

## **Operations and Maintenance: 9.25MW Site**

The following section broadly describes the services offered under a typical Operations and Maintenance Program with O&M provider. The listing can be tailored to suite both the Customer's facility and the level of detail necessary to meet the Customer's needs. During the term, the O&M Contractor shall be responsible for performance of the scope of Services. O&M Contractor shall provide all tools and Consumables required to perform the outlined services.

### **General Provisions:**

- I. Standard working hours shall be defined as the hours 8 am through 5 pm Local Time, Monday through Friday, excluding holidays. Emergency hotline and response to be defined separately.
- II. If not explicitly stated otherwise, all work described within this Scope of Work shall be performed during standard working hours.
- III. O&M provider recommends the customer maintain the appropriate factory warranty for all major system components throughout the term of the contract. Repairs required on components without a valid, enforceable warranty will be completed under a time and material basis.
- IV. If monitoring services are defined, the Customer shall provide full, remote site access to monitoring at Customers expense.
- V. All scheduled and unscheduled work performed by O&M provider or its subcontractors will be recorded on relevant checklists and inspection sheets. (Example provided separately.)
- VI. Snow removal from site as needed will be Solar Liberty's responsibility.

## **MAINTENANCE SERVICES**

During the term, Provider shall provide the services at the frequency indicated, in accordance with the terms and conditions of this Agreement (as set forth in further detail below). It is expected that Provider shall make every best effort to note items of concern outside the scope of scheduled visits; inspecting and assessing items that seem to be problematic even if not part of the scheduled visits and later discussing with the Company to seek remedy.

Item #	Service	Service Description	Frequency
<b>1. Monitoring, Reporting, and Inventory</b>			
1.1	Active Project Site Monitoring	Monitor inverters and meter output data for issues and alarms. Remote repair within 48 hours. If a site visit is needed, will take place within 1 week.	Daily
1.2	Annual Maintenance Plan	Provision of Annual Maintenance Plan, including baseline schedule for all maintenance services contemplated to occur in such year. All repairs needed will be completed immediately.	Annually
1.3	Quarterly Reporting	Provide quarterly operating report for the project including a summary of (i) operations; (ii) weather data, power and environmental attributes; (iii) Project performance; (iv) reports of any environmental or Project site disturbances; (v) safety/accident reports; (vi) Non-Covered Services; (vii) maintenance and inspection reporting; and (viii) any proposal of recommended maintenance for the upcoming quarter.	Quarterly
1.4	Annual Reporting	Provide annual maintenance/inspection reports for the project for the preceding calendar year.	Annually
1.5	Incident and Maintenance Reporting	Provide written report (in .pdf format) on any event involving unplanned Services, personnel injury associated with the project or material damage to the project or any part thereof.	No later than five (5) business days after the occurrence, or immediately for OSHA recordable events, but no later than 48 hours.
1.6	Security Incident Reporting	Notify Company following provider receiving information indicative of a security issue on Project site.	Immediately, but no later than 48 hours.

1.7	Maintain Spare Parts	Store, maintain, and replenish spare parts inventory at Company's expense. Inventory will be stored either on-site in an O&M storage structure or off-site at a centralized storage facility or warehouse.	As Needed
1.8	Responsive Maintenance	Respond to alarms, including dispatch of personnel to site	Respond to alarms within 24 hours and dispatch personnel as needed
<b>2. Project Site Inspection/Maintenance</b>			
2.1	Vegetation Management	Maintain vegetation and debris removal/control and landscaping, for all property within the fence line and all property immediately surrounding fencing (within reason), specifically ensuring vegetation does not encroach on modules. Vegetation not to exceed 10". Will maintain 5 feet beyond fence line. All repairs made upon inspection.	2 X Per year between May and September
2.2	Perimeter and Fence Inspection	Inspect all fencing for signs of damage and intrusion. Inspect signage to ensure all originally installed signs are present and legible. Repairs made upon inspection.	2 X Per year
2.3	Roads	Inspect all roads for soil erosion concerns, such as potholes and settlement changes which will be repaired within 10 days of inspection.	2 X Per year
2.4	Project Site Security	Inspect entire Project site for general vandalism or other signs of security related issues. All repairs made upon inspection.	2 X Per Year
2.5	Tree Inspection	Inspect for health – if issues found tree will be replaced or an arborist will be contacted. Dead branches to be removed within 10 days of inspection. All dead trees will be removed and replaced within the next permissible growing season.	2 X Per Year dependent on age of tree.
2.6	General Semi- Annual Site Inspection	Site Inspection, to include 2.2, 2.3 and 2.4 above	2X per year
2.7	Winter Maintenance	Winter maintenance will be performed through a local contractor with 6" of ground covering or more	As Needed

<b>3. DC Systems</b>			
3.1	Racking Inspection	Inspect all racking, racking mounts and conduits on racking for damage, corrosion, settling and stability. All repairs made upon inspection.	1 X per year
3.2	Module Inspections	Visually inspect 10% sampling of modules for soiling, breakage, delamination, discoloring, hot spots (only via aerial thermal audits), rotating sample areas annually to achieve 100% inspection every 10 years. Inspections may be done either on the ground or via aerial visual analysis and aerial thermal imaging. If systemic issues are identified, notify Company and propose a corrective action plan to be implemented as needed within 24 hours.	1 X per year
3.3	Broken Module Replacement	Replace modules that have previously been identified as broken (within reason), or identified as broken at the time of inspection. The cost of replacement modules (either for immediate use or to replenish spare parts) will be paid for by the Company as needed. The procurement of replacement modules is conditional to Company approval.	As Needed
3.4	Wire Inspection	Visually inspect for proper wire management and any possible damage on exposed conductors. Repairs made upon inspection.	2 X per year
3.5	Combiner Box and Re-Combiner Inspections	Electrical/mechanical inspection of combiners & disconnects. Visually inspect bonding bushings and grounding, check for wire damage especially at entrance/exit locations, terminal corrosion, any discoloration, and inspect fuses for proper functionality. Remove insects/pests debris from all enclosures.	2 X per year
3.6	Combiner Box and Re-Combiner Torque Inspections	Confirm and correct terminal torque settings for both sides of all fuse holders, grounded (negative) terminal bar, grounding bar, PV output circuit and DC Disconnects.	1 X per year
<b>4. AC Systems</b>			

4.1	Inverters	Perform annual inverter preventative maintenance work for all inverters per manufacturer's recommendations and manufacturer's warranty requirements.	Per Manufacturer's Recommendations and Manufacturer's Warranty Requirements
4.2	Inverter Air Filters and Transformer heat sinks	Inspect inverter air-filters and heat sinks, and clean or replace air filters if applicable upon inspection.	2X per year or Per Manufacturers Recommendations, whichever is more frequent.
4.3	Transformers	Visually inspect and clean all transformers per manufacturer recommendations, including but not limited to oil level measurement and clearing heat sink of debris.	1 X per year
4.4	AC Disconnect (if applicable)	Inspection of latches and seals on enclosure, verify proper operation of disconnect, visually inspect terminations and confirm and correct terminal torque settings. Check for signs of arcing.	1 X per year
<b>5. DAS/SCADA Inspections</b>			
5.1	General DAS Inspection	Perform monitoring system maintenance per manufacturer's specifications; verify orientation and attachment of pyranometers and module temperature sensors and MET station, and verify back up power supply functionality.	As needed as determined by semiannual site inspections
5.2	Pyranometers	Clean pyranometer domes with a soft cloth.	All scheduled & unscheduled Project site visits
5.3	Pyranometer Calibration	Perform calibration of pyranometers per manufacturer's specifications.	Per manufacturer specifications

