| **Date Completed** | **Check** |
| --- | --- |
| **ANNUAL** | |
|  | Inspect modules for signs of physical damage, corrosion, dirt, damage caused by animals, and plant growth. |
|  | Inspect combiner box enclosures for signs of damage, dirt, damage caused by animals, and plant growth. |
|  | Inspect Data Acquisition System (DAS) and associated sensors, hardware, and wiring. |
|  | Inspect inverters for signs of physical damage, failure to perform as rated for environmental conditions due to damage, dirt, damage caused by animals, and plant growth. |
|  | Clean inverter exhaust and intake filters. |
|  | Clean pyranometers and reference cells |
|  | Check shutdown and start-up of inverter to verify timely function of wake-up procedure and maximum  power-point tracking. |
|  | Perform any other maintenance tasks reasonably recommended by the manufacturer of the inverter. |
|  | Clean area around inverters to maintain for performance and safety. |
|  | Check all DC fuses and replace any malfunctioning fuses. |
|  | Measure and record the open-circuit voltage ("Voc") and maximum operating current (“Imp”) of all DC strings.  (IV curve). |
|  | Inspect grounding from modules and rack to combiner. Test continuity between modules and rack. Measure resistance and record. |
|  | Thoroughly clean and re-tighten all serviceable electrical connections to manufacturer- specified torque. |
|  | Verify that signage is present and readable. |

HUD Renewable Energy Toolkit

Periodic Inspections Maintenance Tasks

| **Date Completed** | **Check** |
| --- | --- |
| **ANNUAL** | |
|  | Inspect racking and conduit for damage. |
|  | Perform maintenance of the monitoring system according to manufacturer’s warranty requirements. |
|  | Inspect wires for damage on exposed conductors. |
|  | Perform inverter maintenance work. Check screens, air filters and fans manufacturer’s warranty requirements. |
|  | Inspect site for vandalism. |
|  | Identify and photograph abnormal wear and tear. |
|  | Provide annual variance report of forecast and actual results, with suggestions for updates to the forecast. |
|  | Infra-Red (IR) inspection of switchgear and combiner boxes and any strings or modules that are performing outside of specifications. |
| **MONTHLY** | |
|  | Monthly performance reporting and corporate reporting. |
|  | Complete monthly REC or SREC compliance as needed. |
| **ONGOING** | |
|  | Actively monitor system performance and production data at the level of the inverter and tracker. |
|  | Diagnose all warnings, alarms or issues. |
|  | Maintain on-site staff access to the monitoring system. |

| **Date Completed** | **Check** |
| --- | --- |
| **ON-CALL/REACTIVE MAINTENANCE** | |
|  | Inverter outage resolution. |
|  | DAS outage resolution. |
|  | Submit and administer warranty claims with providers. |
|  | Monitor DC and AC circuit malfunction diagnostics, including fault situations. |
|  | Monitoring equipment and sensor malfunction diagnostics. |
|  | Repair or replace system components including inverters, PV modules, switchgears and transformers. |
|  | Coordinate unscheduled services. |
|  | Perform warranty eligible repairs. |
|  | Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . |