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Photovoltaic Quality Assurance Inspection Report

General Information

Table with 4 columns and 6 rows containing customer and contractor information.

Inspector Information

Table with 2 columns and 4 rows containing inspector details.

Main Electrical Service Information

Table with 2 columns and 10 rows detailing electrical service specifications.

Roof Information

Table with 2 columns and 7 rows detailing roof inspection findings.

Table with 2 columns and 1 row for roof inspection comments.



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Structural Attachment / Racking system

Confirm footings and support structure are properly secured	Array standoffs are securely mounted to roof structural support members.
Visually inspect and use "pull test" where appropriate to confirm lag bolts are properly installed and attach to rafter	"Pull Test" verified proper lag bolt installation.
If pull test and rooftop visual inspection yields less than satisfactory results, proceed to attic for lag embedment inspection in rafters	N/A
Confirm module attachment is properly secured (Check to make sure all panels are attached properly to their mounting brackets and nothing catches the eye as being abnormal or misaligned.)	Modules are securely mounted to the support rails with approved hardware.
Check that non-current carrying metal parts grounded properly. (Array frames, racks, metal boxes, etc.)	Support rails are bonded to EGC with bolted lugs.
Type of lugs (with bare copper), or WEEBS	Bolted lugs and bare copper conductors.
Comments	

Photovoltaic Module / Array Information

Module Make & Model Number	Sharp NU-Q235F4
Total Number of modules in Array	Ten (10)
Number of modules in series (verify if possible)	Ten (10)
Number of parallel source circuits ("strings")	One (1)
Confirm modules are properly grounded with lugs on each module or equivalent grounding method	The modules are bonded to EGC with WEEB clips.
Plugs and connectors (Visually inspect and check plugs/connectors between modules to ensure they are fully engaged)	All connectors are fully engaged.
Wire Management (Check to see all wiring under array is neat and properly supported)	Conductors are supported above the roof surface.
Wire Clips/Zip Ties (black zip ties indicate UV resistance)	Black UV resistant wire ties and
Visually inspect array for cracked/Damaged modules	No damage to the modules at the time of inspection.
Stand-off height (0 to 3" avg, 3" to 6" avg, over 6" avg)	3" to 6" average standoff height.
Confirm strings properly configured (i.e. all modules on a string are facing the same pitch and azimuth, etc.)	Pitch and azimuth are consistent for entire array.
Comments	

Inverter Information

Number of inverters installed	Ten (10)
Inverter Make & Model Number	Enphase M215-60-2LL-S22
Inverter Installation (Confirm inverter is properly mounted)	Inverters are properly mounted under the array.
Verify ground installation to inverter (Grounded to existing UFER, ground rod, or GEC)	Inverters are bonded to support rails with WEEB clips.
Confirm Input String Voltage within Operating Voltage (Use table 690.7 correction factors)	N/A
Confirm NEC Compliant Disconnects (Physically-separable disconnect and wiring box from actual inverter unit)	N/A
Comments	



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Wiring and overcurrent protection

Wire type is 90°C wet rated (USE-2; THWN-2; 90°C only)	USE-2 conductors are used under the array; THWN-2 conductors are used to complete the system.
Electrical boxes and conduit bodies on roof reasonably accessible?	No, Soladeck is under the array, cannot access.
Electrical connections suitable for the environment?	Cannot verify.
Confirm conductor ampacities are sufficient? (NEC correction factors, temperature and conduit fill derates, etc.)	Conductor ampacities are sufficient.
Inspect combiner or junction boxes (Confirm if weep hole or other water drainage method)	N/A
Verify source circuit overcurrent protection is sufficient	Integrated fused protections on inverters are sufficient.
Verify overcurrent protection on inverter output circuit is sufficient	20 Amp backfeed breaker at the EATON load center is sufficient.
Verify point of connection meets provisions of NEC 690.64; 705.12 & Verify Article 230 has not been violated (6 handle rule or supply side tap)	Point of connection is NEC compliant.
Check that all cable and conduit is properly supported (conduit should not be directly on roof surface)	N/A
Check that DC & AC conduit is grounded with bushings (or equivalent acceptable method)	Conduit carrying AC & DC circuits are bonded to ground with grounding bushings.
Verify complete system bonding to main UFER/Grounding Rod at location	
Comments	

Photovoltaic system signs and labeling

Do signs have sufficient durability to withstand the environment?	Yes
Sign identifying PV power source (At DC disconnect)	N/A
Sign Identifying AC point of connection	Yes
Sign at main electrical service disconnect	Yes

Performance / Site evaluation

Is the system in operation? (If no, turn system on and check for proper operation)	Yes
PV system metering device (Type, Installation, issues, etc)	Envoy system.
Azimuth direction of array	180°
Tilt angle of array	19°
Watts output on inverter display (collect this measurement immediately after irradiance measurement)	Estimated system output based on condition: 217w. Average Irradiance 756 w/m² - Ambient temp: 77°
Verify shading conditions (Use suneye to collect shading data)	Site shade analysis was conducted with the Solmetric SunEye tool.
Look for any environmental variables that may affect system performance (Dusty conditions, trees, animals, etc)	None at the time of inspection.
Comments	



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Recommended Corrections

- 1. No corrections. Quality installation.**