5.4	Data/Instrument Accuracy and Communications Verification	Test MET station sensors (GHI and POA pyranometers, ambient temperature, back-of-module, anemometer, Revenue Grade Meter (including current transducers), and inverter direct.	1 X per year
<b>6. Testing</b>			
6.1	IV Curve String Testing or Module Level Thermal Audits	Coordinate 20% IV Curve Testing on strings, analyze results and address any issues found by testing	1 X per year
6.2	Thermal Imaging	Thermal imaging of all: overcurrent protection devices (OCPD) and bolted electrical connections including terminations in combiners and all disconnects, inverters and transformers.	1 X per year
6.3	Transformer Oil Testing	Conduct transformer oil sampling and testing per nationally and/or internationally recognized testing standards.	1 X per two years
6.4	Point-to-Point Testing	For 5% random sampling of combiner boxes, inspect grounding from modules & rack to combiners for wear, corrosion, and secure connections, and test the point-to-point resistance between modules, rack and EGC per NETA-ATS 2013 Section 7.13; document location, measure resistance and record results. Investigate point-to-point resistance readings that exceed 0.5 ohms. Notify Company of any issues identified and propose a corrective action plan to be implemented as needed.	1 X per year
6.5	Review of Test Data	Annual review of all test findings from 6.1, 6.2, 6.3, and 6.4. Develop corrective action plans as needed.	1X per year

7. Emergency; Material Malfunction			
7.1	Personnel	Personnel to be available at all times, twenty-four (24) hours per day, including weekends and holidays, to deliver and receive notices of any (1) event occurring, or circumstances arising, at any Project site, or any adjoining property, that (a) poses actual, or imminent risk of (i) serious personal injury or (ii) material physical damage to the Project and (b) requiring, in the good faith determination of the Provider or Company, immediate preventative or remedial action (an “ <b>Emergency</b> ”) and (2) material malfunction affecting the productivity or availability of the Project facility as determined by the Provider in accordance with the standard set forth in <u>Section 2.02</u> (a “ <b>Material Malfunction</b> ”).	Available at all times
7.2	Response to Emergencies	Within twelve (12) hours following discovery of any Emergency, promptly dispatch the appropriate personnel to perform the necessary repairs or corrective action in an expeditious and safe manner and notify Company of the Emergency and such action.	As needed
7.3	Response to Material Malfunctions	Notify Company with reasonable urgency, and in all cases within twenty-four (24) hours, upon discovering any unanticipated Material Malfunction in performance or availability of the System and offer Provider’s recommendations to Company with respect to remedial, diagnostic, or other Non-Covered Services.  Promptly, and in all cases within forty-eight (48) hours following the direct request by Company, promptly dispatch the appropriate personnel to perform the necessary repairs or corrective action in an expeditious and safe manner and notify Company of such remedial or corrective action taken by Provider.	As needed

## 1.0 INTRODUCTION

The purpose of the Emergency Response Plan is to establish responsibility and guidelines for taking action in the event of an emergency occurring at the Goshen Solar Energy (Project) Site during operation of the Project. The Emergency Response Plan emphasizes Solar Liberty's dedication to providing a safe and healthy work environment. Solar Liberty employees and Operations and Maintenance (O&M) staff working at the Project Site shall familiarize themselves with the content of this Emergency Response Plan, so they can understand and comply with instructions and procedures outlined herein.

### 1.1 General Responsibilities

Solar Liberty is accountable for the safety of employees working under their supervision and are required to enforce the instructions and procedures outlined herein. All on-site personnel must take an active part in protecting themselves, fellow workers, and the general public. They are further required to participate in safety meetings and notify supervisors of any unsafe conditions that may exist at the Project Site. The following is a list of the general responsibilities of on-site personnel.

#### Operations and Safety Managers

More than any other employee, Superintendents and Supervisors carry the greatest burden of implementing, maintaining, and enforcing the Emergency Response Plan at the Project Site. Their responsibilities include:

- Ensure job specific emergency and evacuation procedures are provided at the Project Site.
- Evaluate workers qualifications and abilities.
- Ensure that workers have proper clothing and personal protective equipment.
- Provide all personnel and Solar Liberty vehicles with equipment necessary to respond to first aid, health and safety issues, fire or other emergency needs including equipping Solar Liberty vehicles with fire extinguishers, first aid kits and AED equipment.
- Provide first aid and ensure employees have access to medical treatment.
- Conduct safety meetings that emphasize the importance of safety and address specific jobsite safety issues.
- Plan and anticipate potential hazards of upcoming work.
- Conduct workplace safety inspections and be alert for possible accident producing conditions.



- Follow-up to ensure compliance with safety recommendations made by Solar Liberty, Monroe County, the County Fire Marshal, the Police Department, and regulatory agencies.
- Provide training to County first responders that provides a solar facility functional overview (location, ingress/egress, equipment, site operation), evaluates operation activities and best practices in responding to emergencies at the facility, and reviews operation emergency response plans

## Worker Responsibilities

Each and every worker is responsible for the safety of themselves and their fellow workers. In addition to observing safe practices and exercising common sense, worker responsibilities include:

- Adhere to all instructions and procedures contained herein and established by Supervisors.
- Be constantly vigilant for unsafe activities or conditions around work activities and make the needed corrections.
- Set a good example for fellow workers.
- Consistently deliver work of high quality.
- Cooperate with Supervisors in preventing accidents.
- Make safety suggestions and/or report safety concerns to Supervisors.

## Jobsite Visitors

On occasion, Solar Liberty will receive requests from County staff, emergency services, project sponsors, public organizations, or others to visit the Project Site. Jobsite visitors shall undergo site safety orientation prior to entering the Project Site.

## 1.2 General Guidelines

On-site personnel will have to take actions as their judgment dictates based upon the conditions that arise for each emergency. These guidelines are intended to assist them in making timely decisions and taking appropriate actions. On-site personnel shall call for assistance, based on the significance of the emergency. All work-related injuries/illnesses MUST be reported IMMEDIATELY to Solar Liberty.

- If the emergency requires external emergency responders to arrive on the Project Site, the initial responder must coordinate the response. For emergencies of a significant nature, such as fire or ambulance for major medical emergency, the initial responder shall call 911, and then use the Calling Tree.
- Subcontractor Management are responsible for getting injured parties to the hospital and emergency treatment at the nearest health care facilities in the most efficient manner possible based on perceived injuries, using ambulance, paramedic units, or Air Evacuation as needed.
- For all first aid medical incidents, use the Calling Tree to notify Site Response Personnel to help provide support. For non-emergency situations like a minor injury, the initial responder shall use the Calling Tree.
- Subcontractor Safety Personnel shall accompany the injured party and use the local occupational medical clinic or hospital nearest the Project Site.
- Subcontractors must establish their own First Aid stations. They shall be made available to their workforce and provided in each trailer and in all trucks on the Project Site.

