

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's
own motion to improve distribution level
interconnection rules and regulations for certain
classes of electric generators and electric storage
resources.

Rulemaking 11-09-011
(September 22, 2011)

**RESPONSE OF THE
CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION
ON OUTSTANDING ISSUES IN THE PROCEEDING**

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On November 18, 2015, seven parties¹ filed “Joint Motion Supporting Revisions to Streamline Rule 21 for Behind-the-Meter, Non-Exporting Storage Devices” (Joint Motion). This motion contained a list of “Unaddressed issues in the Rule 21 proceeding,”² along with a proposal that “the Commission provide an opportunity prior to the close of this Proceeding for Parties to comment on (1) the outstanding issues such as those identified herein, and (2) the need for a successor proceeding or other venue to address the ongoing evolution of matters relating to interconnection.”³ In absence of a ruling establishing such a separate process, the California Solar Energy Industries Association (CALSEIA) respectfully submits comments on outstanding issues in the proceeding in response to the Joint Motion.

I. Introduction

The goal of this proceeding, as stated in the Order Instituting Rulemaking (OIR) and reaffirmed in the September 6, 2012 scoping memo, is to “ensure that the interconnection

¹ Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison, Interstate Renewable Energy Council, Clean Coalition, Robert Bosch LLC, and Stem, Inc.

² Joint Motion at Appendix C.

³ Joint Motion at p. 21.

process is timely, non-discriminatory, cost-effective, and transparent.”⁴ Substantial progress has been made on each of the parts of that goal, but much more improvement is needed. For example:

- **Timeliness:** Utilities have successfully automated their interconnection processes for small systems and greatly reduced interconnection times, but utilities have generally failed to make similar process improvements for larger customer-sited projects and virtual net metered projects that increasingly require more detailed engineering review and construction of distribution system upgrades.
- **Non-discrimination:** As net energy metering aggregation has become available, utilities appear to be enforcing interconnection cost responsibility standards more strictly for those systems than for other systems of similar size.
- **Cost-effectiveness:** The streamlined interconnection process for smaller systems has resulted in utility cost reductions for processing applications, but the process for larger systems still requires many steps that are not efficient.
- **Transparency:** The revisions to Rule 21 contained in D.12-09-018 clarified the interconnection process, but project developers still are not able to gauge when distributions system upgrades will be required, and those requirements change over time and are inconsistent between utilities.

II. The Commission Should Open a New Interconnection Proceeding

The revisions to Rule 21 in Phase 1 of this proceeding were a major accomplishment, and other improvements in the interconnection process have been made since then. The Commission can conclude that most of the immediate tasks identified in the OIR and the first two scoping memos have been accomplished. However, as demonstrated by the expansive list of outstanding

⁴ OIR at p. 2; “Assigned Commissioner’s Amended Scoping Memo and Ruling Requesting Comments,” filed September 26, 2012, at p. 3.

issues in the Joint Motion, much work remains to be done. Some of that work can be accomplished in other proceedings, and some of it should form the basis of a new proceeding.

A. Distribution Resources Plans

The Distribution Resources Plans (DRP) proceeding, R.14-08-013, envisions that changes to the distribution system planning process could create opportunities to improve the interconnection process.⁵ This is likely to include revisions to Rule 21. Because the parties and Commission staff involved in DRP development will have the most detailed understanding of those issues, the Rule 21 revisions associated with DRPs should be addressed in that proceeding. However, the scope of that proceeding includes many other issues not related to interconnection, and it would create a disjointed proceeding to amend its scope to do so. There is no reason why two proceedings cannot both involve consideration of changes to one Electric Rule.

B. Issues That Require a New Proceeding

The Commission should give full consideration to the remaining issues in Appendix C of the Joint Motion. It would not be appropriate to shift those issues to the DRP proceeding, because they would be out of scope there and changing the scope of that proceeding would detract from its core purpose of modernizing utility planning. The Commission should therefore open a new proceeding with an OIR that requests comment on the following issues identified in the Joint Motion. This OIR should be issued concurrently with the closure of the instant proceeding in order to avoid a jurisdictional gap for the interconnection rules that have become a fundamental piece of California's electric system.

⁵ CPUC Energy Division, "Distribution Resources Plan (DRP) Roadmap Straw Proposal," November 2, 2015.

