COMMONWEALTH OF PUERTO RICO
PUERTO RICO ENERGY BUREAU

PREB Workshop on Interconnection Standards Per Law 17 (2019)

PREB DOCKET: NEPR-MI-2019-0009

COMMENTS OF THE SOLAR AND ENERGY STORAGE ASSOCIATION OF PEURTO RICO (SESA-PR)

SESA-PR thanks the Puerto Rico Energy Bureau (PREB) for hosting two full-day workshops in June 2019 on the topic of new standards and regulations needed for the implementation of aspects of Law 17 (2019) pertaining to the interconnection of renewable energy systems to the power grid in Puerto Rico. SESA-PR offers these comments to draw attention to various aspects of interconnection pertinent and relevant to the facilitation of customer installation of distributed solar and / or storage systems on the island.

The main focuses of our comments center around understanding what's required per Law 17, understanding the hindrances that have caused Puerto Rico's interconnection of renewable energy to be historically the longest, most burdensome processes in the nation, and identification and elimination of chronically problematic issues. Replacing these hindrances with simple, streamlined, clear processes that are effective and easy for the customer, the utility, the regulator, and the companies working to provide distributed solar and / or storage to customers.

At the highest level, we suggest that this proceeding maintain as a guiding principle the following requirement of Section 1.10(d) of Law 17: that it is now, and will continue to be, a fundamental role of the role of the utility "...to facilitate and not hinder the interconnection of distributed renewable energy...", and the role of the regulator to ensure enforcement of the same, with ample participation from all stakeholders involved.

About SESA-PR

SESA-PR is the Puerto Rico trade association representing companies who develop solar and energy storage systems at all scales. Our member companies focus on marketing, design, manufacturing, financing, procurement, installation and maintenance of solar and/or energy storage systems. Founded in February 2018, SESA-PR is the local affiliate of the national Solar Energy Industries Association (SEIA).

SESA-PR's role in Law 17 is unique. We consolidated industry input on much of the language ultimately included in Law 17, and our members have a strong vested interest in all aspects of its implementation pertaining to solar and storage.

I. Understanding PREPA's historical role as a hindrance to interconnection of distributed energy

There is a long track record of PREPA, under its pre-Maria management, playing a role vastly perceived by the solar and storage industry as being a "hindrance" to the interconnection of distributed energy. Upon passage of Puerto Rico's original 20% Renewable Portfolio Standard (RPS), PREPA had no regulator, and thus no entity to facilitate promulgation of reasonable Minimum Technical Requirements (MTRs) for integration of utility-scale solar projects. With a largely adversarial dynamic from PREPA towards solar developers, historically, PREPA's publication of MTRs that were initially impossible to meet caused burdensome and costly delays of large-scale solar deployment, and some of these delays caused some projects to not be built that could have otherwise been built by now.

For net metered distributed generation systems, chronic delays in processing paperwork, lack of a clear chain of accountability within PREPA, and an absence of a regulator with sovereign power and effective enforcement mechanisms has resulted in Puerto Rico's timeline

for approval of customer applications for interconnection and net metering being not only among the worst in the nation, but undisputedly the absolute worst in the nation.

For the distributed solar industry, this has resulted in a sort of crazymaking dynamic wherein solar developers have historically submitted applications for approval of customer interconnection which they believe to be complete and compliant with pertinent law and rules in place at the time, then waiting around on pins and needles for the likely notification of denial or delay of application processing, due to an unpredictable array of reasons. Such notifications of denial or delay have been, historically, commonly issued by various actors within PREPA management, usually with no reference to any sort of published standards or procedures which the solar developer could have followed to begin with. The result has been, for many years, lots of inefficient time spent on the part of PREPA, solar developers, and customers, resulting in higher costs of solar or solar + storage systems, which caused some customers to give up along the way.

After hurricane Maria knocked out power for the entire island, things started to change. The Governor issued an executive order, ordering PREPA to interconnect all solar systems which had been applied for at the time of the hurricanes, and temporarily waiving the need to ask permission from PREPA for the interconnection of residential as well as commercial solar and storage systems with minimal backfeeding to the grid. On April 11th Governor Rosselló put his signature onto Law 17, making permanent the "automatic interconnection" of distributed generation systems under 25kW in size, requiring the application of net metering to a customer's bill within 30 days, and limiting PREPA's review period to 90 days of applications for interconnection of systems between 25 kW and 5,000 kW.

PREPA management has also seen a near about-face in their approach to distributed generation post-Maria, with a declared and demonstrated commitment to shortening timeframes

for interconnection approval and application of net metering pre-Law 17, and to beginning the implementation of the auto-interconnect requirements after passage of Law 17.

PREPA's historical role as a hindrance to distributed generation development is noteworthy because multiple laws have been created aimed specifically at ordering changes to facilitate distributed generation development, many of which have been poorly or minimally enforced, or not enforced at all. The solar and storage industry has much hope that Law 17 will be the one that "sticks", resulting in transformation of PREPA's distributed generation paradigm from the worst in the nation to among the best in the nation. But getting there will require an unprecedented degree of collaboration between PREPA, PREB, solar and storage companies, and other key players.

SESA-PR has played and will continue to play a constructive role in addressing roadblocks and facilitating simple procedures that result in the widespread deployment of distributed generation needed to support compliance with the most ambitious RPS in the history of RPSes. Puerto Rico's transformation from less than 3% renewable energy today to at least 40% by 2025 will require Law 17's swift implementation to eliminate all roadblocks to widespread deployment of distributed generation across Puerto Rico.

II. Procedural requirements of Law 17 for PREPA & PREB

It's important to recognize the distinct roles of PREPA, the utility, and PREB, the regulator of the utility. There's universal agreement that PREPA being a self-regulating government-owned monopoly was not ideal, thus the legislative creation of PREB. With PREB being relatively new, however, there seem to be some legacy instincts of PREPA creating their own rules, and not a good track record of that approach working.

Most recently, we've seen the 2018 promulgation of microgrid rules, the PREB order that PREPA write a key component of these rules, and PREPA simply not doing so, which triggered PREB's need to develop the portion of the rules they had ordered PREPA to write.

These delays are caused in large part by the separation of roles not yet being complete. This proceeding could be a good opportunity to move closer to the distinction of roles between PREB and PREPA. The paradigm will likely function the best for all parties involved if PREPA focuses on its most crucial role: maintaining power for its customers; and PREB focuses on its crucial mandate: the creation and enforcement of rules to regulate PREPA.

That said, Law 17 requires PREPA to "promulgate regulations" within 180 days of Law 17's passage – which means that, by October 8th, PREPA must present their proposed regulations to PREB. It also holds PREB accountable to "establish the evaluation and approval process of applications for interconnection of distributed generators…following best practices of the industry," including the publishing of proposed regulations, hosting of public hearings, drafting and approval of any amendment to regulations, enforcement of new regulations (including the imposition of fines against the utilities it regulates for noncompliance), and defense of challenges to published regulations before judicial review, if any.

The letter of Law 17 regarding new interconnection regulations requires two things: First, the law went into effect immediately upon passage, totally changing the paradigm for under 25 kW distributed generation systems from "ask permission from PREPA" to "simply notify PREPA"; and for systems bigger than 25 kW and up to 5,000 kW, it immediately limits PREPA's review time of interconnection applications to 90 days. Secondly, it requires PREPA to promulgate detailed new draft rules for implementation of the law, and all associated changes to existing rules, within 180 days; and for PREB to go through a process of review, collecting public input, revision, and approval, all after receipt of the draft rule from PREPA.

It's important to note that if PREPA were to not submit anything to PREB within the 180 days timeframe, there would be no financial ramification on PREPA; only that PREB must then promulgate the draft rule. But PREB ultimately must promulgate the rule anyway.