### Alarm Descriptions

Emergency	Description
Medical	1 air horn blast with simultaneous cell phone notification
Fire	2 air horn blasts with simultaneous cell phone notification
Evacuation	3 air horn blasts with simultaneous cell phone notification
Seek Shelter	4 air horn blasts with simultaneous cell phone notification

## **2.0 MEDICAL EMERGENCY**

### **2.1 Serious Injury**

The following procedures apply for serious medical injuries such as loss of consciousness, heart attack, bone fractures, neck trauma, or severe burns.

1. One (1) air horn blast with simultaneous cell phone notification.
2. Broadcast “May-Day, May-Day” on radio.
3. Notify Operations and/or Safety Managers.
4. If life threatening, call **9-1-1**.
5. Provide name, exact location, number of injured persons, and brief description of incident
6. On-site personnel to meet EMS responders at site entrance and direct them to location of incident.
7. Do not leave or move the injured unless directed to by Safety Managers or EMS responders.
8. Administer first aid if necessary.
9. Document incident and keep on file.

### **2.2 Minor Injury**

The following procedures apply for minor medical injuries.

1. One (1) air horn blast with simultaneous cell phone notification.
2. Initiate first aid if necessary.
3. Notify Operations and/or Safety Managers.
4. Call **9-1-1** if necessary.
5. Arrange for visit to medical facility as needed.

### **2.3 Attending an Incident**

When attending an incident, the following procedures apply:

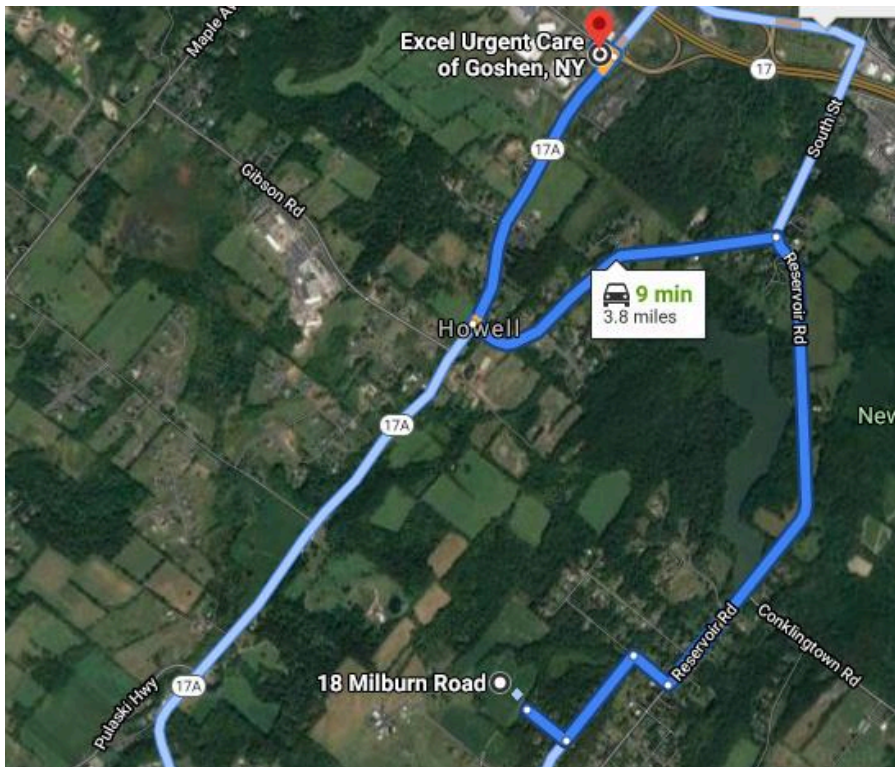
1. Clear a path to the injured person for Operations and/or Safety Managers and assign personnel to assist with signaling EMS responders to the location of the incident.

2. Identify location of Project Site Entrance nearest to the incident and notify EMS responders
3. Operations and/or Safety Managers shall meet EMS responders at site entrance
4. Direct and accompany EMS responders to location of incident
5. Follow all directions of EMS responders
6. Contact management staff of Solar Liberty and/or subcontractors
7. Document incident and keep on file

## 2.4 Medical Facilities

Excel Urgent Care of Goshen, NY  
1 Hatfield Ln #2b, Goshen, NY 10924

Take Vetri Rd to Reservoir Rd.  
Follow Reservoir Rd, Lower Reservoir Rd. and NY-17A to Goshen



### **3.0 HAZARDOUS MATERIAL SPILL**

The hazardous materials that may be on the Project Site during operations include those usually associated with the operation and maintenance of vehicles and machinery, including diesel fuel, gasoline, hydraulic fluid, brake fluid, antifreeze, and lubricants. Other materials considered hazardous are chemicals used in portable toilets and the associated human waste. In the unlikely event of a hazardous materials spill into an Resource Protection Area (RPA), wetland, or stream, Monroe County EMS and the Zoning Department shall be notified immediately.

#### **3.1 Spill Prevention**

The best defense against hazardous material spills is prevention. The following measures shall be implemented at the Project Site for spill prevention:

- All on-site personnel shall be trained to maintain and inspect their vehicles and equipment. • All machinery found to be a potential source of a future spill shall be removed from the Project Site and repaired. Vehicles with chronic or continuous leaks must be removed from the Project Site and repaired before returning to operations. No leaking of any material from equipment or vehicles will be tolerated on the Project Site.
- On-site personnel shall make every effort to ensure compliance prior to an incident. Onsite personnel are solely responsible for any spills of hazardous materials and the subsequent cleanup, disposal of waste, and restoration of any contaminated areas.
- Restrictions will be placed on all equipment refueling, servicing, and maintenance supplies and activities. All maintenance materials, oils, grease, lubricants, antifreeze, etc. shall be stored off-site. If they are required during field operations, they shall be placed in a designated area away from site activities and in an approved storage container.
- No refueling, storage, servicing, or maintenance of equipment shall take place within 100 feet of a drainage or sensitive environmental resources to reduce the potential of contamination by spills.
- No refueling or servicing shall be done without absorbent material or drip pans properly placed to contain spilled fuel.
- Any fluids drained from the machinery during servicing shall be collected in leakproof containers and taken to an appropriate disposal or recycling facility. If these activities result in damage or accumulation of product on the soil, it must be disposed of as hazardous waste.
- Under no circumstances shall contaminated soil be added to a spoils pile and transported to a regular disposal site.

- During operations, all vehicles and equipment required on-site shall be parked or stored at least 100 feet away from rivers, streams, wetlands, known archaeological sites, and any other sensitive resource areas. All wash down activities must be accomplished away from sensitive environmental resources.

### **3.2 Spill Containment Equipment**

The following equipment shall be at the Project Site with each construction crew in the event a spill occurs.

