

Permitting Materials

*NY Clarence I, LLC
&
NY Roll Rd III, LLC*

Contents:

- Data Sheets, 1-5
- Decommissioning Plan, 6-8
- Operations and Maintenance Plan, 9-14
- Health and Safety Plan, 15-150

250 kW-600 V, 1500 Vdc String Inverters for North America



CPS SCH250K-T-US-600

The new CPS 250 kW-600 V three-phase string inverters are designed for ground mount applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 98.83% peak and 98.4% CEC, wide operating voltages, broad temperature ranges, and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 250 kW-600 V products ship with the Distributed or Centralized Wire Box, each fully integrated and separable with AC and DC disconnect switches. Enhanced DC wire boxes allow DC disconnection under short circuit conditions. The CPS FlexOM Gateway enables communication, controls, and remote product upgrades.

Key Features

- UL 1741-SA/SB and IEEE1547-2018 certified
- Touch-safe DC Fuse holders add convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- Enhanced DC wire boxes
- Copper- and aluminum-compatible AC connections
- NEMA Type 4X outdoor rated enclosure
- Advanced Smart-Grid features
- kVA headroom yields 250 kW @ 0.95 PF
- 1.7 DC/AC inverter load ratios
- Separable wire box design for fast service
- Distributed or Centralized wire box options



250 kW-600 V Distributed Wire Box



250 kW-600 V Centralized Wire Box

Model Name	CPS SCH250K-T-US-600
DC Input	
Max. PV power	425 kW
Max. DC input voltage	1500 V
Operating DC input voltage range	860-1450 Vdc
Start-up DC input voltage / power	900 V / 250 W
Number of MPP trackers	1
MPPT voltage range for Pnom ¹	900-1300 Vdc
Max. PV short-circuit current ²	450 A
Number of DC inputs	Distributed Wire Box: 30 PV source circuits, fused Centralized Wire Box: 1 input circuit, 1-2 terminations per pole, non-fused
DC disconnection type	Distributed Wire box: Enhanced DC switches Centralized Wire Box: Enhanced DC disconnect
DC surge protection	Type II MOV
AC Output	
Rated AC output power	250 kW
Max. AC apparent power (selectable ³)	250 kVA / 264 kVA (@ PF >0.95)
Rated output voltage	600 Vac
Output voltage range ⁴	528-660 Vac
Grid connection type ⁵	3Φ / PE / N (neutral optional)
Max. AC output current @ 600 Vac	241 A (@ 250 kVA) / 254 A (@ 264 kVA)
Rated output frequency	60 Hz
Output frequency range ⁴	57-63 Hz
Power factor	>0.99 (±0.8 adjustable)
Current TRD	< 3%
Max. OCPD rating	400 A
AC disconnection type	Load-rated AC switch
AC surge protection	Type II MOV
System	
Topology	Transformerless
Max. efficiency	98.83%
CEC efficiency	98.4%
Standby / night consumption	< 30 W
Environment	
Enclosure protection degree	NEMA Type 4X
Cooling method	Variable speed cooling fans
Operating temperature range	-22°F to 140°F / -30°C to 60°C (derating from 108°F / 42°C)
Non-operating temperature range ⁶	-40°F to 158°F / -40°C to 70°C
Operating humidity	0-95%
Operating altitude	6562 ft / 2000 m (no derating)
Audible noise	< 80 dBA @ 1 m and 77°F (25°C)
Display and Communication	
User interface and display	LED indicators; Bluetooth and app
Inverter monitoring	Modbus RS485
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)
Modbus data mapping	SunSpec / CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)
Mechanical	
Dimensions (W × H × D)	Powerhead: 28.46 × 33 × 13.98 in (723 × 840 × 355 mm) Wire Box: 23.11 × 33 × 13.98 in (587 × 840 × 355 mm)
Weight (approximate)	Powerhead: 175 lb (79.5 kg) Wire Box: 106 lb (48 kg)
Mounting / installation angle	Vertical
AC termination	M12 stud type terminal [3Φ] (wire range: 500 kcmil-750 kcmil CU/AL; lugs not supplied) Screw clamp terminal block [N] (#12-1/0 AWG CU/AL)
DC termination	Distributed Wire Box: Screw clamp fuse holder (wire range: #14-#8 AWG CU) Centralized Wire Box: Busbar (<600 kcmil CU/AL [2 terminations per pole]; lugs not supplied)
Fused string inputs	Distributed Wire Boxes: 30 A fuses provided
Safety	
Certifications and standards	UL 1741-SA/SB Ed. 3, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC Part 15, UL 1699B ⁷
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018, CA Rule 21, ISO-NE
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Vol-Watt
Warranty	
Standard	5 years
Extended terms	10, 15, and 20 years

1) See user manual for further information regarding MPPT voltage range when operating at non-unity PF.