So the process could be treated as PREPA simply being an important stakeholder, but the rule's promulgation being overseen by PREB throughout, while working closely with any interested stakeholders. To that end, we are happy to see PREB taking a leadership role in the creation of a docket on this topic, and hosting of facilitated workshops to gather input from stakeholders, which began less than 60 days after the law's passage.

Going forward, although Law 17 requires PREPA to submit any changes to regulations within 180 days, nothing prevents PREB from developing and sending to PREPA suggested revisions for PREPA to consider before the 180 days have elapsed. If this were to happen, say, within 150 days of the law passing (by Sep 8th), and shared with PREPA as well as other stakeholders (posted publicly in the docket), it would then give PREPA 30 days to review and respond with their markup, and other stakeholders as well.

This type of continued proactive approach on the part of PREB could result in an effective synergy between PREB, PREPA, and other stakeholders, and result in a quicker, more robust, less contested rule than if PREB were to simply wait to see what (if anything) PREPA submits by the 180-day deadline. It could also increase the odds that PREPA submits something closer to what PREB would ultimately issue as a draft rule and certify as a final rule.

III. Suggested considerations of PREB & PREPA for Interim Compliance

Law 17 is in effect now; it went into effect immediately upon when it was signed into law (April 11th). Although the law spells out the process for implementation, the date when complete revised, perfected and approved regulations will be in effect is not predictable, but it seems likely

that it would occur at some point in 2020. While we urge stakeholders to move forward as swiftly as possible, we also recognize that the final regulations will have the full force and effect of the law, and will have to be effective and complete, and strong enough to withstand the possible judicial review that's typical in regulated utility markets.

Given the urgency of the need to deploy solar and storage systems – after all, the quicker systems are deployed, the more lives will be saved during the next inevitable grid power outage - customers can't wait until the unclear point in the future when regulations will be perfected, in order to move forward with their solar and energy storage installations.

For this reason, we urge PREPA to implore to their management teams, and to any employees along the communication and accountability chain for distributed energy systems, the legal importance of compliance with all provisions of Law 17 which have gone into effect already. Some of our member companies have already reported erroneous statements from some PREPA employees that the law isn't in effect until the associated rules are promulgated. Even when shown a copy of PREPA's own internal Directive instructing and detailing immediate compliance, some PREPA employees have allegedly stated insubordination with the Directive. We urge PREPA to continue training its employees on the importance of adherence to Law 17, and to its own internal Directives on the matter, and to take reports of alleged insubordination seriously.

One manifestation of this could be a zero tolerance policy for any PREPA employees who knowingly become a hindrance to the interconnection of distributed renewable energy. This may come across as harsh, but the impetus for all of these changes today is the loss of life that resulted from Hurricane Maria. If a zero tolerance policy for PREPA employees violating the "facilitate and not hinder" tenet of this law could result in one additional elderly center with a solar + storage system installed and operational during the next widespread blackout, perhaps it's

worth considering. It is not, and cannot ever again, be a role of the utility to hinder the interconnection of distributed renewable energy on this island.

Also for this reason, we urge PREB to consider issuances of any necessary Orders or Waivers from compliance with any existing regulations which serve as a hindrance to distributed generation deployment, and which are currently being rewritten anyway. Although the formal legal complaint process is one avenue for such orders and waivers to be issued, we urge PREB to use all tools available and not depend only on formal complaints, which are by design a long and expensive process. We commend PREB on its issuance, two weeks after the passage of Law 17, of the Order instructing PREPA to implement the Transition Charge approved in its rate case to all customers' net generation, as Law 17 clearly prohibits any charges being assessed on a customer's solar production. PREB's action avoided uncertainty on PREPA's part, simplified implementation of the current rate adjustment, asserted the role of PREB as an effective regulator, and went uncontested by any party.

If it becomes clear that action on the part of PREB, whether it be by Orders, Waivers, or any other available tools, would have a similar clarifying effect in "facilitating and not hindering" distributed generation deployment, then for the sake of all parties involved, we encourage such action, whether it be proactive or reactive.

IV. Specific provisions of Law 17

- **The online interconnection and net metering approval "portal" itself is, currently, not functioning as an effective mechanism for customers to inform PREPA that an interconnection has occurred.** Although current law requires PREPA to make available a portal to facilitate net metering applications, if the portal is in fact a bottleneck in Law 17 compliance, then customers can simply inform PREPA of the interconnection (as certified by

a Professional Engineer or Licensed Electrician), by whatever method that's convenient for the customer.

- The concept of "applying for permission" for interconnection is now contrary to the letter and spirit of Law 17. Since Law 17 passed more recently in time than any other potentially applicable law, if there are any perceived conflicts between Law 17 and other laws, Law 17 prevails.
- Thus, while for administrative purposes PREPA may prefer that the same online portal be used that exists today for notification of interconnection as has been used in recent years for applications for permission of interconnection, if this portal doesn't function in such a way that it has the effect of "facilitate and not hinder", then a customer's supplying of a Professional Engineer or Licensed Electrician's attestation that a system is in compliance with all relevant codes and standards is, per Law 17, the only thing necessary to constitute "Day 1" of the 30-day time-window which the customer has to witness net metering applied to their utility bill.
- Since Law 17 requires the imposition of fines of at least $1,000 per day against PREPA for noncompliance, we ask that PREB consider issuing such fine immediately and automatically if day 31 occurs without net metering appearing on a customer's bill.
    - This should function in the same way a parking meter attendant writes a ticket whenever they see a car parked at an expired meter.
    - Noncompliance shouldn't trigger the necessity for a long, complicated, expensive formal complaint process. If PREPA is out of compliance, then PREB should simply impose a fine of $1,000 per day, per customer.
- Today's technology is more advanced, and lower cost, than it was when the portal was originally developed. If PREPA wants to utilize a software solution that's a lot

more efficient to process notifications of customer interconnection of distributed energy systems under 25kW, it could be as simple as PREPA's assignation of a tracking number, inputting of data into a Google Form or something similar, and updating whether net metering has been applied to the customer's bill (and whether the meter has been swapping out, if necessary) via an auto-populated Google Doc spreadsheet, or similar.

  - Work orders to swap out meters can be generated with the push of a button, meter installation tracking can be automatically integrated, and customer notification that net metering has been applied to their bill via can all happen easily and digitally.
  - PREPA can develop any systems they'd like to facilitate (not hinder) interconnection of distribution systems. But the one and only legal requirement on the part of the customer is that, on their behalf, a Licensed Electrician or Professional Engineer inform PREPA that their system has been interconnected.

- **PREB needs awareness of customer interconnections**
  - To facilitate PREB awareness of when a 30-day timeperiod has elapsed after customer notification of interconnection, PREB will need evidence of when such notification occurred.
  - PREB could accomplish this by requiring PREPA to automatically notify PREB of each notification of customer interconnection, and reasonable associated data (ie a notification tracking number, customer number, etc).
  - Rather than necessitate any affected parties having to file formal complaints, PREB could then automatically assess fines of at least $1,000 per day per customer for each

customer for which PREPA doesn't demonstrate proof that net metering has been applied within the 30-day timeframe allowed by Law 17.

