

In September, the ISO Board of Governors will be asked to authorize a filing at FERC of tariff language to implement the elements of the Draft Final Proposal (with possible modifications in response to this round of comments).

1. *Do you support ISO Board approval of the proposal? Why or why not?*

Answered below.

2. *Do you believe the proposal accomplishes the objectives this initiative was intended to address*? *If not, please explain*.

Answered below.

3. *Do you believe the proposal reflects an appropriate balance of the various stakeholder interests and concerns raised in this process*? *If not, please explain*.

IREC does not support the proposal in its current form. CAISO Staff has moved expeditiously to put this proposal before the ISO Board for approval. IREC agrees with CAISO Staff that SGIP reform is necessary. However, IREC believes critical changes are necessary and more stakeholder input is needed on a number of key issues before this proposal will be ready for ISO Board approval.

SGIP was developed to allow small generators with limited grid impacts to proceed faster to interconnection than generators that require substantial grid analysis and upgrades. The current proposal would eliminate this benefit by lumping small generators into the same process as larger projects, which will substantially increase the time, cost and complexity of interconnecting a small generator.

To ensure that small systems that impose limited grid impacts retain the ability to interconnect within a timeframe and cost that FERC has determined reasonable, there are a number of critical changes that must be made to the Fast Track and Independent Study Processes. IREC discusses these changes below. However, even with these changes, IREC believes a number of key issues require additional stakeholder input before SGIP reform will be ready for ISO Board and eventually FERC approval.

Chief among the considerations that have not yet been adequately addressed is the nearly 3,000 MW of innovative distributed generation procurement programs the California Legislature and the state's Pubic Utilities Commission stand ready to implement over the next 5 years. These programs are described in comments being submitted by the California Solar Energy Industry Association (CALSEIA).

Many of the systems that participate in these programs may interconnect under procedures that are put in place as a result of the CAISO's SGIP reform efforts. Before an SGIP reform proposal is ready for CAISO Board approval, it is critical that additional stakeholder input be taken on how the CAISO's proposal may impact these programs.

IREC also believes there has been insufficient attention to developing an enforceable non-discrimination policy or rule to ensure uniform application of the interconnection technical requirements to all distributed generation systems, including utility-owned distributed generation systems. The FERC SGIP rules were developed before utilities were eligible to receive the federal 30% investment tax credit (ITC). ITC eligibility has since been extended to investor-owned utilities. The current asymmetry of access to information about low cost places to interconnect raises significant anti-competitive concerns now that PG&E, SCE and SDG&E all have programs to develop their own PV projects. Competitive fairness is an important issue that must be addressed before a proposal is ready for FERC approval.

Finally, IREC notes that the stakeholder process at the CAISO has not had sufficient input from the developers and trade associations that have worked on implementation of California's new wholesale distributed generation programs. Nor has this process generated sufficient input from groups that have been actively involved in designing interconnection procedures for distributed generators, such as IREC and CALSEIA.

Proposed Study Deposit Amounts and/or Processing Fees

1. *In general, do you support the proposed study deposit amounts and/or processing fees*?

No, the $51,000 cost for a 1 MW Energy only project is excessive compared to existing interconnection cost.

2. *If not, what modifications are needed and why*?

IREC appreciates that the current proposal has moved toward a gradation of study deposit amounts based on system size. IREC supports that approach, but believes the study deposit amounts being proposed would represent a substantial increase over the current amount of $1,000. It is also unclear whether the proposed amounts are justified. The CAISO's PowerPoint that discusses the most recent proposal states that historically SGIP customers have paid $45-100k in study costs. However, these study cost averages are not broken down by system size. In order to determine whether the current proposal is reasonable for small generators, it would be helpful to know what average study costs have been for systems in the 1-2 MW size range and in the 2-5 MW size range. The CAISO's proposal would impose similar study deposit fee on a 1 MW system ($51,000) as a 10 MW system ($60,000) or a 20 MW system ($70,000). To determine whether these amounts are reasonable, it would be helpful to know if they reflect historical differences in study costs paid by generators of these different sizes.

Independent Study Processing Track

1. *In general, do you support the ISO's Independent Study Processing Track proposal*?

No, IREC does not support the Independent Study Process (ISP) in its current form.

