



FIELD EVALUATION REPORT

DATE	March 21, 2019, July 26, 2019, and August 8, 2019	QFE50413-2	OFFICE	Toronto
REPORT BY	Steve Douglas	SIG	ATTN.	Ryan Magee
CUSTOMER	Sky Clean Energy Ltd. 275 Renfrew Dr., Unit No 104 Markham, ON, L3R 0C8	Inspection Location <input checked="" type="checkbox"/> Same as Customer	275 Renfrew Dr., Markham, ON, L3R 0C8	
PRODUCT	100 kWh Battery Energy Storage System			
Manufacturer	Sky Clean Energy Ltd.	Cat/Model No	SCE-O-30-100	
Auxiliary Power Electrical Rating	876V <input checked="" type="checkbox"/> AC <input type="checkbox"/> DC	60 Hz	15 <input checked="" type="checkbox"/> A <input type="checkbox"/> W <input type="checkbox"/> VA	3 Ph N/A HP
DC Power Electrical Rating	876V <input type="checkbox"/> AC <input checked="" type="checkbox"/> DC	N/A Hz	136 <input checked="" type="checkbox"/> A <input type="checkbox"/> W <input type="checkbox"/> VA	N/A Ph N/A HP
WARNING/DANGER NOTICES <input type="checkbox"/> See Alterations <input type="checkbox"/> See Notes <input checked="" type="checkbox"/> Verified Bilingual	<input type="checkbox"/> Cord <input type="checkbox"/> Cord Set Connected <input checked="" type="checkbox"/> Permanently Connected <input type="checkbox"/> Battery Operated	2+ Bond Conductors	2.5 kA Maximum Short- circuit current at 876 volts dc	

TESTS

Environmental conditions (if applicable)	<input checked="" type="checkbox"/> N/A	Temperature	Relative Humidity (%)
Dielectric Strength 2752 V	<input type="checkbox"/> AC <input checked="" type="checkbox"/> 1 Min <input type="checkbox"/> DC <input type="checkbox"/> 1 Sec	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL, See Alterations <input type="checkbox"/> PENDING <input type="checkbox"/> See Notes	Accessibility to Live Parts <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL, See Alterations
Dielectric Strength Sampling	<input checked="" type="checkbox"/> N/A	General Inspection Level <input type="checkbox"/> I <input checked="" type="checkbox"/> II <input type="checkbox"/> III	Batch Size: 1 Number of Units Tested 1
Flame Test <input type="checkbox"/> PASS <input type="checkbox"/> FAIL, See Alterations <input checked="" type="checkbox"/> N/A Metal Enclosure <input type="checkbox"/> SEE NOTES	Leakage Current mA <input type="checkbox"/> PASS <input type="checkbox"/> FAIL, See Alterations <input type="checkbox"/> N/A Twist Lock <input checked="" type="checkbox"/> N/A Permanently Conn.	Strain Relief <input type="checkbox"/> PASSED PULL TEST <input type="checkbox"/> FAIL, See Alterations <input type="checkbox"/> SEE NOTES <input type="checkbox"/> N/A Cord Set <input checked="" type="checkbox"/> N/A Permanently Conn.	
Test Equipment Used Functional Check <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Dielectric Tester-# 5641 Cal Due 14/May/20	<input checked="" type="checkbox"/> Tape Measure # 5606 Calibration on Nov. 30, 2019	<input type="checkbox"/> Caliper # 5317 Cal Due Jan 21, 2020
<input checked="" type="checkbox"/> Thermocouple Datalogger-# 1689 Cal Due 28/Aug/19	<input checked="" type="checkbox"/> Clamp Multi Meter # 5356 Cal Due 29/Jan/20	<input checked="" type="checkbox"/> Finger Probe # 5372 Calibration on June 5, 2012	<input type="checkbox"/> Simpson # 5329 Cal Due 02-Jul-18

DECLARATION

Evaluation made under the Field Evaluation Service shall not be considered as the equivalent of Certification. Equipment specifications and Calibration Information is kept on file at QPS and is traceable through the Unique ID number. The inspection report shall only be reproduced in full with the approval of the inspection body and the client

The following technical requirements were used in the evaluation of the product described in this report.

CSA standard(s) C22.2 No(s) 0 CAN/UL 9540 CE Code 2018 CSA Model Code SPE 1000

ALTERATIONS:

FOLLOW-UP INSPECTION REQUIRED:	<input type="checkbox"/> NO: No Alterations required, the product is in compliance with above listed requirements <input checked="" type="checkbox"/> NO: The alterations listed below have been incorporated in the labeled product <input type="checkbox"/> YES: The alterations identified below cannot be completed during this inspection. A follow-up inspection must be scheduled with QPS within _____ weeks maximum from the date of this report.
1.	Install a complete equipment nameplate in accordance with UL 9540 Clause 39.3: August 8, 2019 Complete; See pictures in the file.
2.	All caution and warning labels shall be in English and French. August 8, 2019 Complete; See pictures in the file.
3.	UL9540 Clause 39.7 Energy storage systems shall be marked as follows: "WARNING: To Reduce the Risk of Injury, read all instructions"

QPS Evaluation Services Inc.

81 Kelfield Street, Units 7-9, Toronto, ON M9W 5A3, Ph: 416-241-8857 Fax: 416-241-0682

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August 8, 2019 Complete; See pictures in the file.				
4.	UL9540 Clause 39.6 Energy storage systems shall be marked as follows: "WARNING: Hazardous Voltage Circuits" August 8, 2019 Complete; See pictures in the file.			
5.	The single pole connectors within the energy storage container shall be marked as follows: "DANGER Do not disconnect under load". August 8, 2019 Complete; See pictures in the file.			
6.	The auxiliary power supplementary protectors shall be replaced with approved circuit breakers. August 8, 2019 Complete; See pictures in the file.			
7.	The auxiliary power main circuit breaker shall be a 3-pole circuit breaker in accordance with CE Code Rule 14-010.			
Notes/Critical Component Description:				
1.	<input type="checkbox"/> Refer to Construction Review Record QSD <input type="checkbox"/> N/A			
2.	Flame test is N/A for metal enclosures.			
3.	Bond configuration is acceptable.			
4.	No strain relief installed or provided. All strain reliefs added on site are subject to approval of the local AHJ.			
5.	The auxiliary power load is not considered a continuous load.			
6.	The Ammeter QPS # 5356 was used to confirm the accuracy of the current readings during the temperature testing.			
7.	Main dc disconnect is installed adjacent to the energy storage container and is not part of this field evaluation.			
8.	All components are CSA / UL listed, see pictures and comment sheet "QFE50413-2 Comment Sheet 100kWH Project Rev 05" in the file.			
9.	Temperature test results are acceptable. See "Battery Storage Cycle report" and "190729 1689 Test Data SWD" documents in the file.			
10.	Schematics, pictures and other documentation are on file at QPS Toronto.			
11.	Disclaimer: Emergency stop circuits, safety relays, gate switches and other related safety components have not been investigated for compliance to satisfy a PSR (Pre-start Safety Review) as required under the Ontario Health and Safety Act, 1990 (OSHA) and Regulation 851, Industrial Establishments Section 7&8 while we conduct our normal field evaluation.			
Unit Serial Number <input type="checkbox"/> SEE ATTACHED OVERFLOW FORM			Field Evaluation Label Number	
ESS201812270001			QE1378771	

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