- This sort of automatic enforcement should, hopefully, be a motivator for PREPA to have adequate systems in place to handle whatever volume of customer notifications of interconnection that it receives; ie, implementing such a system should cost less than the $1,000 per customer per day file they would automatically receive for being out of compliance.
- We've heard that PREPA is receiving, on average, around 250 interconnection notifications each month. This would mean that, if 60 days were to elapse between the time of customer notifications of interconnection, the fine would amount to $250,000, and would continue accumulating daily for each over-due customer.
- This automatic imposition of fines for noncompliance may seem harsh, however if not implemented, there's no historical reason to anticipate PREPA compliance. All previous laws on the matter have been partially or completely ignored; so we call upon PREB to develop swift enforcement mechanisms, and to utilize them immediately, as allowed by law, rather than wait a period of many months in order for the regulations to be perfected.
- Law 17 grants customers the right to automatic interconnection and 30-day application of net metering for systems under 25 kW as of April 11th 2019, not at some indefinite time in the future. Law 17 also grants all customers the right to have their applications for systems over 25 kW to be approved within 90 days, otherwise their applications are automatically considered approved on day 91, and the $1,000 per customer per day penalty would also ensue automatically.

- **"Feeder Full" issue**
    - We call upon PREPA to plan for the rapid development of distributed generation that will be required to meet Law 17's aggressive growth targets, and to integrate into their planning the preemptive upgrading of any feeders conceivably possible to reach capacity, well within the timeframe that it takes to order and have shipped and installed new feeders, and thus upgrade feeders before the "feeder full" issue arises.
        - Indeed, if it's not handled this way, wait-times for "full feeder" replacement would clearly constitute a burden to distributed renewable energy.
    - We ask that what constitutes "reaching capacity" for a feeder be re-examined.
        - SEIA cites in a 2012 filing the attestation of solar developers that "the adverse impacts of the 15% rule are increasing the cost and burdens associated with solar interconnection in a manner that is unnecessary, discriminatory and unjust and unreasonable." (See P. 4 of attached SEIA submission to FERC Docket #RM-12-10-000, 2012)
        - In this same filing, SEIA recommends application of a secondary screen, after the 15% threshold is met, called "100% of minimum daytime load", which is much higher than the 15% threshold, while still meeting all reasonable technical and safety standards. They provide reference to multiple sources to support this recommendation of the secondary screening threshold.
        - In any event, we call upon PREPA to ensure that the "full feeder" issue is not a hindrance to distributed generation development, and upon PREB to enforce this concept.

- **There is no legal authority for a requirement of automatic transfer of RECs in exchange for Interconnection and/or Net Metering**
    - In a April 17th 2019 filing before the commission in docket CEPR-AP-2018-0001, P. 3, PREPA states "In our opinion, for those clients benefiting from net-metering, the REC's should be made available to PREPA at no cost, in return for the service PREPA will be providing by storing the energy during the day for delivery at night."
        - We respectfully note that PREPA's opinion on this matter is of no significance compared to the legal requirement established in Law 17 that PREPA purchase RECs from distributed generation.
        - We furthermore point out that PREPA in no way "stores energy during the day" produced by net-metered systems. Rather, such energy is consumed immediately in close proximity to the Prosumer who generates it, providing financial savings to all parties involved and providing a plethora of benefits to all customers and the utility, including peak load shaving, transmission savings, fuel savings, and environmental benefits, among others.
    - The law is clear that the entity who owns the renewable energy system which creates the electricity with which any RECs are associated, owns the RECs, until such time as the REC owner voluntarily sells them to another entity.
    - Indeed the only purpose of RECs is to accelerate renewable energy deployment. The law clearly designates the owner of a qualifying renewable energy generator as the owner of the resulting RECs associated with power produced, and it, separately, clearly requires automatic interconnection of distributed generation under 25 kW and 90-day approval of systems larger than 25 kW.
    - REC structure and pricing are both being developed in a separate workshop proceeding. The only overlap between the Interconnection and the REC proceedings,

if any, should be acknowledgement that the better job PREPA and PREB do at facilitating interconnection, the more RECs customers will produce, the more RECs will be available on the market, and the easier it will be for PREPA to achieve RPS compliance.

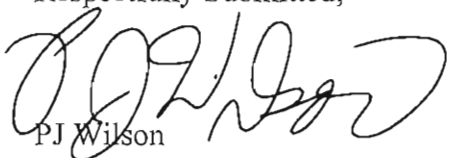
V. Conclusion

Again, thank you for the opportunity to provide comment in this important proceeding. The issues being considered are very complex and important, and deserve careful thought. They've also largely been addressed time and time again in the combined hundreds of years of experience of distributed generation interconnection in various jurisdictions across the nation. Our hope is that we are able to adapt quickly to implement relevant aspects of Law 17, quickly implementing lessons learned both within Puerto Rico and in locations with much, much higher percentages of distributed generation installed and humming along on their grid.

Our hope is that we move swiftly and together to the place of categorically having no hindrances whatsoever for the interconnection of distributed renewable energy systems on this island, and that stakeholders' time and attention on the matter can go to forecasting and avoiding future hindrances before they happen.

We stand ready to assist PREPA, PREB, and any other stakeholders in the evolution of this proceeding, the proliferation of distributed generation, the implementation of this great law.

Respectfully Submitted,



PJ Wilson
President, SESA-PR
pjcleanenergy@gmail.com
417-459-7468

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Solar Energy Industries Association | **Docket No. RM-12-10-000**

ANSWER OF THE SOLAR ENERGY INDUSTRIES ASSOCIATION TO THE COMMENTS/PROTESTS OF THE AMERICAN ELECTRIC POWER SERVICE COMPANY, AMERICAN PUBLIC POWER ASSOCIATION, DUKE ENERGY COMPANY, EDISON ELECTRIC INSTITUTE, INTERSTATE RENEWABLE ENERGY COUNCIL, NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION, NEVADA POWER COMPANY AND SIERRA PACIFIC POWER COMPANY, NEW JERSEY BOARD OF PUBLIC UTILITIES, PACIFIC GAS & ELECTRIC, PEPCO HOLDINGS INC.,PJM INTERCONNECTION, L.L.C., SAN DIEGO GAS & ELECTRIC AND SOUTHERN CALIFORNIA EDISON

Pursuant to Rule 213 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or "Commission"), 18 C.F.R. § 385.213, the Solar Energy Industries Association ("SEIA") hereby submits this answer to comments/protests of the American Electric Power Service Company ("AEP"), American Public Power Association, ("APPA"), Duke Energy Corp. ("Duke") Edison Electric Institute ("EEI"), Interstate Renewable Energy Council ("IREC"), National Rural Electric Cooperative Association ("NRECA"), New Jersey Board of Public Utilities ("NJBPU"), Nevada Power Company and Sierra Pacific Power Company ("NV Energy"), Pacific Gas & Electric ("PG&E"), Pepco Holdings Inc. ("PHI"), PJM Interconnection, LLC ("PJM"),San Diego Gas & Electric Company ("SDG&E") and Southern California Edison Company ("SCE") in the above captioned proceeding.

SEIA appreciates the comments and protests of all those parties seeking to intervene or otherwise participate in the Commission proceeding initiated by SEIA's Petition for Rulemaking to Update Small Generator Interconnection Rules and Procedures for Solar Electric Generation

("Petition") filed on February 16, 2012. The Petition was noticed by the Commission on February 28, 2012 with a 30-day deadline of March 27, 2012 for submission of comments, interventions and protests.[1]

I. SUMMARY OF ANSWER[2]

The Petition has been carefully crafted to safely and reliably increase the amount of solar generation eligible for fast track interconnection. Contrary to claims by EEI, NRECA/APPA and others, the modest changes proposed by SEIA will not cause unintentional islanding or other new reliability and safety problems. Moreover, NRECA/APPA's assertion that the Petitioners must somehow prove that the proposed changes would yield a theoretical "zero failure rate" is unreasonable on its face, as it is a test that no existing electric circuit in the world could meet today.