IREC believes that developing a viable Independent Study Process is critical in light of the lengthy delays and significant increases in cost that would be imposed under the CAISO's proposed cluster study process. To ensure that small generators with limited grid impacts retain the benefits intended by the development of the SGIP, significant modifications are needed to the Fast Track process and the ISP. We provide recommendations for modifying the Fast Track process below, but interconnection requests that do not pass the Fast Track screens, and have commercial operation deadlines that cannot be met under the cluster study process, should be able to avail themselves of an ISP.

In order for the ISP to offer a viable option for small generators, a number of modifications to the current proposal are necessary. In particular:

- The eligibility criteria need to be expanded to accommodate timeframes implemented in California's new wholesale distributed generation procurement programs;
- The generator independence needs to be removed for projects participating in such programs;
- The Feasibility Study should be retained in the IS);
- The current timeframes for completing the ISP process should not exceed timeframes currently contained in the SGIP study process;
- And, ISP eligibility should be restricted to small systems.

We elaborate on the importance of these modifications in answering the next two questions. Elimination of the generator independence criteria is discussed further below.

2. *What modifications are needed and why*?

IREC agrees that an ISP should be available to projects that can demonstrate that the cluster study process will not accommodate a project's ability to meet a commercial operations date (COD). However, many small developers will not have an identified COD at the time an interconnection application is filed. This is because many procurement programs require a developer to demonstrate that an interconnection application has been filed prior to being awarded a contract.

For example, SCE's Solar Photovoltaic Program requires short-listed bidders to file an interconnection application prior to a developer being awarded a contract. (SCE SPVP RFO Instructions Section 3.05(a)[1]). Thus, short-listed bidders will not have a firm COD at the time an interconnection request is filed. Moreover, developers who do not know whether they will be awarded an SCE SPVP contract may participate in one of SCE's other procurement programs. It is likely that none of these developers will have a firm COD at the time an interconnection request is filed.

Under the current CAISO ISP proposal, none of the developers described above would qualify for an ISP. Yet, SCE's SPVP program provides short-listed bidders less then 2 months to demonstrate they have "passed the first nine (9) screens in the Fast Track Process (as described in the WDAT SGIP), or received a completed system impact study or phase one interconnection study identifying that no Network Upgrades (as defined in the CAISO Tariff) are required to interconnect the Generating Facility." (SPVP RFO Instructions Section 3.06).

The only way a developer can meet SCE's SPVP timeframes is by entering the Fast Track process or an ISP. If an ISP is not available because short-listed bidders submitting an interconnection request do not have a firm COD, many short-listed bidders will not meet SCE's SPVP timeframes and may lose their ability to obtain a contract and a COD. This situation is untenable and highlights the need for further consideration of the interactions of the CAISO proposal with California's wholesale distributed generation procurement programs before a proposal is ready for CAISO Board approval.

[1] Available at: http://www.sce.com/NR/rdonlyres/5A0F496A-D597-4E62-A748-40DB5AB65CCF/0/2010_SPVPIPP_RFOInstructions.pdf

At the least, IREC recommends that the ISP eligibility criteria be modified so that developers submitting bids into, or short-listed in connection with, a distributed generation procurement program be allowed to enter the ISP.

IREC also recommends that the Feasibility Study be retained in the ISP. The current Feasibility Study in SGIP Section 3.3.4 provides that if a Feasibility Study shows "no potential for adverse system impacts" and "no additional facilities are required," the transmission provider should provide an interconnection customer with an interconnection agreement.

This is an important step that would allow projects that do not meet Fast Track eligibility requirements, or do not pass the Fast Track technical screens, to proceed to interconnection if it can be determined that they can be interconnected safely and without additional study. This process furthers the CAISO's goal of reducing the number of small generator interconnection studies that need to be performed and should be retained in the ISP.

Finally, IREC is sensitive to the concern that ISP availability not be undermined by a large number of individual-study projects and therefore recommends that the ISP process should not be available to systems larger than 20 MW. A serial study process is not currently available to systems larger than 20 MW in capacity and concerns about having too many ISP requests militate in favor of limiting ISP access to only systems that can currently avail themselves of independent study. If the ISP process is overwhelmed with requests, IREC would support formation of a prompt stakeholder process to consider revisions, including limiting availability to even smaller systems.

3. *What specific aspects of a developer's project development process make it impossible for a developer to demonstrate eligibility for the Independent Study Processing Track at the time of the Interconnection Request*?

Answered above.

Fast Track less than 2 MW

1. *Should the ISO remove the 10th screen from the Fast Track*? *Why or why not*?

