

IEEE 1547-2018 Adoption - Industry Commentary & Questions

Presented to the IWG for the 13 October 2022 Meeting

Version Tracking

ID	Date	Edits By	Summary of Changes, Comments
Ver 1	17 Dec 2021	Industry	Originally presented at group meeting
Ver 2	13 Oct 2022	Industry	General revisions throughout.

Discussions / Questions Regarding Initial SB Rollout (Near-term focus)

The following is the latest round of industry questions and commentary with regard to JU implementation of IEEE 1547-2018 and inverter SB requirements.

1. In response to our previous request, the industry understands that PSEG-LI will publish SB compliant inverter settings in its "[Interconnection Technical Requirements](#)" (ITR) Document. **Please confirm this is accurate.**
2. It is Industry's understanding that PSEG-LI will follow the [same general settings published by NY-JU SIWG](#) in the 21 Feb 2022 presentation. **Please confirm if any of these will be different.**
3. It is Industry's understanding that each JU member will likely have some additional settings that differ. **Please acknowledge if PSEGLI is aware of this. If yes, which settings will vary for LI territory?**
4. Review of industry's request for how DPS will publish & link to each utility setpoints:
 - a. Under the assumption that each utility is going to have different setpoints and maintain the official list in their respective technical documentation, then..
 - b. We requested that DPS generate a new dedicated webpage, linked from the "[distributed generation](#)" page (similar to [SIR Inventory Information](#)), with additional links and information that would guide someone to exactly where to find each utility's setup points within said technical documentation.
 - c. Potential addition to DPS page: Clarification on which standards are agreed to be "common" between all utilities and post to previous (or new) PPT. Link to that on the dedicated page.
5. To discuss: How SB settings will be verified and if it will vary based on inverter/project sizes?

- a. For example: Are there special provisions for how to verify compliance for small and micro inverters?
 - b. PSEGLI Please clarify.**
6. Discuss confirmation of 1 Jan 2023 rollout.
7. Ongoing: SIR redline review is underway to officially require SB settings. PSEG-LI will have to update "SGIP" modifying existing SA requirements.
- a. Note that there are at least three locations where SA is mentioned in the proposed SGIP incorporating Cost sharing framework.
 - i. Section I.B. Application Process Steps for Systems 50 kW or Less (Expedited/Fast Track Process)¹
 - ii. Section I.C. Application Process Steps for Systems above 50 KW up to 5 MW²
 - iii. Appendix J > i. > 2. "UL 1741 and its supplement SA"

Discussion / Questions Regarding Future Smart Inverter Settings Modifications, etc

1. Discussion about near-term & long-term modifications in the future
 - a. Is PSEG-LI pursuing the Smart Inverter Strategic Initiative & Does PSEG-LI plan to incorporate future progress in the projected timelines.
 - b. Discuss how utility specific setpoints support SIWG/JU's "[Smart Inverter strategic Initiative](#)".
 - i. If not, does PSEG-LI have a dedicated Smart Inverter Initiative?
 - c. Notification of when a member will change their settings
 - d. Potential "log" of changes on the DPS page
 - e. Note "Phase 2" rollout in 2023. To review "Phase 3" initiation.

¹ Exception 1: For inverter based systems above 50 kW up to 300 kW, applicants may follow the expedited application process outlined in this Section provided that the inverter based system has been certified and tested in accordance with the most recent revision of UL 1741 and **its supplement A (SA)**, and PSEG Long Island has approved the project accordingly.

² For inverter based systems above 50 kW up to 300 kW, certified and tested in accordance with the most recent revision of UL 1741, and its **supplement A (SA)**, applicants are encouraged, but not required, to use the expedited application process (Section I.B).

- f. We requested the JU to provide a revised timeline of smart inverter strategic initiative when confirmed, in light of delayed rollout. Note- [last update was provided in 10/13/21](#).
2. It makes the most sense for each project to have a specific set of parameters per the feeder /area conditions. That would be the right way to implement advanced inverter functionality than fixed settings for all projects across the board.
3. These settings, if specific to a project should be specified in the CESIR. We estimate the utilities will review and update these settings at a later date similar to how we update other protective set points; therefore having these settings (even if they are fixed) mentioned on the CESIR study would be extremely helpful.
4. If a setting results in curtailment of more than 1% of the project's annual energy production³, the CESIR should also quantify the expected curtailment. We request DPS, LIPA & PSEGLI to discuss & understand the importance of such data transparency regardless of increased initial study costs, having this information standardized in SIR/CESIR will incentivize & enable developers to undertake above average curtailment risks while maintaining its cost effectiveness.
 - a. In order to actually calculate the expected curtailment, PSEGLI will require the 8760-production data of DER projects from the developer. This can be a submittal to get CESIR started. As the incentives in NY vary by time of the day/year, hourly curtailment data should be provided to maintain viable DER deployment.
 - b. We as an industry would also consider acquiring a consultant to run our own curtailment analyses to double-check these calculations. The accuracy and scope of third-party curtailment analyses will significantly depend on the data provided in the CESIR and utility curtailment analysis (hourly curtailment data).
5. Requiring CESIRs to include curtailment analysis for energy loss at least above 1% will incrementally increase utility's ability & accuracy to report & estimate curtailment amounts. Industry considers this to be core responsibility of DSP (distribution system operators) and anticipate grid data transparency to play a crucial role in enablement of volt-watt functions and other advanced solutions in the coming years.
6. We expect the last project in the queue will probably need to be curtailed the most due to these advanced inverter settings. So, reevaluation of these settings should be done by the utilities when the project ahead of a specific project in the queue withdraws.

³ NREL- Impacts of Voltage-based Grid Support Functions on Energy Production of PV Customers <https://www.nrel.gov/docs/fy20osti/74443.pdf>. Full report -<https://www.nrel.gov/docs/fy20osti/72701.pdf>

7. Since the level of curtailment and required var absorption heavily depends on the settings of utility owned voltage regulation equipment (VRE) i.e tap changers. Industry raises concerns over lack coordination of VRE setpoints & smart inverter settings can lead to extensive curtailment. Modifying VRE setpoints should be a consideration during the CESIR process.
8. Coordination among VRE settings adjustment and smart inverter functions will require the utility to choose the smart inverter function first and then update the VRE settings to increase hosting capacity based on the need of the circuit.⁴
9. What are the settings & considerations for NY-ISO trip (ride through) requirements? Have we obtained consensus from NY-ISO & NYSRC?

⁴Activating Smart Inverter Functions: Technical Merit and Economic Valuation
[https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/def2bf0a236b946f85257f71006ac98e/\\$FILE/45085978.pptx/ITWG-Presentation-EPRI.pptx](https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/def2bf0a236b946f85257f71006ac98e/$FILE/45085978.pptx/ITWG-Presentation-EPRI.pptx)