The heart of the Petition, the "100% of daytime minimum load" supplemental screen to be applied if a project triggers the existing 15% screen, is strongly supported by the Lab/EPRI report as consistent with reliability and safety imperatives. Even more significant, the 100% of daytime minimum load supplemental screen has recently been agreed to by a wide range of stakeholders in a settlement process overseen by the California Public Utility Commission ("CPUC"), most notably PG&E, SCE and SDG&E as well as SEIA. The positive momentum

---

[1] Any reference to the 100% of minimum daytime load supplemental screen in this answer should be read to include the California settlement penetration test as well as the power quality & voltage fluctuation, safety and reliability screens. The 100% daytime load screen combined with these additional screens is at the heart of the SEIA proposal, provided the process is well defined and transparent from the solar developer perspective. Moreover, as stated repeatedly in the Petition, SEIA is not proposing to eliminate the 15% screen.

[2] This Answer is intended to assist the Commission in its consideration of the Petition. It is not intended as a response to all unsubstantiated and adverse claims by parties regarding the Petition. Therefore, the lack of a specific response to certain comments made by other parties should not be construed as an admission by SEIA.

established by this recent agreement can facilitate prompt action by the Commission on the SEIA Petition.

The SEIA Petition is strongly supported by the evidence. Nowhere in their filings do opponents of the Petition question the validity of fundamental findings of fact in the Lab/EPRI report that SEIA relies upon in support of the 100% daytime minimum load supplemental screen and related reliability and safety imperatives. The evidence in the Petition is further strengthened by the comments of three top solar developers, SunPower, SunEdison and enXco. They make it clear that the adverse impacts of the 15% rule are increasing the cost and burdens associated with solar interconnection in a manner that is unnecessary, discriminatory and unjust and unreasonable.

Arguments that the collection of minimum load data to implement the 100% of minimum daytime load screen are too burdensome are not valid. SEIA has taken great care in the Petition to assure that any costs and burdens associated with such data collection are minimized and that, if necessary and appropriate, alternatives means of estimating minimum load are available.

SEIA has also shown that increasing the 2 MW cap on fast track interconnection would not result in reliability and safety problems. In addition, the option of an independent, third-party expert to evaluate costly upgrade requirements will make for more expeditious and balanced upgrade decisions by utilities.

Finally, SEIA supports having a technical conference following the issuance of a NOPR in response to the SEIA Petition, the comments and protests filed in this proceeding as well as this answer. This approach will give all parties, including SEIA, a strong incentive to work together in a collegial manner to achieve a significant degree of consensus that can be reflected in a final rule.

II. SEIA PETITION ASSURES RELIABILITY AND SAFETY WILL BE PROTECTED

SEIA and its members take the reliability and safety issues associated with solar generation interconnection very seriously. This is why the Petition is based in part on the Lab/EPRI report. That report concluded that it is possible to utilize a less restrictive, fast-track supplemental screen to be applied when the 15% screen is triggered—100% of minimum daytime load —in a manner that maintains and protects reliability and safety.[3] Utility trade associations and utility commentors (except PG&E) all raise a variety of concerns regarding the impact of the Petition on grid reliability and safety.[4] SEIA addresses these parties' concerns below.

A. No Existing Electric Circuit Can Comply with the "Zero Failure Rate" Standard Suggested by NRECA and APPA.

The NRECA/ APPA protest states:

> A single instance of SEIA's proposed screen failing to identify that results in a fault on a line could cause significant harm to customers and other interconnected

---

[3] Michael Coddington, Benjamin Kroposki, Barry Mather (National Renewable Energy Laboratory); Kevin Lynn, Alvin Razon (Department of Energy); Abraham Ellis, Roger Hill (Sandia National Laboratories); Tom Key, Kristen Nicole, Jeff Smith (Electric Power Research Institute), *Updating Interconnection Screens for PV System Integration* ("Lab/EPRI Report") (Jan. 2012).

[4] "Motion to Intervene and Comments of the Edison Elec. Inst.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 14-17 ("EEI Comments"); "Joint Protest of Nat'l Rural Elec. Coop. Ass'n and Am. Pub. Power Ass'n," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 7-10 ("NRECA/APPA Protest"); "Motion to Intervene and Comments of So. Cal. Edison Co.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 11-12 ("SCE Comments"); "Motion to Intervene and Protest of San Diego Gas & Elec. Co.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 10-11 ("SDG&E Protest"); "Motion to Intervene and Comments of NV Power Co. and Sierra Pacific Power Co.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 3-5 ("NV Power Protest"); "Motion to Intervene and Comments of Pepco Holdings, Inc. et al.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 4-5 ("PHI Comments"); "Motion to Intervene and Comments of Duke Energy Corp.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 4-6 ("Duke Comments"); "Motion to Intervene and Comments of Am. Elec. Power Serv. Corp.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at p. 2 ("AEP Comments").

> generators, or, more tragically, injury to a line worker or the public. Adopting SEIA's propose[d] screen absent a showing that it is conservative enough to have a **zero failure rate** imposes too great a risk on other customers, system workers and other generators.[5] (emphasis added)

NRECA and APPA have proposed a test that no electric circuit in the world can pass today, whether or not a single PV installation is connected to it. A "zero failure rate" for any component of any electricity system is a noble goal, but has yet to be achieved in the real world. The basic generation, transmission, transformation and distribution of electricity, to say nothing of its myriad consumer uses, imposes non-zero risk on customers, system workers and all other participants in the process each and every day, and has since it was invented. The question is whether these risks are reasonable and can be mitigated sufficiently to permit the activity to continue. Clearly, the risks inherent in electrification are acceptable to society. Most significantly, NRECA and APPA present no evidence that SEIA's modest proposed changes to the screening process adds any new or greater risks of harm to a single party.

B. SEIA's Petition Will Not Cause Unintentional Islanding

A key safety and reliability claim made by EEI is that implementation of the SEIA Petition will cause unintentional islanding.[6] EEI states "no industry recognized tests have been conducted to provide assurance that the application of multiple inverters from different suppliers at a high level of penetration will prevent islanding."[7] Islanding occurs when a section of the utility power system remains energized upon separation or disconnection from the rest of the power system because generation within that section continues to provide electricity to loads. If

---

5 NRECA/APPA Protest at pp. 8-9.

6 EEI Comments at p. 16; AEP Comments at p. 2; NRECA/APPA Protest at p. 8.

7 EEI Comments at p. 3.

this islanding is unintentional, the result is a section of the power system that is energized when it should not be and is likely operating (e.g. with voltage and frequency) outside of nominal ranges. Such a state can pose hazards to equipment and personnel.

An unintentional island requires that, in the event of a utility system fault which disconnects a portion of the system, power from distributed generators in that portion exactly matches load, and that islanding protection functions that are required of these generators fail. In accordance with established IEEE 1547 and UL 1741 standards, PV inverters are required to disconnect from the utility system within, at most, 2 seconds of a voltage or frequency excursion beyond a narrow nominal range. Modern inverters also employ techniques to actively detect an island condition based on network impedance. Even if this active anti-islanding detection were to fail, voltage and frequency will deviate very rapidly in an islanded circuit unless there is an exact balance between generation and load.

An International Energy Agency ("IEA") report[8], based on measured data from actual distribution systems, addressed this question directly. The report found that the probability that a perfectly balanced condition occurs in a given distribution circuit for more than 5 seconds—for any PV penetration level—is one in 10^{-5} to 10^{-6} annually. Combined with the probability that the circuit also happens to be disconnected from the rest of the electrical system at that time, the report concludes that the probability that perfectly balanced conditions lasting more than five seconds will occur in a given distribution line is far lower—less than $8x10^{-10}$—annually. For all

---

[8] "Probability of Islanding in Utility Networks Due to Grid-Connected Photovoltaic Power Systems," IEA PVPS T5-07:2002.

practical purposes, this represents a finding of zero risk. By way of comparison, the IEA target probability for existing nuclear power plant severe core damage was $1x10^{-4}$ annually as of 2009.[9]

Moreover, empirical evidence from massive field deployments of inverters worldwide demonstrates that modern anti-islanding features are not defeated with inverters from different suppliers, even at high levels of penetration up to and in excess of 100% of feeder load. For example, this is not a concern in Germany where distribution feeder reverse power flow is routine, and over one million individual distributed PV systems, totaling 25 GW of PV capacity, are currently operating. SEIA understands that the distribution grid in the United States is different in some respects from Germany's. That is one reason why the Petition proposes a supplemental screen to prevent reverse power flows that are routine in Germany. However, the sheer scale of PV interconnection in Germany and the lack of any reported islanding problems are very telling. SEIA supports a requirement that all future PV installations utilize only fully-compliant inverters with modern anti-islanding circuitry and logic. This should be sufficient to address utility islanding concerns.