Yes, the 10th screen in Fast Track process should be removed.

The 10th screen addresses construction of facilities on a transmission provider's system. This screen is not intended to act as a technical screen of potential safety or reliability impacts on a transmission provider's system. It is a financial screen that allows a transmission provider to determine the facilities that will be needed to interconnect a generator that has no existing service entrance and can allows the transmission provider to hold an interconnection customer responsible for the cost of constructing those facilities. The ability of a transmission provider to study the necessary facilities, at interconnection customer cost, and install the facilities that have been identified, also at interconnection customer cost, are outlined in the Customer Options Meeting and the Supplemental Review processes in Sections 2.3 and 2.4 of SGIP.

IREC believes that a transmission provider should be able to determine what facilities are needed to interconnect a generator if the generator is proposed for interconnection in a location that does not have an existing retail service entrance. At the same time, IREC does not believe that the 10th Screen is necessary to afford transmission providers this opportunity. IREC believes that it is critical to remove the 10th screen so that it is clear that generators do not need to go into a cluster study or even an ISP simply because they are not located on an existing structure with a retail service entrance.

Taking these considerations into account, IREC proposes that a provision be added to SGIP following the Fast Track screens that states:

> "If construction of facilities by the Transmission Provider on its own system shall be required to accommodate the Small Generating Facility, the Transmission Provider shall offer to perform facility modifications or minor modifications to the Transmission Provider's electric system (e.g. changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the Transmission Provider's electric system within 10 days of completing the Fast Track review process. The Transmission Provider shall forward an executable Interconnection Agreement to the Interconnection Customer within five Business Days after confirmation that the Interconnection Customer has agreed to make the necessary changes at the Interconnection Customer's cost."

2. *Should the ISO increase the size limit for Fast Track qualification*? *If so, would you support a 5MW size limit or a different value*? *Explain your reasons*.

Yes, the ISO should increase the size limit for Fast Track qualification.

Small generators faced with the cluster study process will incur significantly increased cost and a much longer timeframe to complete an interconnection. This will impose a substantial burden on many small generators, making it necessary that the CAISO provide small generators an expanded opportunity to avoid this result by demonstrating their ability to be interconnected more quickly.

The SGIP technical screens determine which generators can be safely interconnected with negligible risk of negatively impacting grid function. FERC determined that such systems should be allowed to interconnect without study. The SGIP Fast Track screens are not dependent on the size of a generator and can be applied to systems larger than 2 MW in capacity.

Applying the Fast Track screens to systems larger than 2 MW offers an elegant means of addressing two of the problems the CAISO has identified as motivating the need for SGIP reform. First, expanded use of the Fast Track review screens can reduce the number of interconnection studies that will need to be performed under either the ISP or the Cluster Study Process. Second, the Fast Track screens take the interrelatedness of projects into account by looking at the cumulative impact of all nearby generators (existing and proposed) in determining

whether a proposed interconnection will exceed the tolerance levels established in the Fast Track screens. For example, the 2nd screen establishes a threshold based on the aggregate generation capacity installed on a line section, including capacity being proposed for interconnection, in relation to a line section's peak load.

Although the California Public Utility Commission's Rule 21 Interconnection Procedures use different technical screens, the simplified interconnection process provided in Rule 21 is available to systems of any size.

IREC does not see a need for a cap on the size of generator eligible for the Fast Track process, but would encourage the CAISO to strongly consider increasing the availability to systems up to at least 5 MW in capacity.

Method to Determine Generator Independence

1. *In general, do you support the ISO's proposed method to determine generator independence*?

IREC does not support the ISO's proposed method to determine generator independence. See answers below.

2. *If not, what approach would you propose for determining generator independence*? *Explain why your proposed approach is superior to the ISO's proposal.*

IREC proposes to eliminate the generator independence requirements. See answer below.

3. *If you prefer completely eliminating the independence criterion to qualify for the Independent Study Processing Track, how would you address the concern about impacts of Independent Study Processing Track projects on other interconnection customers (including cluster projects) in higher queue positions*?

Given the aggressive interconnection timeframes imposed under programs like SCE's SPVP program (discussed above), it is important that developers who are bidding into or are short-listed in a distributed generation procurement program not be subject to generator independence studies with regard to their interconnection requests. The ability to move forward with a serial study should be based on whether a project is ready to proceed and must do so on an expedited track in order to reach its COD. Application of generator independence studies will only slow that process. Worse yet, failing the independence tests may mean loss of a contract due to inability to meet the aggressive interconnection timeframes established in many of the new distributed generation procurement programs.