1. Emergency Spill Kit that includes at a minimum:
  - a. Sorbent socks
  - b. Disposal bags and ties
  - c. Safety glasses
  - d. Rubber gloves
  - e. Sorbent drip pillow
  - f. Sorbent pads, 18" x 18"
  - g. Sorbent spill pillows, 24" x 18"
  - h. Hazardous labels
  - i. Bag of Lite-Dri Absorbent (or equal)
  - j. Shovel and broom
2. Absorbent Pads - These pads (18" x 18") are 100% polypropylene fabrics that absorb 11 times their weight in liquids. Pads absorb 10 gallons of liquid per bale of 100 pads.
3. Absorbent Skimmers Booms - Skimmers will float indefinitely before or after saturation with oils. Skimmers are made of 100% meltdown polypropylene fill that repels water. They absorb ten times their weight and can be used in lakes, streams, or on the ground. Each skimmer has a harness kit attached that is made of yellow polypropylene rope with grommets that are used to connect skimmers. Each boom is 8-foot x 10-feet.
4. 55-gallon clean drums, lined with polypropylene material (over pack). The drum can be used to store spill response materials until needed. When a spill occurs, all soiled pads, pillows, skimmers, contaminated soil, etc. shall be placed in the drum for disposal after the cleanup is accomplished. It is the Solar Liberty's responsibility to make sure these

materials are on-site at all times and personnel are trained in their use and disposal prior to spill response.

### **3.3 Spill Response Procedures**

A formal notification process shall be initiated when a spill or potential spill is first observed. Immediate actions are necessary. The first individual who discovers a spill (spill observer) will be responsible for initiating notification and response procedures. All personnel responsible for responding to spills must have completed training in recognition and response to spills of hazardous materials. Solar Liberty is responsible for providing spill recognition and response training for all Solar Liberty project personnel.

#### Spill Observer

The first person to witness the spill shall follow these procedures:

1. Make an assessment of the incident as observed.
2. If the incident can be safely controlled, take steps to do so (e.g., turn off source of spill).
3. Notify Solar Liberty Management Team and provide as much information as possible.
4. Begin to fill out Spill Notification Checklist.

#### Solar Liberty Operations and/or Safety Management

Operations and/or Safety Managers shall follow these procedures in the event of a spill:

1. Notify Supervisors
2. Make sure all personnel are removed from the spill area.
3. Take immediate actions to minimize any threat to public safety (verify the spill area has been cordoned off).
4. Secure the source of the spill, if safely possible to do so.
5. Maintain close observation of the spill.

### **3.4 Vehicle and Machinery Spills**



Incidents of loss of a petroleum product from equipment or vehicles shall be considered a spill. After the spill has been flagged to warn people to stay away, the volume and extent of the spill estimated, and initial notification procedures accomplished, the spill must be confined. Do not handle materials without wearing protective clothing.

Generally, follow the procedures listed below:

1. When the spill is discovered begin making notations on the Spill Notification Checklist.
2. Determine if the Spill Team Response is needed to complete cleanup.
  - a. If the answer is NO, submit incident reports to Operations an/or Safety Managers
  - b. If the answer is YES, go to step 3.
3. Activate the local spill response team.
4. Determine if additional cleanup contractors are necessary for a major incident.
  - a. If the answer is NO and the incident is determined to be a minor spill, conduct internal cleanup, review and evaluate the cleanup, determine if the cleanup is beyond the local response team ability or equipment; if the answer is NO, complete the cleanup, restore the damaged areas, properly dispose of all waste, and submit incident reports to Operations and/or Safety Managers. If during cleanup, the incident is determined to be beyond the abilities of the local response team, hire additional contractors to help with the cleanup.
  - b. If the answer is YES, hire additional contractors to help with the cleanup.
5. Arrange for proper testing and disposal of all waste if substance is unknown.
6. Closely monitor all cleanup activities.
7. Ensure proper disposal of absorbent materials, containers, and soils, as required.
8. Complete the cleanup and restore damaged areas.
9. Submit incident reports to Operations and/or Safety Managers.



Cleanup may range from very simple removal of minor spills, to installation of skimmers around large spills or between sensitive areas and spills for longer, prolonged cleanups. Cleanups can be on pavement or on soil surfaces. On-site personnel shall be trained in the proper use of the cleanup materials. All spills on pavement shall be thoroughly removed with absorbent socks, pillows, or pads and Lite-Dri (or equal) granules. After absorption, the granules shall also be removed. All materials used in cleanup, shall then become hazardous waste. Place all materials in a 55-gallon lined drum, seal it, and label the contents. The drum must then be sent to a designated disposal site. A chain of custody form must accompany the drum (provided by Disposal Company). It is strongly recommended that all contractors determine a disposal site in advance of a spill incident.

All spills on soil require the same treatment as on pavement, with the exception that contaminated soil is also part of the generated hazardous waste and must be handled as such and removed from the site.

### **3.5 Chemical Toilet Spill**

Chemical toilets are self-contained and pose little threat to the construction site. Chemicals used in portable toilets are biodegradable and generally non-toxic to humans. However, they can pose a danger to wildlife and sensitive habitats by virtue of heavy concentration of chemical and human waste. They shall be pumped out at least one time per week. Toilets shall never be placed in or near an environmentally sensitive area. In the unlikely event that a portable toilet spills during transport or relocation, the same procedures for other hazardous material spills shall be used. Disposal of absorbent materials shall be handled the same as other spills, with proper disposal by the toilet supply company.

### **3.6 Reporting of Major Spills**

Upon recognition of a major spill, notification is critical to immediate response. The first notification shall be given to the nearest Operations and/or Safety Managers so that appropriate spill response can begin immediately. After initial spill response has begun, notification and reporting to agency personnel shall occur. The following procedures should be followed when reporting major spills:

1. Never include information that has not been verified.
2. Never speculate as to the cause of the incident or make any acknowledgment of liability.
3. Do not delay reporting because of incomplete information.
4. Notify persons/agencies and document notification and the content of the message.

5. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, O&M staff shall notify the National Response Center at (800) 4248802.
6. Complete the Spill Notification Checklist as information is confirmed.

Other agencies which may need to be consulted include, but are not limited to, the County Fire Department, Public Works Department, Highway Patrol, County Police Department, Department of Toxic Substances, OSHA, RWQCB, DEQ, and or DGIF.

### **3.7 Disposal of Waste**

Following the cleanup of a spill, the waste, absorbent materials, protective clothing, and any soil that has been contaminated must be removed to a designated hazardous waste disposal area. All contaminated materials shall be sealed in 55-gallon drums and labeled with the contents. If the contaminant is unknown, a sample of the material must be collected and analyzed before disposal. A permit or approval in writing must be obtained prior to disposal of the drum. A copy of the permit and a chain-of-custody form (obtained from the disposal contractor or testing laboratory) must accompany the material and copies must be attached to the Spill Notification Checklist submitted to Operations and/or Safety Managers. It is advisable for contractors to establish a relationship with a disposal facility before an incident occurs. Local landfills may be able to receive some petroleum products. However, it is up to the contractor to perform sampling, testing and coordination with landfills or a disposal company. Transporting hazardous waste is regulated by federal and state agencies under the Resource Conservation and Recovery Act (RCRA) and other statutes. The contractor is responsible for the proper disposal and understanding the responsibilities under federal and state statutes.

### **3.8 Final Reporting**

Spill incidents that require cleanup must be reported on the Spill Notification Checklist. Notification must begin as soon as the incident occurs. The checklist shall be submitted to Operations and/or Safety Managers as soon as it is complete. Forms must be submitted no longer than five days after an incident is closed. A copy of the permit or disposal approval and the chain of custody for the disposal must be attached to the Spill Notification Checklist. The forms shall be reviewed and filed in the contractor's file. No exceptions will be tolerated.

