

**Orange Solar, Orange, CT
2.5 MW-AC Solar Project**

**Visual-Mechanical Checklist for Annual Preventative Maintenance & Emergency
Response Plan**

1. Monitoring System Data Review

- 1.1. Review and/or modify fault and performance alarms, thresholds, and notifications.
- 1.2. Review activated alarms and provide feedback as necessary for further action.

Completed 1x per year

2. General Site Inspection

- 2.1. Verify safety and Identification labeling is present and legible.
- 2.2. Inspect site access/egress locations are free of obstructions and hazards.
- 2.3. Security means and installation methods (Surveillance equipment inspection not included).
- 2.4. Equipment access lanes are free of obstructions and hazards.
- 2.5. Inspect for changes of environmental conditions such as nearby construction activity, agricultural activities, bird migrations, water table changes, acts of vandalism, and shading.

Completed 1x per year

3. Mechanical System Inspection – (Racking, Modules)

- 3.1. Racking structures visual and mechanical inspection.
- 3.2. Mechanical inspection 2% of Module-to-racking attachments for torque specification.
- 3.3. Module visual inspection.
- 3.4. Foundations, driven piers, mechanical attachments, and earth screw visual inspection.
- 3.5. Equipment Grounding Conductor electrical continuity inspection.
- 3.6. Equipment bonding to ground electrical continuity inspection.

Completed 1x per year

4. DC & AC Electrical System Inspection - (DC Collection Panels, AC Collection Panels, Safety Disconnect Switches)

- 4.1. Verify safety and Identification labeling is present and legible.
- 4.2. Enclosure mounting, gaskets, interior, and exterior visual inspection Equipment.
- 4.3. Grounding and bonding inspection.
- 4.4. Terminations (conductors) thermography scanning.
- 4.5. Visual inspection of conductor termination torque markings.
- 4.6. Fuse and breaker thermography scanning.
- 4.7. Visual inspection of conduits, fittings, junctions/splice boxes, and enclosures.

Completed 1x per year

5. Inverter Inspection

- 5.1. Verify safety and Identification labeling is present and legible.
- 5.2. Enclosure mounting, gaskets, interior, and exterior visual inspection.
- 5.3. Grounding and bonding inspection.
- 5.4. Inverter operation verification.
- 5.5. Thermography scanning of terminations, fuses, breakers, and electronics.
- 5.6. Vacuum clean interior.
- 5.7. Per manufacturer's recommendations, clean air intake/exhaust screens, fans, and filters.
- 5.8. Supply and install new inverter filters per manufacturer's requirements.
- 5.9. Complete all other manufacturer specific maintenance procedures not listed above.

Completed 1x per year

6. Stormwater Management System Inspection – (Drainage swales, Pervious Areas)

- 6.1 Drainage swale visual inspection.
- 6.2 Pervious area inspection within the array area, around perimeter and at edge of wetland buffer areas.
- 6.3 Inspect sediment levels in basins

Completed 2-4x per year

7. Data Acquisition System Inspection

- 7.1. Verify safety and Identification labeling is present and legible.
- 7.2. Battery health inspection (when applicable).
- 7.3. Meteorological data sensor cleaning, positioning, and operation.
- 7.4. Inverter communication (when applicable).

Completed 1x per year

8. Reporting

- 8.1. Provide digital commissioning report including results from all steps with responses noting Pass, Values, or Failure with explanation.
- 8.2. Photo report of deficiencies.
- 8.3. NABCEP PV Installation professional to review reports for completeness.

Completed 1x per year

9. Mowing/Vegetation Maintenance

- 9.1 Vegetation maintenance and mowing will be conducted by a third-party contractor.
- 9.2 Mowing will occur two to three (2-3) times annually.

Corrective Repairs

Repairs found by the O&M provider during inspection visits deemed readily repairable will be promptly attended to in the following steps:

- O&M provider will request CRE permission to execute work
- Upon approval, O&M provider will complete repairs and send work order report to CRE within two business days

The following steps will be taken if GWU or CRE finds a system component that needs repaired while O&M provider is not on site:

- O&M provider will confirm receipt of CRE's request with written response
- O&M provider will dispatch technician within guaranteed response time
- O&M provider will complete repairs and send work order report to owner within two business days

Emergency Response Plan

In case of an on-site emergency that calls for the immediate shutdown of the Solar System, please follow the below procedure. In the event of an emergency not caused by the Solar System, whereupon the client chooses to shut down the Solar System, the client shall be responsible for all lost generation during the time the System is inactive. The procedure for shutdown is as follows:

1. In the event of a fire or an emergency requiring emergency services, Call 911 immediately
2. Open AC Disconnects at the service location to de-energize AC power to the site.
3. Call Greenskies O&M

Contacting Greenskies O&M

- **Tier 1 Communications**
 - o Contact the Greenskies Field Operations Office
 - Direct Phone Line 860-398-5408 ext 323
 - Email – OM_office@greenskies.com
- **Tier 2 Communications** – If you do not get an immediate response from Tier 1 contacts please contact the following:
 - o Contact Greenskies Escalation
 - Direct Phone Line 860-598-4890

- **Tier 3 Communications** – If you do not get an immediate response from Tier 2 please contact the following:
 - o Dwain Reed
 - Direct Phone 970-820-0101
 - Email – dreed@greenskies.com