EEI and others also suggest that "high penetration of solar DG can cause reverse power flow, affect voltage regulation and reduce system protection setting sensitivity."[10] Again, a 100% of daytime minimum load screen will not cause reverse power flow.

---

9 "Overcoming PV Grid Issues in Urban Areas," IEA-PVPS T10-06:2009.

10 EEI Comments at p. 15.

C. Distribution Automation, Flicker, Static System Voltage Levels, Utility System Protection, Islanding Detection, Fault Current Contribution, Voltage and Current Harmonic Distortion, Stability and Other Issues

EEI further claims that adoption of the SEIA Petition could cause problems with "distribution automation, including automated switching of loads from one circuit to another . . ."[11] EEI also raises other concerns, including "flicker, static system voltage levels, utility system protection issues, islanding detection issues, fault current contribution issues, voltage and current harmonic distortion issues, stability issues, automatic transfer, customer owned transformer designs . . ."[12] Finally, EEI argues that an unintentional islanding and overvoltage test "does not demonstrate the behavior of mixed inverters or inverters mixed with rotating generation or large motors.[13]

Neither the current 15% screen, nor the proposed 100% of minimum daytime load supplemental screen address this EEI laundry list of issues directly. Moreover, the existing 15% screen does not necessarily prevent these issues from arising. In many (if not virtually all) cases, this is because these issues are adequately addressed by compliance with existing certifications and standards (*e.g.* UL 1741, IEEE 1547) combined with modern distribution circuit design and protection standards and practices.

Furthermore, there is no evidence that SEIA's proposed screen is any more or less likely to result in a circuit topology (the physical arrangement of circuit elements) which adversely impacts stability or protection when compared to either the existing 15% screen or to the system

---

11 *Id.*

12 *Id.*

13 *Id. at* p. 16.

designs that currently result from a "full" distribution circuit impacts study, simply because those studies typically do not consider the more arcane issues such as harmonic distortion or customer-owned transformer designs either.

While these issues can be modeled using available sophisticated simulations, utilities have generally not engaged in this level of analysis—presumably because it has not been shown necessary either in the U.S. or in countries that routinely experience far higher levels of DG penetration than contemplated by any standards proposed by any party to this proceeding. One can always construct a scenario that involves multiple, unlikely, simultaneous events that would result in serious impacts to system reliability, but this is equally true whether or not any PV is connected to the circuit(s) in question.

D. Primary Conductor Open Scenario

EEI also raises a "primary conductor open" scenario that it believes is a problem.[14] The scenario posed is generation perfectly balanced with load within an islanded section of a distribution circuit. As outlined above, this has a vanishingly small probability of persistence for any meaningful period of time. Of course, it is impossible to prove a negative, but there is ample evidence that current anti-islanding algorithms are effective under "real world" conditions. There is no actual instance, as far as SEIA has been able to determine, where this scenario has been shown to have occurred in the field.

E. Misunderstanding Regarding Rationale for Minimum Load Standard

EEI also suggests that the "notion that minimum load is typically at night is not a rational reason for a rule change for screens included in standardized interconnections, because it would

---

[14] *Id.* at pp. 16-17.

no longer account for situations that exist on many distribution circuits where minimum loads do occur on weekends and on holidays - not just at night"[15]

EEI misunderstands this aspect of the Petition. Under the proposed 100% of minimum daytime load screen it is irrelevant whether minimum load occurs at night or at another time. The point is that meaningful levels of PV generation only occur during daytime hours. Thus, the minimum load during these hours should be used as the basis for determining PV penetration level. It may be that, on some circuits, minimum load during PV generation hours also happens to be the absolute minimum load on the circuit. However, in many, if not most, cases, the minimum daytime load is in fact higher than the minimum nighttime load. It is illogical to estimate maximum PV penetration based on a minimum load value that cannot occur while PV is generating.

EEI also asserts that "the Petition's statement that the 'probability that all generators on a circuit will be producing maximum power simultaneously with minimum load is very small' overlooks that on a sunny, mild day, the probability of this situation is actually very large if all the DG on a circuit is solar."[16] In practice, diversity between PV systems, including tilt, orientation and temperature effects, will generally result in non-simultaneous maximum output. While output may approach the maximum under the theoretical conditions EEI describes, there is no indication that this is a substantial concern or one that has any meaningful probability of causing harm.

---

15 *Id.* at p. 20; *see also* Duke Comments at p. 5.

16 EEI Comments at p. 23.

F. Standard Load Profiles Are an Effective and Accepted Way to Estimate Minimum Daytime Load

EEI and others object to the use of standard load profiles to estimate minimum loads as suggested by Lab and EPRI experts.[17] The Lab/EPRI report states that "minimum daytime load can be estimated based on standard load profiles for various customer classes that many utilities maintain and update on an annual basis."[18] SEIA agrees that use of actual load data is preferable when it is available. However, standard load profiles are commonly used by utilities for distribution system planning, an undertaking that is critical to the safe and reliable provision of power to customers. EEI provides no rationale for why such profiles would be inadequate in this case.

G. The Commission Should Not Wait for Further IEEE Analysis

The NRECA/APPA protest suggests that "[b]efore considering any changes to the SGIP, the Commission should allow the Institute of Electrical and Electronics Engineers ('IEEE') to complete its analysis of issues regarding distributed resource interconnection and the high penetration of intermittent generation."[19] SEIA supports the ongoing work of IEEE to make inverters even smarter and more capable of providing not only protective functions, but also capabilities that will ultimately increase the robustness of the grid. However, this work need not be completed in order to safely and reasonably make the modest change in screening criteria proposed by SEIA.

---

17 *Id.* at p. 21; SCE Comments at p. 13.

18 Lab/EPRI Report at pp. 7-8.

19 NRECA/APPA Protest at pp. 11-12.

The work IEEE is doing is expected to take several more years and addresses a broader range of issues, a number of which are not particularly relevant to this proceeding. By contrast, there is an urgent need for the Commission to remedy the problems described in the Petition. SEIA agrees with the comments filed by PJM which state that "the Commission should establish technical conference(s) in conjunction with a rulemaking to address the issues raised in SEIA's Petition."[20] Therefore, the Commission should not wait for action by IEEE, but instead should move forward with the rulemaking requested in the Petition.

III. THE CALIFORNIA SETTLEMENT WITH 100% MINIMUM DAYTIME LOAD SUPPLEMENTAL SCREEN UNDERCUTS ARGUMENTS THAT SEIA'S PETITION BE DISMISSED

Last month, PG&E, SCE and SDG&E signed, along with SEIA and many other parties, a California interconnection Settlement whose central element is a 100% of minimum daytime load supplemental solar fast-track screen similar to that proposed by SEIA in its Petition.[21] SEIA commends SCE, SDG&E, PG&E and other parties for taking this positive step forward on the solar interconnection issue. The California Settlement can serve as a model for consideration by this Commission.[22] At the very least, the Settlement can substantially inform this proceeding. In light of this, SEIA was surprised to read that SCE opposed the Petition in all respects, including

---

20 PJM Comments at p. 5.

21 *Motion for Approval of Settlement Agreement Revising Distribution Level Interconnection Rules and Regulations*, California Public Utilities Commission R. 11-09-011 (Mar. 16, 2012) ("California Settlement").