If a situation arises involving an unknown hazardous material, the Spill Notification Checklist can be used to report the incident. This incident may require a very different approach to

removing the hazard and the contractor may be required to remove the material. The incident must still be reported by the contractor.

### **3.9 Follow-up Investigation**

A critique following a spill response is beneficial to evaluate the actions taken or omitted. Recommendations and suggested modifications will be made to prepare for the possibility of future spills.

### **3.10 Follow-up Investigation**

Spill Notification Checklists shall be provided at all construction trailers. At a minimum, the Spill Notification Checklists shall require the following information:

- Date
- Time
- Location
- Description of Spill (color, length, width, type)
- Type of Product
- Estimated Quantity
- Source of Spill (vehicle, machine, etc.)
- Describe initial containment procedures
- Weather conditions
- Note if spill has reached any body of water
- Individuals notified of spill (include name, company, date, time and response)

## **4.0 NATURAL DISASTERS**

The Operations and/or Safety Managers will be monitoring weather daily via met stations located at the Project Site.

#### **4.1 Flooding and Flash Floods**

Flash flooding is a result of heavy localized rainfall such as that from slow moving, intense thunderstorms. Flash floods often result from small creeks and streams overflowing during heavy rainfall. These floods often become raging torrents of water which rip through riverbeds, or canyons, sweeping everything with them. Flash flooding can occur within 30-minutes and within six hours of a heavy rain event. In hilly terrain, flash floods can strike with little or no advance warning. Distant rain may be channeled into gullies and ravines causing flash flooding in minutes. In the event of a flash flood, the following procedures shall apply.

1. During periods of thunderstorms, always remain alert to heavy rains in your immediate area or upstream from your location. It does not have to be raining at your location for flash flooding to occur.
2. Do not drive through flooded areas. Even if it looks shallow enough to cross.
3. Do not cross flowing streams on foot where water is above your ankles.
4. Be especially cautious at night. It is harder to recognize water danger then.
5. Do not attempt to outrace a flood on foot. If you see or hear it coming, move to higher ground immediately.
6. Be familiar with the land features where you work. It may be in a low area, near a drainage ditch, or small stream.
7. Stay tuned to weather forecasts and updates for the latest statements, watches, and warnings concerning heavy rain and flash flooding in the project area.
8. Waiting 15 to 30 minutes, or until high water recede is a simple safety measure.

#### **4.2 Tornado**

Upon the issuance of a tornado warning, O&M staff will evacuate the Project Site and report to the predesignated shelter area, to be determined prior to O&M staff arrival. In the event O&M staff are outside and unable to evacuate to the shelter, the following procedure will be followed:

1. Lie flat in a nearby ditch or depression, covering the head with the hands. Be aware of the potential for flooding.
2. O&M staff are safest in a low, flat location and will be instructed to not get under an overpass or bridge.
3. O&M staff will be instructed to never try to outrun a tornado in congested areas in a vehicle. It is safest to leave the vehicle for safe shelter.
4. O&M Staff are instructed to beware of flying debris.

Following tornado or high wind events, the site facility will be evaluated by O&M personnel for damage. All repairs will be performed under standard operational procedures.

### 4.3 High Wind Event

In the event of a high wind advisory, all land clearing, grading, earth moving, excavation and burning activities shall cease during periods when:

- Winds are greater than 25 mph (averaged over one hour);
- Disturbed material is easily windblown; or
- Dust plums of greater than 20% or greater opacity impact public roads, occupied structures, or neighboring properties

Refer to the following table for procedures during varying wind speeds.

Wind Speed (averaged over one hour)	Action
0 – 15 mph	Normal Work
> 15 mph	Warning
25 mph	<ol style="list-style-type: none"> <li>1. Civil/Mechanical work causing dust at property lines is stopped</li> <li>2. Increase dust control measures</li> <li>3. Increase personal protection equipment (e.g., goggles instead of standard safety glasses)</li> </ol>
30 mph	<ol style="list-style-type: none"> <li>1. Panel installation is stopped</li> <li>2. Aerial lift activities are stopped</li> </ol>
35 mph	<ol style="list-style-type: none"> <li>1. All construction and maintenance activities are stopped</li> <li>2. Crews evacuate from the Project Site</li> </ol>

40 mph	1. Operational solar panels will automatically stow into the wind. Solar panels are controlled by on-site controllers and wind sensors, and the Solar Liberty Control Room in Buffalo, NY.
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#### 4.4 Lightning Storms

In the event a lightning storm is within 10 – 30 miles and approaching the Project Site, the following procedures shall apply.

1. Notify Operations and/or Safety Manager, and all on-site employees.
2. Stop work safely and head to staging and laydown yards in vehicles.
3. Remain at staging and laydown yards, get update on weather conditions.
4. If storm/lighting is still approaching the Project Site, get in and stay in company or personal vehicles that have rubber tires only.
5. If safe enough to do so, take cover in on-site designated shelters.
6. Once the storm passes, remain in cars/trucks for at least 30 minutes depending on passing storm severity, and wait for an “OK” from Construction Supervisors or Safety Managers in charge of monitoring the storm.

#### 5.0 FIRE PREVENTION

##### 5.1 Purpose and Need of Fire Prevention Plan

The purpose of this Fire Prevention Plan (FFP) is to:

- Eliminate the potential risks and/or causes of fires
- Prevent loss of life and property by fire
- Educate employees to promote a safe environment
- Be prepared should a fire occur
- Outline a procedure to follow for the safety of the individuals at the Project Site at the time of the occurrence
- Identify risk factors and hazards

- Set up proper storage procedures, training, and identification of personnel responsible for maintaining and servicing the equipment and systems at the Project Site that are used to prevent and/or control a fire

## 5.2 Responsibilities and Procedures

Safety is everyone's responsibility at the Project Site. All O&M staff working at the Project Site are to be trained and should know how to prevent and respond to a fire emergency. All on-site staff shall:

- Complete an on-site training program identifying the fire risks at the Project Site
- Understand the protocol and follow emergency procedures should an event occur
- Review and report potential fire hazards to the Operations and/or Safety Managers

## 5.3 Conditions Associated with PV Solar Arrays

While the PV panels that will be installed for the Project are not flammable, PV solar arrays present a unique challenge for fire fighters. Unlike a typical electrical or gas utility, a PV array does not have a single point of disconnect. Whereas there are disconnects that will de-energize select parts of the system. As long as the PV panels are illuminated, the individual strings of PV panels are energized and capable of producing up to 1,500 volts. This is not just limited to PV panels being illuminated by the sun; illumination by artificial light sources, such as fire department lights, or the light from the fire itself are capable of producing electrical power sufficient to cause a lock-on hazard.

Below is a summary of hazards associated with firefighting activities in PV solar arrays:

- Shock hazard due to the presence of water and PV power during suppression activities
- Outdoor related electrical enclosures may not resist water intrusion from the highpressure stream of a fire hose
- PV panels damaged in the fire may not resist water intrusion
- Damaged conductors may not resist water intrusion
- Shock hazard due to direct contact with energized components
- No means of complete electrical disconnect

Due to the hazards described above, it is not typical to practice fire suppression by means of water inundation within PV solar arrays.

