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Comments from PG&E

Additional submitted attachment is included below.

PG&E Comments to Docket 07-SB-01 submitted 11.2.2018

PG&E offers the following comments to the CEC's draft update to Eligibility Criteria and Conditions for Solar Energy System Incentives.

- PG&E applauds the CEC for expanding its list equipment not limited to solar. The DER market has evolved and PG&E has seen a large increase in energy storage device developments and interconnection. PG&E believes that expanding the CEC list will continue to support the market growth and supports the interconnection process improvements that the California Utilities are working on.

- PG&E encourages the CEC to expand its draft guidelines and its eligible equipment list to any third-party device or system that can materially impact the behavior of a generator operating in parallel with the grid. PG&E believes that the CEC's efforts have been successful and has established a threshold of quality of generating facilities and their role in being good citizens on the grid. PG&E believes that as generating facility technology evolves, the CEC's process and equipment list should also evolve to capture all grid interactive generating facilities and all devices that control the operation of generating facilities. These devices and systems include inverter control units, energy management systems, and Rule 21 aggregator systems.

- PG&E recommends replacing SunSpec Alliance with a Nationally Recognized Testing Laboratory (NRTL) in the draft language on page 13 and appendix B-6 of the guideline. The language is shown below.

  Product certification from a NRTL ~~SunSpec Alliance~~ to *Common Smart Inverter Profile* (CSIP) requirements, defined in IEEE 2030.5:2018, in accordance with the *SunSpec Common Smart Inverter Profile (CSIP) Conformance Test Procedures.*

  B. Inverters

  All inverters shall have certification conducted by a~~n~~ NRTL[78] to UL 1741. Smart inverters, as defined in Chapter III, Section C, shall additionally provide applicable documentation as follows:

  - Certification for UL 1741 SA from a NRTL, and associated test report or test summary.
  - Certification for CSIP from ~~SunSpec Alliance.~~ NRTL
  - Certification for IEEE 1547:2018 (or later) and associated conformance test procedures from a NRTL.

  PG&E appreciates SunSpec's efforts in creating a test procedure for IEEE 2030.5 but does not believe it is appropriate for the CEC's guidebook to require SunSpec to certify other NRTL's testing to SunSpec's test procedure. We anticipate that the market will determine how a NRTL gets prepared to test communication capabilities and how it will interact with SunSpec which could include working with SunSpec to review its test results and seeking SunSpec's stamp of approval. PG&E believes that the CEC guidebook could define the minimum requirements for certification and approval to be listed on the CEC's equipment list without determining how devices are tested and whether a third-party entity besides the NRTL is involved.

  PG&E also acknowledges that there are some concerns even with the recommendation to stating that certification should be performed by a NRTL. NRTLs are recognized by OSHA for specific standards which currently does not include SunSpec CSIP test procedures. We anticipate the industry addressing this gap in the future to ensure that NRTLs are set up to test

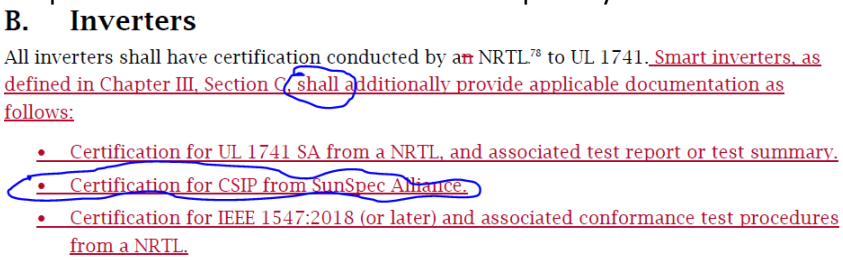
2030.5 and that OSHA or another agency recognizes these NRTLs to test devices or systems' IEEE 2030.5 performance.

PG&E also highlights that in some cases, an inverter may have IEEE 2030.5 function in addition to Smart Inverter functions. That means the communication function and smart inverter functions both need to be certified at the same device. If the CEC guidebook requires SunSpec certification for the communication function and to our knowledge, Sunspec only does communication certification means that most vendors will have to pursue dual certification, one from SunSpec for communication and one from an NRTL for all other equipment performance. This may be the path that some vendors choose to take however PG&E recommends that the CEC's guidebook not mandate this dual certification path. PG&E's requirements as discussed in the Smart Inverter Working Group allows flexibility. PG&E stated that for inverters that will have both the communication functions and the smart inverter functions, vendors are required to provide from a NRTL(s), test results based on the various test procedures that cover the required functions. If the results come from multiple NRTLs and includes SunSpec's certification, that is acceptable as well as if it did not receive SunSpec's certification. This provides the vendors the flexibility to comply as they see fit.

- PG&E offers a structural comment. On page 13, PG&E recommends moving the sentence below to the end of Section C rather than in the middle of the section. The current placement may confuse readers that the timeline corresponds to the next section that provides certification details for advance functionalities

  As of January 1, 2020, the Energy Commission discontinue accepting requests to list inverters that do not incorporate smart inverter functionality.

- Lastly, it is unclear from Chapter III, Section C and Appendix B, Section B what level or type of certifications are the minimum requirements for listing of equipment. For example, Appendix B, Section B indicates that a Smart Inverter "shall additionally provide applicable documentation as follows" that includes CSIP certification. PG&E comments that industry does not hold this to be a requirement at the inverter level but as an option that can be used if inverter manufacturer meet this certification at the inverter level. PG&E recommends making language clearer as to what the minimum requirements are for listing vs what are additional certifications that will accepted and listed as additional inverter capability.



B. Inverters

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- Certification for CSIP from SunSpec Alliance.
- Certification for IEEE 1547:2018 (or later) and associated conformance test procedures from a NRTL.

PG&E thanks the CEC for its efforts in managing an equipment list that has helped the industry and the streamlining of the interconnection process. PG&E also thanks the Commission for its review and consideration of these comments.