22 Order No. 2006 incorporated many of the elements of what is known in California as Rule 21 interconnection requirements. Rule 21 is being updated in the California Settlement.

key identical elements previously agreed to by SCE in the Settlement.[23] SCE even went so far as to say: "The Commission should deny the Petition because turning national attention and industry resources to the SGIP is unwarranted given that there is a complete lack of evidence that the SGIP is unreasonable or is in need of revisions for the benefit of any one group."[24] This sweeping assertion is contradicted by the Petition, the Lab/EPRI report, comments filed to date, this answer and the California Settlement.

SDG&E also recommended that the Petition be denied, notwithstanding its support for the California Settlement.[25] This is an unusual posture for SCE and SDG&E to take after signing a settlement agreement that overlaps considerably with the SEIA Petition. SEIA respectfully requests that SCE, SDG&E and other utility commentors reconsider their requests that the SEIA Petition be dismissed. It would be helpful to the Commission, SEIA and all other parties if, based in part on the lessons learned from the California Settlement, both SDG&E and SCE could devote their considerable resources and expertise into making the outcome of the FERC rulemaking a success that removes unreasonable barriers to solar market access while maintaining system reliability and safety.[26] Of course, SEIA makes the same request of the

---

23 SEIA notes that both the settlement and the SEIA Petition address wholesale solar generation fast track interconnection

24 SCE Comments at p. 1.

25 SEIA does note SDG&E's statement that "[w]here minimum load flow data is known for a line section, SDG&E agrees that 100% of the daytime minimum load should be used to evaluate a proposed solar interconnection project." SDG&E Protest at p. 7.

26 The Interstate Renewable Energy Council, Inc. ("IREC") details the way in which minimum load screening has been proposed to be included in California's Rule 21 supplemental screening process, along with screens that address safety, reliability and power quality considerations. *See* "Motion to Intervene and Comments of IREC," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 16-22 ("IREC Comments"). SEIA is a party to the California settlement that endorsed the inclusion of a minimum daytime load screen in the California Rule 21 supplemental review

utility trade associations and other utility intervenors that proposed dismissal of the SEIA Petition.

SEIA notes that PG&E took a more constructive approach in its comments on the Petition. SEIA urges and requests that as we move forward, PG&E play an expanded, constructive role that begins with affirmative support of FERC consideration and action on the SEIA Petition. While there are differences between PG&E, SCE, SDG&E and SEIA on certain proposals in the Petition, SEIA believes it is very significant that all were parties to and agreed upon the California interconnection Settlement that was filed with the CPUC just last month. SEIA believes that the positive momentum established in this recent agreement can facilitate prompt action by this Commission on the SEIA Petition.

SEIA thanks the very wide range of parties and others that have submitted supportive comments in this proceeding, including the NJBPU, CPUC, PJM Interconnection L.L.C, IREC, U.S. Clean Heat & Power Association, NRG Energy Inc. Amonix, SunEdison, Suntech America, enXco, Sunpower Corporation, SolarCity Corporation, Borrego Solar Systems Inc. Recurrent Energy, the Natural Resources Defense Council, Clean Coalition and the Environmental Defense Fund.[27] SEIA urges your further positive engagement in this proceeding.

---

process and supports this approach as long as the supplemental review process is well defined and transparent from the solar developer's perspective.

[27] Natural Resources Defense Council intervened and commented on behalf of itself, the Center for Rural Affairs, Climate + Energy Project, Conservation Law Foundation, Energy Future Coalition, Environmental Law & Policy Center, Fresh Energy, National Audubon Society, Northwest Energy Coalition, Pace Energy and Climate Center, Southern Environmental Law Center, Sustainable FERC Project, Sierra Club, Union of Concerned Scientists and the Wilderness Society.

IV. THE PETITION IS STRONGLY SUPPORTED BY THE EVIDENCE

EEI, APPA, NRECA, SCE, SDG&E and other utility commenters, with the exception of PG&E, make repeated claims that there is no evidence in support of the SEIA Petition. For example, EEI claims that the Petition "does not demonstrate any evidence to suggest that the 15% screen . . . no longer serves to adequately reduce interconnection costs and time compared with the Study Process."[28] All of these evidentiary claims are without merit.

A key factual and analytic foundation of the SEIA Petition is a report authored by experts from the National Renewable Energy Laboratory ("NREL"), the Sandia National Laboratory ("SNL") and the Electric Power Research Institute ("EPRI"). The Lab/EPRI report is attached to the SEIA Petition in its entirety and concludes, *inter alia*:

- The fact that PV generation has a strictly daytime pattern is significant considering that voltage impacts tend to be greater during periods of highest instantaneous penetration. By the time PV systems are producing a substantial amount of power, loads are well above their nightly lows on most feeders. Therefore, **it makes sense to consider minimum daytime load as a technical screening criterion**. For example, a screen may set a threshold at minimum daytime load, where daytime is defined as the period between 10:00 a.m. and 2 p.m.[29]

- By taking into account these technical characteristics [of solar PV], it is possible to refine screening procedures to be more efficient and effective, substantially **reducing interconnection process time and effort for PV deployment without compromising safety and reliability of the interconnected distribution system.**[30]

- **[I]t is critical that interconnection procedures be as streamlined as possible to avoid unnecessary interconnection studies, costs and delays.**[31]

---

28 EEI Comments at p. 11.

29 Lab/EPRI Report at p. 6.

30 *Id.*

31 *Id.* at p. 1.

Nowhere in their filings do the utility trade associations or others question the validity of these fundamental findings of fact by top Lab and EPRI experts; all of which lend support to Commission action on the SEIA Petition as opposed to dismissal.[32]

The Lab/EPRI report, which was reviewed by 17 utility experts prior to publication, makes clear that the reliability and safety goals of the 15% rule can be achieved under a less restrictive standard through the addition of a supplemental screen of 100% of minimum daytime load.[33] Therefore, the 15% rule, in its current form, is inherently a discriminatory market barrier because it unnecessarily and unreasonably increases solar interconnection delays and costs.[34]

This is further confirmed with specific examples included in the comments of solar developers that have intervened in this proceeding. For instance, SunPower Corporation ("SunPower") offers specifics regarding how the 15% rule is serving as a discriminatory barrier to solar market access. In SunPower's experience, utilities often do not provide a reasonable opportunity for supplemental review of projects that trigger the 15% screen, as required by Order No. 2006. Instead, the opposite is occurring; certain utilities are using the 15% screen as a hard cap. SunPower states:

> [C]certain utilities are using the 15% criteria as a hard limit to arbitrarily control interconnection capacity on certain wholesale projects subject to FERC jurisdiction. **Once the amount of proposed solar generation exceeds 15% of a circuit's rated peak capacity, all additional projects, be they wholesale or retail, are rejected.** Using the 15% screen as a hard cap on development is totally contrary to the requirements of Order No. 2006 as well as relevant state interconnection standards.

---

32 SEIA notes that the Lab/EPRI Report was reviewed before publication by 17 experts from the following utilities: SDG&E, PG&E, Sacramento Municipal Utility District and SCE (see Acknowledgements at p. iv.)

33 *Id.* at p. 6.

34 Nevertheless, SEIA agrees that the 15% screen should be preserved as it provides a workable framework in many situations where the level of DG penetration is modest.