Outstanding Interconnection Issues

Topic	Description
Exporting Storage Technical Study Process	The focus of recent workshops was focused narrowly on non-export storage with physical impossibilities. An expedited interconnection process for non-export storage resulted in only an Advice Letter. Exporting storage was discussed but not resolved. There is still considerable room for addressing different use cases and streamlining the process accordingly.
Jurisdictional Issues for exporting resources	
"Click and Claim" Functionality	
The Disconnect Switch requirement should be relaxed or removed entirely, and standardized across utilities.	Workshops are needed to discuss technical details and requirements for standardization. These workshops are needed to allow discussion of why and how this requirement could be relaxed.
The IOUs should create and maintain an Interconnection Guidebook (akin to CAISO Business Practice Manual)	The IOUs made steps during recent workshops to create a Guidebook for load side, but one for the overall interconnection process (including generation) should be created.
Transparency and consistency	The IOUs should implement business process enhancements (e.g. greater transparency in interconnection requirements, consistent "deemed complete" application requirements across IOUs, electronic signatures, etc.)
Permission to Operate (PTO) Inspection should remove anti-islanding test for certified inverters and establish consistent practices across IOUs (e.g. in-person test requirements)	See disconnect switch comment above.
Income Tax Component of Charges	Consistent treatment of ITCC liability to reduce costs associated with interconnection facilities & upgrades
Third Party Construction of Upgrades	Competitive practices to reduce costs and delays associated with interconnection facilities & upgrades
Periodic Review of Rule 21 Quarterly Data	Rule 21 update review identifying areas needing attention - based on quarterly reports and stakeholder recommendations
Interconnection Data Collection and Access	Roadmap to address existing issues (use of AMI and inverter data for interconnection and DRP benefits analysis, line section data, incompatible databases between utility departments) coordinated with DRP & IDER proceedings
Replacement and Recovery Charges (Cost of Ownership)	Review of the calculation of these charges
Construction Timelines	Create standard expectations for the timeline for estimating and construction of distribution system upgrades and service upgrades
Anti-Islanding Screen	Standardize process for determining whether protection devices are needed when there are two or more smart inverters on a circuit

Dispute Resolution	Improve Rule 21 dispute resolution process
Define “Station Power” for energy storage devices	To include metering rules and rate impacts of how station power is defined.
Transition between Rule 21 and WDAT interconnections (i.e. wholesale vs. retail metering accommodation)	R21/WDAT transitions, coordinated with Energy Storage Rulemaking (R.15-03-011) Track 2 where multi-use applications will be discussed.
NGOM meter installations for customers with NEM paired storage being classified as “complex metering solution”	
NGOM meter deployment process and billing	
Mobile inverter standards for interconnection	A new section should be added to H.3 addressing acceptable EVSE and mobile inverter technology. For example, when the standard is finalized, SAE Standard J 3072 certified mobile equipment should be deemed acceptable for Rule 21 interconnection. This issue has not yet been addressed in any proceeding.

One additional topic to add to the above list from the Joint Motion is third party meter pulls. This would allow residential construction crews to easily de-energize electrical services to perform common interconnection procedures when they are at the home for other construction work. Currently they must wait for the utility to turn off electrical service even though qualified electricians can perform this task safely on their own. This slows down the process and adds expense, as construction crews have to return to a site to fit the schedule of utility personnel.

C. Smart Inverters

Another notable topic is the proposal for changes to inverter functionality requirements being developed by the Smart Inverter Working Group (SIWG). This work is currently within the scope of this proceeding. The Phase 1 requirements recommended by SIWG have already been incorporated into Rule 21 by D.14-12-035 in this proceeding. The SIWG has since developed draft Phase 2 requirements concerning communications protocols and is currently

developing Phase 3 proposed requirements for additional inverter functionality involving remote commands from utilities or third parties.

The Phase 1 changes accomplished the objective of requiring inverter functions that address issues associated with distributed generation at the levels anticipated in the coming years. It was a collaborative process that produced the needed results to the mutual satisfaction of the parties that were involved. The work was successful, and it is complete.

Most of the functions included in Phase 1 will not impact the ability of customers to generate power or greatly increase inverter costs, and developing the requirements was mostly an engineering exercise. The Phase 3 functions, in contrast, could significantly reduce power production and increase inverter costs. The Commission must therefore consider the impact on customers and other market participants in addition to the engineering questions before adopting those recommendations as requirements for interconnection. This has not been done by the SIWG, which by design was a purely technical conversation. The Commission's Integration of Distributed Energy Resources (IDER) proceeding, R.14-10-003, will soon begin to consider compensation mechanisms for distributed generation.⁶ This can include compensation for ancillary grid services and the customer impacts of advanced inverter requirements.

As the Commission considers SIWG Phase 3 engineering recommendations for inclusion in Rule 21 in a new interconnection proceeding, there must be ample opportunity for parties to comment. It is important to create space for this conversation, and the Commission should not expect the level of consensus that existed for the Phase 1 recommendations.

III. Conclusion

CALSEIA appreciates the opportunity to provide these comments and urges the Commission to adopt the recommendations herein.

⁶ The scope of the proceeding was expanded by D.15-09-022.

DATED at Sacramento, California, this 3rd day of December, 2015,

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