## 5.4 Types of Fires and Procedures

- In the event of a fire at the Project Site, the general procedure is as follows:
- Person discovering the fire shall immediately dispatch to the Operations and/or Safety Managers.
- Attempt to extinguish the fire if safe and possible to do so.
- **DO NOT** attempt to extinguish fire near electrical equipment (e.g., PV solar arrays or inverters) with water or other chemicals as an electric shock or arc could occur.
- Call **9-1-1** and report the following:
  - “I am reporting a fire at the Goshen Solar Energy Project”.
  - Provide address and exact Project Site entrance. ○ Provide location (ex: The fire is at Block H1) ○ Injuries if any and need for ambulance.
- A designated O&M employee shall meet fire fighters at the Project Site entrance and direct them to the location of the fire
- Prepare a summary of the incident as soon as possible and no later than 24 hours after the incident.

### 5.4.1 Small Stage Fires

Fires that are in the beginning stage and can be controlled with a fire extinguisher. An example would be a small trash can fire. In the event of a small stage fire at the Project Site:

- The person discovering the fire should immediately dispatch to the Operations and/or Safety Managers and O&M staff. ○ Call **9-1-1** and report the following:
  - “I am reporting a fire at the Goshen Solar Energy Project”. Provide address and exact Project Site entrance. Provide location (ex: The fire is at Block H1) Injuries if any and need for ambulance.
- All non-essential personnel should be removed from the hazard area.
- All on-site vehicles are required to carry fire extinguishers. Fire extinguishment with a fire extinguisher or other means should be attempted if the person has been trained in the use of fire extinguishers and can do so without placing themselves in danger.
- The Operations and/or Safety Managers shall respond to the scene and determine if external resources or an evacuation is necessary. In the event of an evacuation, Operations and/or Safety Managers will recruit/dispatch employees to assist with the evacuation and, have the Operations and/or Safety Managers issue the following statement over the radio: “Attention, there is a fire emergency at



(location name). Please evacuate (the affected area) and report to (designated meeting area).

- At this point, O&M staff in the affected area will stop work immediately, take steps to safely shut down equipment, exit the evacuation area, and report to the designated meeting area.
- The Operations and/or Safety Managers will then take steps to ensure that no employee reenters the evacuated area until the Fire Department arrives and assumes command.
- The Operations and/or Safety Managers will issue an “All Clear” only when the Fire Department informs them that it is safe to do so.

### 5.4.2 Large Stage Fires

In the event of a large stage fire at the Project site:

- The person discovering the fire should, immediately contact the Operations and/or Safety Managers. The Safety Manager should call **9-1-1** to report the fire. ◦ Call **9-1-1** and report the following:
  - “I am reporting a fire at the Goshen Solar Energy Project” ◦
  - Provide address and exact project entrance ◦ Provide Location (ex. The fire is at Block H1) ◦ Injuries if any and need for an ambulance
- O&M staff should be removed from the immediate danger area in anticipation of an evacuation.
- The Operations and/or Safety Managers shall respond to the scene and ensure that the fire department has been dispatched. Monroe County Fire, Rescue and Emergency Management will be responding to **9-1-1** calls during operations. They will then determine evacuation needs, recruit/dispatch employees to assist with the evacuation and, have the Operations and/or Safety Managers issue the following statement over the radio: “Attention, there is a fire emergency at (location name). Please evacuate (the affected area) and report to (designated meeting area).”
- At this point, O&M staff in the affected area shall stop work immediately, take steps to safely shut down equipment, exit the evacuation area, and report to the designated meeting area. In this scenario, fire extinguishers are to be used for escape purposes only.
- The Operations and/or Safety Managers will take the necessary steps to ensure that no O&M staff re-enters the evacuated area until the Fire Department arrives and assumes command.

- No employee is required or permitted to place themselves in harm's way in order to facilitate extinguishment, evacuation, or rescue. All rescue operations will be performed by trained professionals upon their arrival.
- The Operations and/or Safety Managers will issue an "All Clear" only when the Fire Department informs them that it is safe to do so.

### 5.4.3 Vegetation Fires

Most likely to be caused by a spark from a nearby piece of equipment or flying ember from offsite. While combustible materials (e.g., mulch and low-lying vegetation) will be managed at the Project Site by O&M staff, ignition of the ground cover could result in a fast moving, but lower intensity fire that burns in a patchy manner beneath the PV solar arrays. Vegetation fires would be relatively short in duration as vegetative fuels are consumed rapidly. There would not be a sustained source of heat and or flame as there would be with surrounding wild-fires. In the event of a vegetation fire near the PV solar arrays, the following procedures apply:

- Person discovering the fire shall immediately dispatch to the Operations and/or Safety Managers.
- **DO NOT** attempt to extinguish fire near electrical equipment with water or other chemicals as an electric shock or arc could occur.
- If possible, safely attempt to shut down power at the inverter using the DC disconnect.
- Let the fire burn vegetation and self-extinguish.
- If the fire continues away from the PV solar arrays or inverters, attempt to extinguish flames.
- Call **9-1-1** and report the following :
  - "I am reporting a fire at the Goshen Solar Energy Project".
  - Provide address and exact Project Site entrance. ○ Provide location (ex: The fire is at Block H1) ○ Injuries if any and need for ambulance.
- A designated O&M employee shall meet fire fighters at the Project Site entrance and direct them to the location of the fire.

### 5.4.4 Inverter Fires

In the event of an inverter fire at the Project Site:

- Person discovering the fire shall immediately dispatch to the Operations and/or Safety Managers.
- Immediately contact Solar Liberty's Control Room in Buffalo, NY to notify them of the fire
- and instruct them to open the circuit with the inverter in it to isolate it from the grid.
- **DO NOT** attempt to extinguish fire near electrical equipment with water or other chemicals as an electric shock or arc could occur.
- Call **9-1-1** and report the following:
  - "I am reporting a fire at the Goshen Solar Energy Project". Provide address and exact Project Site entrance.
  - Provide location (ex: The fire is at Block H1)
  - Injuries if any and need for ambulance.
- A designated O&M employee shall meet fire fighters at the Project Site entrance and direct them to the location of the fire.
- If possible, O&M staff shall safely attempt to shut down power at the inverter using the DC disconnect.
- O&M staff protect surrounding areas from flying embers with fire extinguishers.
- Provide Safety Data Sheets (SDS) for the skid if needed.

## 5.5 Fire Department Access

Access for County Fire, Rescue, and Emergency Management will be provided at all Project Site entrances punch code key boxes. If a fire occurs while O&M staff are present at the Project Site, the O&M staff shall provide emergency dispatchers with the exact address and location of the nearest site access point and meet fire fighters at the entrance to escort them to the fire.

Internal site access roads will consist of compacted dirt roads. These access roads will provide direct access to each of the Project's inverters and transformers.



Access to all areas of the Project Site are provided via access aisles. Access aisles are the cleared areas located between individual rows of the PV solar arrays. Access aisles consists of unimproved native material and are not suitable for all emergency services vehicles. However, access aisles do provide emergency responders with access routes to all areas of the Project Site via walking from a nearby access road or by use of 4x4 vehicles.