> To make matters worse, **certain utilities that have closed off selected circuits to interconnection have been unwilling to present their criteria or to set up a transparent process for reviewing the decisions being made to use the 15% screen as an absolute limit**. Thus establishing a fact based screening process based on minimum load information to replace the current arbitrary and outdated rule of thumb using peak load criteria is all the more important to control discriminatory behavior on the part of interconnecting utilities.[35]

The comments of enXco Development Corporation ("enXco") provide further support for the need to reform Order No. 2006 fast track interconnection rules:

> In Massachusetts, one distribution utility is mandating a 'general policy' that caps generation loading on individual circuits based on voltage class, with certain voltages assigned certain generation nameplate capacity limits. The relationship between the two is not transparent to us, and there is no obvious consistency in such policy across other distribution utilities in the state.[36]

SunPower's and enXco's experiences are not unique. Instead, as SunEdison LLC ("SunEdison") describes, it is a typical example of discriminatory barriers to solar market access and the need to update Order No. 2006 to address these realities:

> SunEdison currently has 4 projects with a total capacity of 6.2 MW that failed the 15% screen and had to go through a full 2-year study process costing over $50,000 per project. One of these was barely over 15% of peak load, and was under 50% of minimum load.[37] The circuit served both industrial and residential load in a developed area. However, because the rule specifies that the project could only be measured relative to peak, the utility failed the project under fast-track review and instead required the full cluster study. There were no other project applications on that line.[38]

---

35 "Motion to Intervene and Comments of SunPower Corp.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 3-4 ("SunPower Comments").

36 "Motion to Intervene and Comments of enXco Dev. Corp.,"Docket No. RM12-10-000 (filed Mar. 27, 2012) at pp. 3-4 ("enXco Comments").

37 "Motion to Intervene and Comments of SunEdison LLC," Docket No. RM12-10-000 (filed Mar. 27, 2012) at p. 5 ("SunEdison Comments").

38 The three other SunEdison projects range from 0.6 MW to 1.5 MW to 2 MW. The failure of the 0.6 and 2 MW under the 15% rule were due to prior applications already exceeding 15%; the 1.5 MW exceeded on its own due to low line loading. Each had more than sufficient capacity on the line. The Phase I study results for each of these projects indicated minimal upgrades - barely

Again, the lack of meaningful supplemental review after the 15% screen was triggered led to an unnecessary, lengthy and costly study process.

V. THE MINIMUM LOAD DATA COLLECTION REQUIREMENT IS NOT UNDULY BURDENSOME OR OTHERWISE UNREASONABLE

The utility trade associations and utility commenters (except PG&E) oppose on many grounds the Petition's requirement to provide peak and minimum load data, including that it would be overly burdensome.[39] This is not the case. Instead, the data collection requirement proposed in the Petition is carefully crafted to minimize costs and burdens.

First, it is important to acknowledge that the data collection requirement only applies when aggregate existing and proposed distributed generation on a circuit is 10% or more of peak load. This effectively assures that such data collection will not be required on the overwhelming majority of utility circuits in the near to mid-term. Notwithstanding the tremendous growth of solar PV generation in recent years, the use and interconnection of solar is not yet widespread in most states. Furthermore, virtually all utilities currently collect peak load data in order to operate their distribution systems. So it should not be difficult for utilities to determine when the obligation to collect and provide minimum load data is triggered.

---

beyond what a typical Fast Track review would provide for, demonstrating little benefit to the enhanced and expensive study. SunEdison Comments at pp. 5-6.

[39] EEI Comments at p. 21; AEP Comments at p. 2, SCE Comments at pp. 12-13, Duke Comments at p. 77, SDG&E Protest at p. 8.

Second, consistent with the recommendations of the Lab/EPRI report and the California interconnection settlement, the SEIA proposal allows for the use of load profiles and other means of estimating minimum load in lieu of actual data if that is appropriate and necessary.

Finally, the data collection requirement is limited to FERC's jurisdiction. Minimum load data can only be required by FERC if it concerns wholesale "interconnections with facilities that are already subject to the Transmission Provider's OATT at the time the Request is made."[40] The relatively narrow reach of jurisdiction asserted by FERC will leave the question of minimum load data collection primarily with the states, as is the case today.

EEI also argues that minimum load data collection is a "regulatory subsidy to solar developers" that must be paid for by ratepayers.[41] SEIA disagrees. The collection of minimum load data does not provide a subsidy to any particular solar project. Instead, it is an overall improvement to the distribution information system that will facilitate all forms of DG, not just solar or any particular developer. Moreover, the collection and use of this load data is a key step in the transition to the "Smart Grid."[42] It is also a necessary prerequisite to the functioning of a competitive market for wholesale distributed solar generation and other distributed generation. Finally, the purpose of using a minimum load screen based on minimum load data is to reduce

---

40 Standardization of Small Generator Interconnection Agreements and Procedures, Order No. 2006, 111 FERC Stats. & Regs., Regs. Preambles ¶ 31,180 (2005) at P 5 ("Order No. 2006").

41 EEI Comments at p. 22.

42 As they implement Smart Grid, many utilities will require actual (interval or better) 24-hour distribution circuit load data to do AMI benefits realization, conservation voltage control, DG integration, demand response, and other SmartGrid applications. Many utilities already have this data available to them, although many don't choose to store it when it comes in (but could with existing DMS systems).

wholesale solar generation interconnection costs, thus saving ratepayers money. Unnecessary delays and studies that occur due to the 15% screen increase electric bills, not reduce them.

The need for transparent and timely equal access to peak and minimum load data is further bolstered by the comments of NV Energy, which stated:

> [P]rovision of the requested load data to developers is merely a request for market sensitive information that would result in a dysfunctional and unwieldy interconnection process to the detriment of system reliability and customer's cost. . . . [P]rovision of the suggested data could result in a slew of developers requesting or achieving interconnection at the locations deemed most desirable from a marketing perspective without the checks and balances associated with a structured process that examines the reliability and costs impacts of proposed interconnections on the system (*e.g.* lead to gaming of queue positions).[43]

SEIA agrees with NV Energy that peak and minimum load data is "market sensitive information." That is why it is so important that non-utility generators in the wholesale power market be granted reasonable equal access to such data.

Under FERC Order No. 888 and its progeny, wholesale competitive electricity markets in the U.S. are based on the principle of "comparability" *i.e.* that non-utility and utility generator market participants are treated the same and have comparable access to basic information necessary for wholesale market access.[44] NV Energy seems to be suggesting the opposite, that as the incumbent utility it should have exclusive access to critical wholesale market data such as peak and minimum loads on a distribution circuit and should only share such information with

---

[43] NV Power Protest at p. 6.

[44] *See* "Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, 62 Fed. Reg. 12,274 (Mar. 14, 1977), FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom., Transmission Access Policy Study Group, et al. v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. NY v. FERC*, 535 U.S. 1 (2001).

others at its discretion. These comments are *prima facie* evidence of the need for the Commission to act on the SEIA Petition. They confirm SEIA's statement in its Petition that lack of load information is "tantamount to denial of solar market access in many cases.."[45]

SEIA agrees with NV Energy that "provision of the suggested data could result in a slew of developers requesting or achieving interconnection at the locations deemed most desirable from a marketing perspective . . ."[46] In light of the extraordinary high quality and abundant solar resources in NV Energy's service territory, the widespread availability of load data would undoubtedly spur the development of cost-effective wholesale distributed generation while ensuring reliability and safety. By contrast, NV Energy seems to equate the sharing of load data with negative outcomes regarding reliability and cost impacts relating to interconnection.