2) The sum of parallel-connected PV module short-circuit currents.

3) Inverter is factory set to 250 kVA by default. Contact CPS to enable the 264 kVA setting.

4) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.

5) Delta configurations must not be corner-grounded.

6) See user manual for further requirements regarding non-operating conditions.

7) AFCI function available for Distributed wire boxes only.



156HC M10 SL Bifacial Module

156 Half-Cut Monocrystalline 565W – 595W

21.3%

Utilizes the latest M10 size super high efficiency Monocrystalline PERC cells. Half cut design further reduces cell to module (CTM) losses.

Hail Resistance

3.2mm fully tempered frontside glass for superior hail resistance.

Anti-Reflective

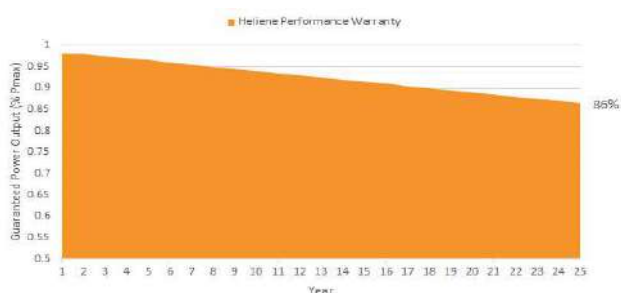
Premium solar glass with anti reflective coating delivers more energy throughout the day

High Reliability

Proven resistance to PID and reliable in high temperature and humidity environments.

No Compromise Guarantee

15 Year Product Warranty
25 Year Linear Performance Guarantee



Manufactured Using International Quality
System Standards: ISO9001

Half-Cut Design with Split Junction Box Technology

Bifacial Technology Enabling Additional Energy
Harvest from Rear Side

2% First Year Degradation & 0.5% Annual Power Degradation

World-class Quality

- Heliene's fully automated manufacturing facilities with state-of-the-art robotics and computer aided inspection systems ensure the highest level of product quality and consistency
- All manufacturing locations are compliant with international quality standards and are ISO 9001 certified
- Heliene modules have received Top Performer rankings in several categories from PV Evolution Labs (PV EL) independent quality evaluations

Bankable Reputation

- Established in 2010, Heliene is recognized as highly bankable Tier 1 manufacturer of solar modules and has been approved for use by the U.S. Department of Defense, U.S. Army Corps of Engineers and from numerous top tier utility scale project debt providers
- By investing heavily in research and development, Heliene has been able to stay on the cutting edge of advances in module technology and manufacturing efficiency