**5.6 Minimizing Fire Risks**

O&M staff shall be responsible for implementing the following preventative measures for Class A, B, and C combustibles:

- Class A Combustibles – consist of common material (wood, paper, cloth, rubber, and plastic) that can act as fuel and are found on most work sites.
  - Dispose of water daily.
  - Use trash receptacles with covers
  - Keep work areas clean and free of combustible materials.
  - Store materials in proper storage containers
  - Conduct periodic checks of the project site to make sure combustibles are being handled correctly.
  - Water and multi-purpose dry chemicals (ABC) are approved fire extinguishing agents for Class A Combustibles.
- Class B Combustibles- consist of flammable and combustible liquids (oil, grease, tar, oil-based paints, and lacquers), flammable gases, and flammable aerosols.
  - Only use approved pumps (with suction form the top) to dispense liquids from tanks, drums, barrels, or similar containers (or use approved self-closing valves or faucets)
  - Do not dispense Class B flammable liquids into container unless the nozzle and container are electrically interconnected by contact or bonding wire. Either tank or container must be grounded.
  - Store, handle, and use Class B combustible only in approved locations where vapors are prevented from reaching ignition. Sources such as heating or electric equipment, open flames, or mechanical or electric sparks.
  - Do not use flammable liquid as cleaning agent inside a building (the only exception

- is in a closed machine approved for cleaning with flammable liquids).
- Do not use, handle, or store Class B combustibles near exits, stairs, or any other areas normally used as exits.
  - Do not weld, cut, grind, or use unsafe electrical appliances or equipment near Class B combustibles.
  - Do not generate heat, allow an open flame, or smoke near Class B combustibles.
  - Know the location of and how to use the nearest portable fire extinguisher rated for Class B fire.
  - Water should not be used to extinguish Class B fires caused by flammable liquids, as it can cause the burning liquid to spread, making the fire worse. To extinguish a fire caused by flammable liquids, exclude the air around the burning liquid.
  - Carbon dioxide and multi-purpose dry chemicals (ABC) are approved fire extinguishing agents for Class B Combustibles.
- Class C Combustibles – consist of energized electrical equipment.
- **ALWAYS** de-energize the circuit supplying the fire, and then use a nonconductive extinguishing agent such as carbon dioxide or multipurpose dry chemicals (ABC).
  - **DO NOT** use water, foam, or other conductive agents when fighting Class C Combustibles.
  - Once the electricity is shut down to the equipment involved, the fire generally becomes a standard combustible fire.
  - Use only appropriately rated fuses per manufacture's specifications.
  - Check all electrical equipment to ensure it is properly grounded and insulated. Ensure adequate spacing while performing maintenance.
  - Check wiring to ensure no damage to cables or connections.

## 5.7 Employee Training and Education

Fire procedures are to be posted at the Project Site on a bulletin board along with the OSHA compliance postings, first aid, and site-specific project information. The bulletin board is to be located at the O&M Building located on-site.

O&M staff shall be trained in the practices of the FPP relevant to their duties. O&M staff shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats. Confirm all O&M staff understand the function and elements of the FPP, including potential emergencies, reporting procedures, evacuation plans, and shutdown procedures. Review any special hazards that might occur at the Project Site, such as flammable materials, fuel storage, toxic chemicals, and water reactive substances.

Fire safety training will occur during the site safety training. O&M staff are required to undergo training prior to starting work. Training shall include:

- Employee roles and responsibilities.
- Recognition of potential fire hazards.
- Alarm system and evacuation routes.
- Location and operation of manually operated equipment (fire extinguishers).
- Emergency response procedures.
- Emergency shutdown procedures.
- Information regarding specific materials to which employees may be exposed.
- Review OSHA requirements contained in 29 CFR 19010.38, Emergency Action Plans.
- Review OSHA requirements contained in 29 CFR 1910.39, Fire Prevention Plans.
- The location of the company FPP and how it can be accessed.
- Good fire-prevention housekeeping practices and equipment maintenance

The Operations and/or Safety Managers are responsible for fire safety training. Written documentation of the training received by each employee must be maintained.

### **5.8 Site Maintenance and Housekeeping**

- Fire extinguishers shall be inspected monthly.
- Fire extinguishers shall not be obstructed and should be in conspicuous locations.
- Combustible material shall not be stored in mechanical rooms, electrical equipment rooms, or the SCADA buildings.
- Outside dumpsters shall be kept at least five (5) feet away from combustible materials and the lid should be kept closed.
- Storage is not allowed in electrical equipment rooms, or near electrical panels.
- Electrical panel openings must be covered.
- Power strips must be plugged directly into an outlet and not daisy-chained and should be for temporary use only.
- Extension cords and flexible cords should not be substituted for permanent.

## 6.0 HEAT ILLNESS PREVENTION

These procedures provide steps applicable to most outdoor work settings and are essential to reducing the incidence of heat related illnesses. In working environments with a higher risk for heat illness (e.g., during a heat wave, hot summer months exceeding 95 degrees Fahrenheit, or other severe working or environmental conditions), it is Solar Liberty's duty to exercise greater caution and ensure these procedures are implemented, including additional protective measures beyond what is listed in this document, as needed to protect employees affected by high heat conditions.

When the temperature exceeds 95 degrees, high heat procedures begin, the Operations and/or Safety Managers will hold short tailgate meetings to review the weather report, reinforce heat illness prevention with all workers and provide reminders to drink water frequently, to be on the lookout for signs and symptoms of heat illness, and inform them that shade can be made available upon request.

### 6.1 Definitions

**"Acclimatization"** means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

**"Heat Illness"** means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope, and heat stroke.

**"Environmental risk factors for heat illness"** means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

**"Personal risk factors for heat illness"** means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

**"Shade"** means blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions, and that does not deter or discourage access or use.



**"Temperature"** means the temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

**"Provision of water"** Employees shall have access to potable drinking water. The water will be fresh, pure, suitably cool, and provided to employees free of charge. The water shall be located as close as practicable to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water shall be encouraged.

## **6.2 Provisions of Water (Water Distribution Plan)**

Bottled water is provided for all on-site personnel. All Solar Liberty sub-contractors are required to provide a written Heat Illness and Water Distribution Plan, as well as the required potable water and ice for their personnel on site daily.

Means and Methods for Providing Drinking Water to All Employees:

1. The on-site manager will ensure that there is a minimum of two quarts per employee per hour in the work area at all times during the shift. This can be achieved by having bottled water chilled in coolers or using 5 to 10-gallon jugs.
2. If water jugs or bottled water is unavailable, all employees will be furnished camelback for drinking water purposes prior to going to work.
3. When the temperature exceeds 90 degrees the employees will ensure an ample amount of water is readily available.
4. The on-site manager must ensure that the drinking water moves as the work does.
5. The on-site manager is responsible for properly cleaning water jugs at a minimum of every shift. Cleaning must be in accordance with the water jug cleaning procedure. If camelbacks are in use, the employee is responsible for care and cleaning.
6. The on-site manager will announce all drinking water locations in the daily tool-box meeting. When the temperature is expected to be over 90 degrees, the supervisor will discuss the signs and symptoms, hydration and other pertinent heat illness topics.
7. When the temperature is 95 degrees or more, the on-site manager or designee will increase the number of mandatory water-drinking breaks.
8. During the site-specific safety orientation, the importance of frequently drinking water will be stressed.