NV Energy also says that "loading data has historically been viewed as confidential by the utility and is not traditionally shared with outside parties except under the protection of a confidentiality agreement . . . "[47] They also point out that "certain circuit loads are specific to individual customers, thus revealing private customer information."[48] SEIA agrees that care must be taken to avoid inappropriate release of private customer information. However, SEIA also agrees with the comments of the New Jersey Board of Public Utilities:

> Currently, developers of a solar project are unable to obtain data necessary to judge the potential feasibility of an interconnection prior to expenditure of significant capital investment into the project. This lack of relevant data results in unnecessary costs being incurred by developers of solar generation projects, which are socialized across successful projects and ultimately borne by

---

45 SEIA Petition at p. 16.

46 NV Power Protest at p. 6.

47 *Id.* at p. 7.

48 *Id.*

ratepayers. There appears to be no legitimate reason to keep this data confidential . . .[49]

SEIA believes that a clear path forward is available on load data access that meets the needs of all parties, including utilities, solar developers, wholesale customers and others in a cost-effective manner.

VI. THE 2MW CAP ON FAST-TRACK INTERCONNECTION IS OVERLY RESTRICTIVE

Utility trade associations and utility commentors (with the exception of PG&E) oppose any increase in the 2 MW fast track cap under any circumstances, arguing that any change would have adverse impacts on safety and reliability.[50] SEIA disagrees. The simple application of the 100% daytime load supplemental screen, to a proposed solar project seeking fast-track interconnection on its own provides the necessary assurance that projects potentially inconsistent with reliability and safety imperatives will not be interconnected on a fast-track basis.

SEIA notes that the comments of PG&E undercut the view that reliability and safety problems would arise from any increase in the fast track 2 MW cap. PG&E states:

> For PG&E's system, PG&E advises a soft cap of 2 MW on 12kv circuits, 3 MW on 21kV circuits, and 5 MW on distribution circuits of voltage higher than 21 kV. These advisory caps were chosen because they represent a rough estimate of the MW size that would violate the 15% peak load screen on a fully loaded circuit, assuming no other projects were interconnected to that circuit.[51]

---

49 "Intervention and Comments of the New Jersey Board of Public Utilities," Docket No. RM12-10-000 (filed Mar. 27, 2012) at p. 4 ("NJBPU Comments").

50 EEI Comments at pp. 25-27, SCE Protest at pp. 14-16, NV Power Protest at p. 7, SDG&E Protest at pp. 7-8, Duke Comments at p. 6, PHI Comments at p. 5.

51 "Motion to Intervene and Comments of Pacific Gas & Elec.," Docket No. RM12-10-000 (filed Mar. 27, 2012) at p. 4 ("PG&E Comments").

Therefore, even under the current overly restrictive 15% screen, PG&E applies soft caps as high as 5 MW to certain fast-track applications, more than double the amount of the current across-the-board 2 MW cap. Capacity caps are neither necessary nor sufficient to prevent adverse impacts, for the simple reason that individual project size is only one of many factors which determine the impact of generation on a utility system.

This indicates that capacity caps can be substantially higher than 2 MW in the context of a 100% of minimum daytime load supplemental screen as proposed in this Petition.

VII. AN INDEPENDENT THIRD PARTY REVIEW MECHANISM IS NEEDED TO PREVENT EXCESSIVE UPGRADE REQUIREMENTS

To remedy the widespread problem of the requirement of upgrades that are unnecessary to ensure reliability and safety, the SEIA Petition proposes that Order No. 2006 be modified to provide for, at the request and cost of the applicant, an expedited, independent, third-party expert technical review of proposed upgrade requirements. The ultimate interconnection decision would still remain with the utility, as it must. However, the utility would be required to give substantial weight to the findings of the third-party expert when making its interconnection decision.

Utility trade associations and utility commenters, including PG&E, all oppose this provision of the Petition.[52] They argue that "utilities are best positioned with knowledge of their system to make these decisions."[53] SEIA agrees, and for that reason supports the prerogative of the utilities to make interconnection decisions. However, we do not believe that utilities have

---

[52] NV Power Protest at p. 7, SCE Comments at pp. 16-18, SDG&E Protest at p. 10, Duke Comments at p. 8.

[53] EEI at p. 27.

"discovered truth" regarding each and every upgrade they seek to impose on solar projects. Instead, like all of us, utilities are fallible and busy, and can sometimes overlook the availability of a lower cost reliability solution than the one they propose. We believe that, in many instances, utilities can make a better and more balanced interconnection upgrade decision after hearing from an independent third party expert.

In addition, EEI argues that the "[p]etition provides absolutely no evidence" that excessive upgrades are often required by utilities when lower cost solutions are available.[54] Once again, EEI fails to acknowledge the findings of the Labs/EPRI report that supplies much of the factual foundation of the Petition[55], as well as solar developers' past experiences.

For instance, in its comments, SunEdison describes why the option of a third party independent expert is needed:

> An additional concern is the lack of transparency inherent in the study and upgrade process for systems under 20 MW that fail to satisfy the fast track screens. It has been our experience that interconnecting utilities will often direct that upgrades be implemented as a precondition to interconnection approval, without due consideration to the cost of such upgrades, and whether less expensive, simpler and adequate alternatives are available. Moreover, these requirements are often imposed without sufficient explanation or justification such that the utility determination can be independently reviewed.[56]

More generally, enXco's comments provide a broad perspective on the problems that give rise to SEIA's proposal for an independent third party expert:

> In general, what we observe across numerous states is the opacity of the distribution interconnection process. It is difficult to obtain, let alone understand, the rigorous technical justification for (1) certain per-circuit limits, (2) the process

---

54 *Id.*

55 Lab/EPRI Report at p. 6.

56 SunEdison Comments at p. 7.

and timeline for processing interconnection studies, and (3) the basis for interconnection upgrade requirements mandated by individual utilities.[57]

enXco believes, and SEIA agrees, that "[i]ntroducing a neutral party into the interconnection study process will go a long way towards assuring non-utility generators that interconnection upgrades reflect very real reliability considerations, without additional influences."[58]

VII. TECHNICAL CONFERENCE

Finally, a recommendation included in some comments and protests is that the Commission conduct a technical conference on the key issues associated with the Petition.[59] SEIA supports a technical conference, but not if it is conducted in lieu of action by the Commission to issue a notice of proposed rulemaking ("NOPR.") A stand-alone technical conference is unlikely to have significant positive impacts or achieve consensus. Instead, it becomes a means of delay for certain parties. However, if a technical conference is scheduled following the issuance of a NOPR, all parties have strong incentive to work together in a collegial manner to achieve a significant degree of consensus that can be reflected in a final rule. Finally, SEIA does not request a "notice of inquiry" or "inquiry" suggested by some parties.[60] Given the relatively robust state of the record at this time, an NOI would likely be repetitive.

VIII. CONCLUSION

---

57 enXco Comments at p. 4.

58 *Id.*

59 EEI Comments at p.7; PJM Comments at p. 5.

60 NRECA/APPA Protest at p.12, SDG&E Protest at 11.

SEIA respectfully requests that the Commission issue a Notice of Proposed Rulemaking to update and improve the wholesale distributed solar electric generation interconnection process consistent with the SEIA Petition filed on February 16, 2012 and this answer.

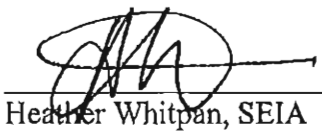
/s/ Daniel M. Adamson

Daniel M. Adamson
Vice President, Regulatory Affairs & Counsel
Solar Energy Industries Association
575 7th Street, NW
Suite 400
Washington, DC 20004
(202) 682-0556
(202) 682-0559
dadamson@seia.org

Emily J. Duncan
Manager of Government Affairs
Solar Energy Industries Association
575 7th Street, NW
Suite 400
Washington, DC 20004
(202) 682-0556
eduncan@seia.org

CERTIFICATE OF SERVICE

The undersigned hereby certifies that she has on or before the 11th day of April, 2012, served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.



Heather Whitpan, SEIA