

## **Operations and Maintenance Plan**

**Section 1.1 Scope of Services.** Front Range-Midway Solar, LLC shall perform or cause to perform the following service and maintenance in conformity with the Annual Facility Operating Plan:

- 1.1.1 Perform all scheduled and unscheduled service and required preventative maintenance of all equipment including; PV module, tracker system and components: inverters, controllers, control panels, connections to SCADA system sensors, DC electrical collection system, including the controls, and instruments and resetting of inverters, according to PV module and inverter O&M Manual. Also provide scheduled and unscheduled services to the electrical system from the inverters to the substation including the padmount transformers and collection system. Exhibit 1 is a description of the preventive maintenance task and schedule.
- 1.1.2 Coordinate all warranty work with PV equipment and inverter supplier during the warranty period.
- 1.1.3 Employ, hire, train, direct all employees or Contract to service and maintenance of the Equipment.
  - (a) Provide qualified supervision of service and maintenance employees.
  - (b) Provide any and all technical support required for service and maintenance. Develop, maintain and implement safety programs for the employees.
  - (c) Provide all regulatory required training including, but not limited to Hazardous Materials, and occupational safety and health.
- 1.1.4 Provide all materials, tools, supplies, consumables, equipment, vehicles, maintenance equipment, safety equipment, operating equipment, clothing and other supplies, personal property and assets necessary to conduct scheduled and unscheduled service and preventative maintenance of the Equipment per manufacturer's specifications.
- 1.1.5 Provide 24 hour remote monitoring and diagnostic analysis of PV site conditions from the Front Range-Midway Solar Site located in El Paso County, Colorado. Site will not be manned during daylight hours.
- 1.1.6 Provide regular and ongoing reports concerning the service and maintenance of the Equipment, including but not limited to.
- 1.1.7 Within 8 hours after any emergencies, nonscheduled shutdowns and outages, respond in an appropriate manner, if weather and site conditions permit, to

attempt to minimize loss of Facility revenue, damage to the Equipment or bodily harm to personnel.

- (a) Provide reset and emergency response call-out capability, if weather and site conditions permit.

1.1.8 Maintain at all times a clean and presentable Facility with respect to the delivery of Service.

- (a) Maintain the Facilities free from all debris and Materials related to the Services.

1.1.9 Provide timely telephonic, electronic and written notice if required in the event of any facility malfunction or unusual event at or involving the Equipment.

1.1.10 Monitor component failures, and perform root cause analysis in a reasonable time frame.

1.1.11 Process purchase orders and invoices, as required, for all Equipment transactions.

1.1.12 Maintain the Facility in compliance with all applicable federal, state, and local laws/ordinances and regulations, including but not limited to:

- (a) Safety, industrial hygiene, and environmental conditions on, under or about the Facility (air, soil and ground water conditions), endangered species, and Hazardous Materials.
- (b) Comply with site mandated safety and environmental standards.

## EXHIBIT 1

### Solar PV - Maintenance Schedule

<u>Service Description-</u>	<u>Service Frequency-</u>
	Weekly (W) Months (M)
<b><u>Solar Field:</u></b>	
<b>Met Stations:</b>	
Clean Sensors	1 W
Check Filters	1M
Level All Sensors	1M
Sensor Calibrations	24M
Reference Module Cleaning	1W
Reference Module Calibration	12M
<b>Panels:</b>	
Module Inspection	1W
Module Cleaning	as needed
Themography (IR) Scan	12M
<b>Trackers:</b>	
Inspection	1W
Calibration	As needed per alarm alert
Lubrication check	6M
Combiner Box Inspection	1W
<b>Inverters:</b>	
Inspection	1W
Cleaning	12M
HVAC Inspection	1W
HVAC Maintenance	12M
<b>Pad Mounted Transformers:</b>	
Inspection	1W
IR Scan	3M
Oil Sample	12M
<b><u>Control Room/Switchyard:</u></b>	
<b>Control Room:</b>	
Inspection	1W
Battery Cell Test	3M
HVAC Inspection	1W
HVAC Maintenance	12M
<b>Switchyard:</b>	
Inspection	1W
Switchyard IR Scan	6M
Breaker Maintenance	24M
Transformer Oil Sample	12M

Revenue Meter "A" Phase Calibration	12M
Revenue Meter "B" Phase Calibration	12M
Revenue Meter "C" Phase Calibration	12M

## **Safety**

Site Safety Audit	1M
Site Safety Assessment	12M
First Aid Kit Quantity Inspection	1M
Fire Extinguisher Inspection	1M
Fire Extinguisher Recertification	12M
Protective Grounds Recertification	12M
Voltage Rated Glove Recertification	6M
Switch Stick Recertification	24M

## **Administrative:**

Spare Parts Inventory	3M partial count
Spare Parts Inventory	12M full count
SCADA Inspection	Daily
SCADA Maintenance	1M
PI/Historian Inspection	Daily
PI/Historian Maintenance	1M