Do you have any additional comments that you would like to provide?

IREC would like to comment on three additional issues:

- The need to revisit certain of the Fast Track technical screens, particularly the 15% screen, with respect to PV systems that have reduced potential for impact on the system due to the predictability of daytime production and the use of inverters that have built-in protective functions.
- The need to provide information to developers regarding low-cost places to interconnect and the importance of developing an enforceable non-discrimination policy or rule to ensure uniform application of the interconnection technical requirements to all distributed generation systems, including utility-owned distributed generation systems.
- The need for additional stakeholder processes before parallel changes can be proposed to the SGIP procedures contained in the Wholesale Distribution Access Tariffs of participating transmission owners.

First, the FERC SGIP screen 2.2.1.2 is of particular importance because it typically limits the size and number of distributed generation systems that can be interconnected quickly without going through a study process. It is the screen that is most likely to be failed as PV systems reach higher penetrations. The technical reasons for the capacity limit imposed in this screen are related to minimum daytime load on a line section. Specifically, the aggregate distributed generation must never be greater than the load on that line section. The 15% screen is an estimate of 50% of the minimum load on a line section. For most distribution systems, a line section minimum load is in the range of 30% of the peak load. Thus, the 15% limit on aggregate generation capacity would represent only half the minimum load of the line section.

IREC believes this screen can be adjusted, particularly for inverter-based PV systems that have built-in grid-protective functions and predictably generate electrical energy during daytime hours when minimum load on a line section tends to be higher. In light of this, IREC encourages the CAISO to consider adopting a modified screen for PV systems that is based on 50% of minimum load on a line section measured between the hours of 10 am and 3 pm. The CAISO should also consider whether remedial actions, such as direct transfer trip, could allow penetrations higher than 15% without the need for interconnection studies.

Second, as discussed above, the current asymmetry of information about low cost places to interconnect raises significant anti-competitive concerns now that PG&E, SCE and SDG&E are looking to develop their own PV projects. In addition to developing an enforceable non-discrimination policy or rule to ensure uniform application of the interconnection technical requirements to all distributed generation systems, including utility-owned distributed generation systems, IREC also believes that it is critical that the asymmetry of information regarding critical infrastructure be addressed by providing more information to developers regarding low-cost areas for interconnection.

Finally, on the CAISO's July 27, 2010 call, PG&E and SCE stated their intent to propose parallel changes to their SGIPs in filings at FERC. PG&E and SCE also indicated the possibility of conducting combined cluster studies to jointly study all interconnection requests together regardless of whether the point of interconnection is to a distribution or high voltage transmission system.

This is a significant departure from the current process and one that would require PG&E and SCE to move forward with parallel changes to their SGIPs. However, there has been no stakeholder process to discuss whether parallel modifications to the PG&E and SCE SGIPs are a good idea. IREC strongly encourages PG&E and SCE to hold a stakeholder process before bringing proposals to the FERC for approval.

In particular, IREC believes PG&E and SCE should hold a stakeholder process to address a number of critical issues, including:

- Whether cluster studies are needed or appropriate for distribution system interconnections.
- Whether a single cluster study makes sense for all distribution and transmission interconnections, or whether it may make more sense for the transmission providers to maintain separate cluster studies for their distribution systems.
- How wholesale distributed generation programs being put in place by the California PUC fit within the interconnection framework that is being proposed.
- How to increase developer access to information on available distribution system capacity and low-cost places to interconnect.
- How the potential proliferation of different IC procedures within California may create a potential for developer confusion.
- Whether developers who complete the interconnection process under Rule 21 can receive an SGIP Interconnection Agreement. This is particularly important given that SDG&E and SCE are currently using Rule 21 to interconnect generators under their small renewable feed-in tariffs. Developers who apply for interconnection under Rule 21 to participate in the feed-in tariff program may also want to bid into one of the distributed generation procurement programs, such as SCE's SPVP. It would make little sense to require a generator who has successfully navigated the Rule 21 process to reapply for interconnection under SGIP simply because that generator wants to sell under a different program that uses a different interconnection process. Unfortunately, IREC understands that this is precisely what some developers are being told they must do. This situation needs to be addressed.