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Revision Date: None

Mr. Jason Shen

SolaX Power Network Technology (Zhe jiang) Co., Ltd.

No.288,Shizhu Road, Tonglu Economic Development Zone, Tonglu City, Zhejiang Province, 310000 P. R. CHINA

Subject: Evidence of inverter support for IEEE 2030.5/Rule 21 CSIP Phase 2 and Phase 3 Function 1, 2, 3 and 8 Functionality

Dear Mr. Jason Shen

This letter confirms that Intertek Testing Services Shenzhen Ltd. Guangzhou Branch. witnessed the Appendix C testing listed in Resolution E-5000 from the California Public Utilities Commission Draft dated July 11, 2019. The Resolution requires the verification of five tests cased for inverters that do not directly implement IEEE 2030.5 client functionality. During the test, the inverter is to be connected to a SunSpec Certified IEEE 2030.5/CSIP gateway. The five tests are listed below and specified in the SunSpec IEEE 2030.5/CSIP test procedures:

- Inverter Status (BASIC-028)
- Inverter Meter Reading (BASIC-029)
- Basic Inverter Control – Volt/Var (BASIC-006)
- Basic Inverter Control – Fixed Power Factor (BASIC-008)
- Basic Inverter Control – Volt-Watt (BASIC-011)

Following tests were also performed:

The UL 1741 SA17 Disable Permit Service, which is required by California, Electric Rule 21, Generating Facility Interconnections, Phase 3, Function 2.

The UL 1741 SA18 Limit Active Power, which is required by CA Rule 21, Phase 3, Function 3,

The tests were performed using SolaX Power Network Technology (Zhe jiang) Co., Ltd. DER Client listed in Table 1 connected to the below Inverter manufacturer models listed in Table 2.

Inverter Manufacture:

SolaX Power Network Technology (Zhe jiang) Co., Ltd.

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Table 1: DER Client Information

Manufacturer	Product Name	Product Model#	Software Checksum
SolaX Power Network Technology (Zhejiang) Co., Ltd.	Solaxcloud Aggregator	XAGG-1000	bbfdbba337ae70c3372ad3ef287d1c628

Table 2: Inverter Models Information

Inverter Manufacturer	Inverter Model#	EUT Serial#	Date Tested / Comments
SolaX Power Network Technology (Zhejiang) Co., Ltd.	A1-HYB-7.6-G2	NA	2022-08-09
	A1-HYB-6.0-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2
	A1-HYB-5.0-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2
	A1-HYB-3.8-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2
	A1-AC-7.6K-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2
	A1-AC-6.0K-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2
	A1-AC-5.0K-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2
	A1-AC-3.8K-G2	NA	Same Communication Protocol as A1-HYB-7.6-G2

Note: All above inverter models has same communication hardware and firmware.

Master DSP V1.05 checksum: 8C8EAA9C19F9B4CC0B525CDFD1E9614E

Slave DSP V1.03 checksum: 4A2FE4D55CC9D0E2B80569744A64CDDD

AFC Board V1.03 checksum: DFA12DA0B3F89B97E0C906B1DF921C0A

Comm. Board V1.10 checksum: FCF157993187C05102A727131D6E36FB

BI board V7.09 checksum: 450F24F687DEF0A6C1A9A55E7FBA46D6

The inverter under test was subjected to testing conditions as follows:

- The inverter was operating during test harness verification procedure
- The SolaX Power Network Technology (Zhe jiang) Co., Ltd. IEEE2030.5 DER Client listed in Table 1 was given stimuli in the form of IEEE 2030.5 commands (Inverter Status, Inverter Meter Reading, Volt/VAR, Fixed Power Factor, and Volt/Watt) sent from an IEEE 2030.5 server that were subsequently translated to signals understood by the inverter.
- The inverter parameters were verified: a) to change during the test cases for Volt-VAR, Fixed Power Factor, and Volt-Watt and b) report monitored data during the test cases for Inverter Status and Inverter Meter Reading. Based on this procedure, the requirements from Appendix C of the resolution were verified.
- The inverter was verified that it can perform Disable Permit Service and Limit Active Power functions with the DER Client listed in Table 1, under the commands sent out by IEEE 2030.5 server.

Very truly yours,

Tested By,
Belle Huang



Project Engineer
Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch.

Approved By,
Runze Hu



Reviewer
Intertek Testing Services Shenzhen Ltd.
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REPORT REVISIONS

Date/ Proj.#	Project Handler/ Reviewer	Description of Change
NA	NA	NA