### **6.3 Accessing Shade**

1. The on-site manager will be given enough shade tents to cover 75 percent of their employees at the same time.
2. The on-site manager will also be given picnic tables, chairs or benches so the employees will have a place to sit under the shade tent.
3. The interior of a vehicle may only be considered a shaded area if the air conditioning is both on and works properly.
4. The on-site manager will make the employees aware of the shaded locations in the daily tool-box meetings. They will also make sure that the shade areas move with the workforce.

### **6.4 Handling a Heat Wave**

During a heat wave or a heat spike (increase in afternoon temperature of more than 10 degrees) the Project Site will be closed, and the work will need to be rescheduled or done at different hours. If the work can't be completed at a different time, the on-site manager will hold an emergency tailgate an emergency tailgate meeting to inform all employee of heat conditions, emergency response procedures and mitigation techniques.

#### **6.4.1 High Heat Procedures**

1. The on-site manager will ensure effective communication by voice, observation, or electronic means is maintained so that employees can contact a supervisor when necessary.
2. Employees will monitor other employees for alertness and signs and symptoms of heat illness.
3. Fellow employees will police each other to ensure their co-workers are drinking water frequently throughout the shift. New employees will be assigned a "buddy" or experienced co-worker for the first 14 days of the employment.

#### **6.4.2 Acclimatization**

Acclimatization is the temporary and gradual physiological change in the body that occurs when the environmentally induced heat load to which the body is accustomed is significantly and suddenly exceeded by sudden environmental changes. In more common terms, the body needs time to adapt when temperatures rise suddenly, and an employee risks heat illness by not taking it easy when heat wave strikes or when starting a new job that exposes the employee to heat to which the employee's body hasn't adjusted yet.

Inadequate acclimatization can imperil anyone exposed to conditions of heat and physical stress significantly more intense than what they are used to. Employers are responsible for the working conditions of their employees are not used to.

1. Solar Liberty Team will monitor the weather and in particular be on the lookout for sudden heat wave(s) or increases in temperatures to which employees haven't been exposed to for several weeks or longer.
2. During the hot summer months, the work shift will start at the first light.
3. For new employees, on-site managers will try to find ways to lessen the intensity of the employees work during a two-week break-in period (such as scheduling slower paced, less physically demanding work during the hot parts of the day and the heaviest work activities during the cooler parts of the day (early-morning or evening). Steps taken to lessen the intensity of the workload for new employees will be documented.
4. New employees will remain vigilant and alert for presence of heat related symptoms.
5. New employees will be assigned a "buddy" or experienced coworker to watch each other closely for discomfort or symptoms of heat illness.
6. O&M teams will observe closely (or maintain frequent communication via phone or radio) and be on the lookout for possible symptoms of heat illness.
7. Solar Liberty site orientation for employees and supervisors will include the importance of acclimatization, how it developed and how these company procedures address it.

### **6.4.3 Alternate High Heat Work Schedule**

When the ambient temperature remain at and exceed 95 degrees the Operations and/or Safety Managers shall discuss revisions to the work schedule (start time, end-of-shift time, multiple shifts with varying start times). When the alternate high heat schedule is in effect, personnel will meet each morning to go over the following items:

<b>Heat Index 1</b> Heavy physical work with acclimated worker	<b>RESPONSE</b>	<b>Heat Index 2</b> Moderate or lite physical work with unacclimated worker
89 – 95°F	<ul style="list-style-type: none"> <li>Supply water to workers on an “as needed basis”</li> </ul>	77 – 84°F
96 – 102°F	<ul style="list-style-type: none"> <li>Post Heat Stress Alert Notice</li> <li>Encourage workers to drink extra water</li> <li>Start recording hourly temperature and relative humidity</li> </ul>	85 – 93°F
103 – 108°F	<ul style="list-style-type: none"> <li>High Heat Procedures in effect notice</li> <li>Notify workers to consume more water</li> <li>Ensure workers are trained to recognize symptoms</li> </ul>	94 – 99°F
109 – 111°F	<ul style="list-style-type: none"> <li>Provide 15 minutes relief per hour</li> <li>Provide adequate cool water (50 -59°F)</li> <li>At least 1 cup (240 ml) water every 20 minutes</li> <li>Workers with symptoms should seek medical attention</li> </ul>	100 – 102°F
112 – 115°F	<ul style="list-style-type: none"> <li>Provide 30 minutes relief per hour in addition to the provisions listed previously.</li> </ul>	103 – 108°F
116 – 120°F	<ul style="list-style-type: none"> <li>If feasible, provide 45 minutes relief per hour in addition to the provisions listed previously</li> </ul>	109 – 111°F
	<ul style="list-style-type: none"> <li>If a 75% relief period is not feasible then stop work until the Heat Index is 107°F or less</li> </ul>	
121°F+	<ul style="list-style-type: none"> <li>Stop work until the Heat Index is 107°F or less</li> </ul>	112°F+

#### 6.4.4 Handling a Sick Employee

1. When an employee displays possible signs or symptoms of heat illness, the Operations Manager will be notified. An employee trained in first aid will check the sick employee and determine whether resting in the shade and drinking cool water will suffice or if the emergency service providers will need to be called.
2. Do not leave a sick worker alone in the shade, as he or she can take a turn for the worse!
3. Call emergency service providers immediately if an employee displays signs or symptoms of heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), does not look OK or does not get better after drinking cool water and resting in the shade.
4. While the ambulance is in route, initiate first aid (cool the worker: place in the shade, remove excess layers of clothing, place ice pack in the armpits and joint area and fan the victim).
5. Do not let a sick worker leave the site, as they can get lost or die (when not being transported by ambulance and treatment has not been started by paramedics) before reaching a hospital.
6. If an employee does not look OK and displays signs or symptoms of severe heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), and the worksite is located more than 20 min away from a hospital, call emergency service providers, communicate the signs and symptoms of the victim and request Air Ambulance.

#### **6.4.5 Procedures for Employee and Supervisory Training**

1. Solar Liberty will ensure that all supervisors are trained prior to being assigned to supervise other workers. Training will include this company's written procedures and what steps supervisors will follow when employees' exhibit symptoms consistent with heat illness.
2. Solar Liberty will ensure that all employees and supervisors are trained prior to working outside. Training will include the site-specific orientations, lunch and learns, and tool-box topics.
3. Solar Liberty Safety Manager will train employees on the steps that will be followed for contacting emergency medical services, including how they are to proceed when there are non-English speaking workers, how clear and precise directions to the site will be provided as well as stress need to make visual contact with emergency responders at the nearest road or landmark to direct them to the worksite.

#### **6.4.1 Procedures for Emergency Response**

1. Prior to assigning a crew to a particular worksite, the Operations Manager will ensure that a qualified, appropriately trained and equipped person will be available at the Project Site to render first aid if necessary.

2. All on-site personnel will carry cell phones or other means of communication, to ensure that emergency medical services can be called and check that these are functional at the worksite prior to each shift.
3. When an employee is showing symptoms of possible heat illness, the supervisor will take immediate steps to keep the stricken employee cool and comfortable once emergency service responders have been called (to reduce the progression to more serious illness).
4. During a heat wave or hot temperatures, workers will be reminded and encouraged to immediately report to their supervisor any signs or symptoms they are experiencing.

Solar Liberty site specific orientation for employees and supervisors will include every detail of these written emergency procedures.