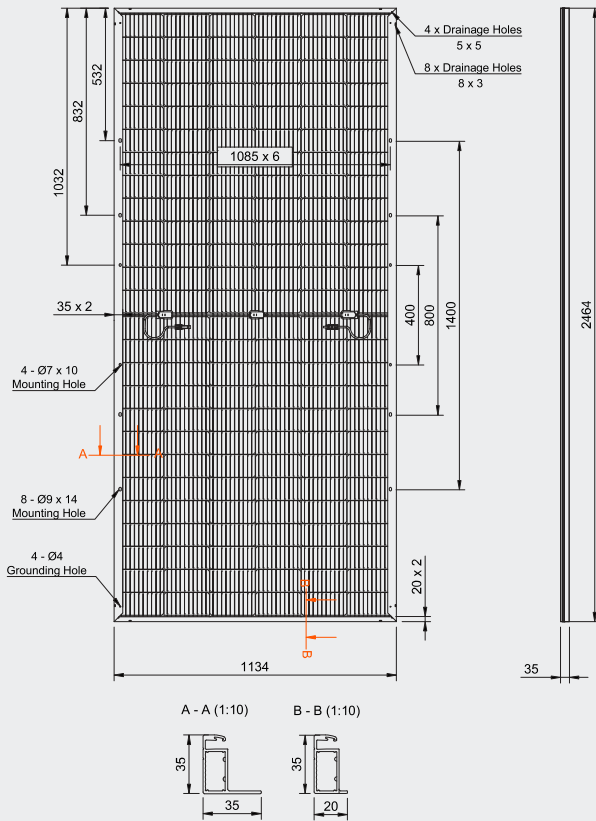
Local Sales, Service, and Support

- With sales offices across the U.S. and Canada, Heliene prides itself on unsurpassed customer support for our clients. Heliene has become the brand of choice for many of the leading residential installers, developers and Independent Power Producers due to our innovative technology, product customization capability and just in time last-mile logistics support
- Local sales and customer support means answered phone calls and immediate answers to your technical and logistics questions. We understand your project schedules often change with little warning and endeavor to work with you to solve your project management challenges





Dimensions for 156HC M10 SL Bifacial Series Modules



Electrical Data (STC)

Table with 8 columns: Parameter, P_mpp (W), V_mpp (V), I_mpp (A), V_oc (V), I_sc (A), Eff (%), MF (A). Rows include Peak Rated Power*, Maximum Power Voltage, Maximum Power Current, Open Circuit Voltage*, Short Circuit Current**, Module Efficiency, Maximum Series Fuse Rating, and Power Sorting Range [- 0/+3%].

Bifaciality Factor***

70 ± 5%

STC - Standard Test Conditions: Irradiation 1000 W/m² - Air mass AM 1.5 - Cell temperature 25 °C,

*P_mpp Production Tolerance ± 3%, *V_oc Production Tolerance ± 3%, **I_sc Production Tolerance ± 4%

***Bifaciality Factor= Pmpp_rear/Pmpp_front where Pmpp_rear and Pmpp_front are tested at STC

Electrical Data (NMOT)

Table with 8 columns: Parameter, P_mpp (W), V_mpp (V), I_mpp (A), V_oc (V), I_sc (A). Rows include Maximum Power, Maximum Power Voltage, Maximum Power Current, Open Circuit Voltage, and Short Circuit Current.

NMOT - Nominal Module Operating Temperature:

Irradiance at 800W/m², Ambient Temperature 20°C, Wind speed 1m/s

Mechanical Data

Table with 2 columns: Parameter and Value. Rows include Solar Cells (156 Half Cut, M10x, PERC Cells), Module Construction (Framed Glass+Backsheet), Dimensions (L x W x D) (2464 x 1134 x 35 mm), Weight (31 kg), Frame (Double Webbed 15-Micron Anodized Aluminum Alloy), Glass (3.2mm Fully Tempered, High-Transmission, PV Solar Glass with Anti Reflective Coating), Junction Box (IP-68 rated with 3 bypass diodes), Output Cables (4mm² (12AWG), 0.3-meter Symmetrical Cables), and Connectors (Multi-Contact/ Stäubli MC4).

Connectors Multi-Contact/ Stäubli MC4

Certifications

UL Certification UL61215, UL61730, CSA C22.2 No. 61730

Temperature Ratings

Table with 2 columns: Parameter and Value. Rows include Nominal Module Operating Temperature (NMOT) (+45°C (±2°C)), Temperature Coefficient of P_max (-0.34%/°C), Temperature Coefficient of V_oc (-0.25%/°C), and Temperature Coefficient of I_sc (0.05%/°C).

Maximum Ratings

Table with 2 columns: Parameter and Value. Rows include Operational Temperature (-40°C to +85°C), Max System Voltage (1500V), Mech. Load Test (Front) (113 psf / 5400Pa), Mech. Load Test (Back) (50 psf / 2400Pa), and Fire Type (Type 1).

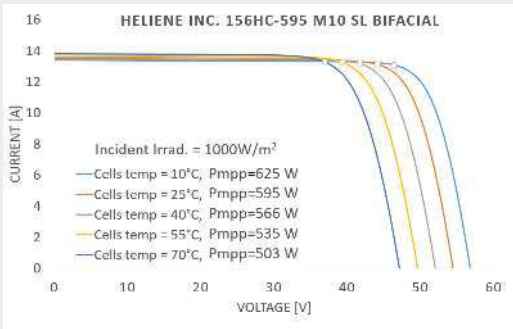
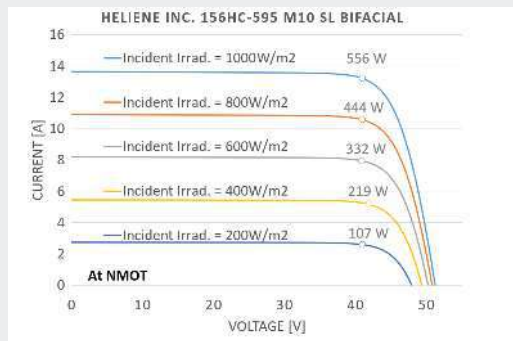
Warranty

Table with 2 columns: Parameter and Value. Rows include 15 Year Product Warranty and 25 Year Linear Power Guarantee.

Packaging Configuration

Table with 2 columns: Parameter and Value. Rows include Modules per Pallet 40' Container (31 pieces), Modules per 40' Container (496 pieces), Modules per Pallet 53' Trailer (28 pieces), and Modules per 53' trailer (588 pieces).

I-V Curves for 156HC M10 SL Bifacial Series Modules



The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the ongoing innovation and product enhancements. Helene Inc. reserves the right to make necessary adjustment to the information described herein at any time without prior notice. PV modules should be handled and installed only by qualified people. Please carefully read safety and installation instructions available for download from Helene website before using Helene PV modules. For warranty details, please refer to Product Warranty Document, also available for download from Helene website.

Decommissioning Plan

NY Clarence I, LLC & NY Roll Road III, LLC

Decommissioning of the solar array facility may occur if the Project is abandoned during construction, or during operations, or at its component end-of-life of power which are typically the end of this supply agreement is assumed to be its lifecycle. The exact procedures for the restoration of the project site will be related to the future land usage of the project location.

The decommissioning will be undertaken by qualified contractors using the same methodology as for the solar array field construction. Equipment would be the same as that identified in the Construction Plan report. The work entails setting up a construction camp as required, installing measures to address potential negative environmental impacts, and undertaking the removal and disposal of the solar array components, both above-ground and below-ground. Much of the material in a solar array facility is reusable or recyclable. In some instances, the purchase agreement with the manufacturer may have a return and/or recycling requirement. Full site decommissioning and restoration is expected to take 1.5 months. This duration is dependent on whether materials are being reused or recycled. It is anticipated that the work would be undertaken in the summer months and adhere to any regulatory and municipal requirements.

The facility is located at 8550 Roll Rd, Clarence Center, NY 14032. The land is currently undeveloped. During development, Solar Liberty will be installing approximately 16,704 solar panels for the ground mounted solar array. The lifespan of the array is approximately 30 years. The intention of the applicant is to decommission the site at the end of its useful life.

I. Project Abandonment (During Construction or Operations)

If the project is abandoned during construction, orders for materials not delivered to site will be cancelled. Materials that are packaged will be returned to the manufacturer un-opened. Other stockpiled, assembled and installed materials will be dealt with like end-of-agreement decommissioning for above-ground and below-ground works. Decommissioning during the operational stage will be the same as at the end-of-agreement. Greater care in handling may be required if materials are to be reused. Dismantling activities would include:

- Notification to relevant agencies that the Project has been discontinued and that the decommissioning plan is being implemented.
- Taking the system off-line and ensuring all distribution switches are in the disconnect position. Dismantling PV panels with support frames, and mounting frames and bases using construction equipment like that identified in the Construction Plan Report, and trucking off-site to the receiving destination either for reuse or recycling.
- Removal of any above-ground structures within the Project site (transformers, inverters, combiners, disconnect switches and splitters, revenue meter, high voltage interrupter and isolation switch, cabinetry, foundation pads, and fencing).
- Removal of any buried structures to a minimum of depth of 1 metre;
- After disconnecting electrical cables leading to underground ducts, excavating and burying cable ends a minimum of 1 meter below grade.
- Excavating and removal of site access materials and disposal off-site;
- Site preparation of disturbed areas and spreading of stockpiled topsoil.
- Removal of any off-site electrical works (overhead distribution system and any disconnect switching) owned by the array.
- Removal of all concrete and residual waste from site.

The decommissioning process at this time will be the responsibility of Bullrock Roll Rd, the solar provider. If for any reason Bullrock Roll Rd does not fulfill its responsibility, the Town will be responsible via the decommissioning bond.

II. Project Decommissioning Responsibility

Project decommissioning at the end-of-agreement would be the same as during the operational phase. Structural materials (steel frames) and most electrical components would have reached their life expectancy and would not be considered for reuse. A detailed inspection and testing of the PV panels, PV Inverters, and Electrical conductors would be undertaken to determine if they were salvageable. This being the case, the Owner may choose to stockpile the panels and Ancillary Equipment at a warehouse for their own further use, sell to other users, or possibly return to the manufacturer. Dismantling activities would include:

- Notification to relevant agencies that the Project has been discontinued and that the decommissioning plan is being implemented.
- Taking the system off-line and ensuring all distribution switches are in the disconnect position.
- Dismantling PV panels with support frames, mounting frames and bases using construction equipment like that identified in the Construction Plan Report, and trucking off-site to the receiving destination either for reuse or recycling.
- Removal of any above-ground structures within the Project site (transformers, inverters, combiners, disconnect switches and splitters, revenue meter, high voltage interrupter and isolation switch, cabinetry, foundation pads, and fencing).
- Removal of any buried structures to a minimum of depth of 1 metre.
- After disconnecting electrical cables leading to underground ducts, excavating and burying cable ends a minimum of 1 meter below grade.
- Excavating and removal of site access materials and disposal off-site;
- Site preparation of disturbed areas and spreading of stockpiled topsoil; and
- Removal of any off-site Electrical works (overhead distribution system and any disconnect switching) owned by Bullrock Roll Rd.
- Removal of all concrete and residual waste from site.

III. Waste Materials

Waste materials, whether solid or environmental, will be sorted per type for recycling and taken to the nearest approved facility in accordance with provincial waste management regulations. Licensed haulers will be used where required. Tickets from the receiving facility will be collected.

IV. Site Restoration

Construction activities for the decommissioning will be contained within the original working area. The solar array field was vegetated (grassed) to control erosion and encourage infiltration. The original construction footprint relates to the granular access road and the aboveground electrical equipment, and foundation supports. Decommissioning may result in further mixing of the soil profiles (topsoil and subsoil), compaction, erosion and potential loss of soil fertility (stockpiling).

The bare spots within the grass area will be top-dressed and reseeded with similar grass. At other disturbed areas where works were installed, a similar approach of backfilling and compacting at excavations having a depth of 0.3 meters or more, scarifying and adding topsoil with organics will be undertaken prior to seeding as required. Any vegetive screening to be removed as the last phase of Decommissioning.

The New York State Department of Agriculture and Markets Guidelines will be followed as a reference.

Potential Negative Environmental Effects and Mitigation

Activities for decommissioning are anticipated to be the same as that undertaken for construction. Excavation operations could produce dust and noise as well as sediment transport. Equipment, maintenance and operation could result in the potential for environmental spills. Local traffic will be increased. There should be no impact on vegetation, water resources, and cultural heritage. Construction best management practices will be employed. Mitigation measures will follow the requirements set out in the Construction Plan Report including designating areas for equipment service and refueling, installing and maintaining sediment and erosion control measures, as defined by SWPPP, and carrying out the work to the hours set out in any local bylaws.

All stakeholders to receive a copy of plan as well as any revisions.

“Owner”

Name:
Title:

“Developer”

Name:
Title:

“Town”

Name:
Title:

SOLAR ELECTRIC SYSTEM
 NY Clarence I, LLC & NY Roll Road III, LLC - 8550 Clarence Center Rd

DISTRIBUTED GENERATION MAINTENANCE PLAN

The following section broadly describes the ongoing maintenance to be performed for the solar Distributed Generation system. This work will be performed by the project’s designated Operations and Maintenance (O&M provider). Work is to be performed in accordance with the below General Provisions and Scope of Work.

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. Factory warranties for all major system components are recommended to be maintained throughout the service life of the system.
- IV. All scheduled and unscheduled work performed by O&M provider, or its subcontractors will be recorded on relevant checklists and inspection sheets.
- V. Snow removal from site shall be performed by the O&M provider as needed.

1. System-Wide Maintenance		
System-wide maintenance includes but is not limited to the following:		
Item	Service Description	Frequency
1	Complete and submit Maintenance Reports as required by agreement.	As Needed
2	Inspect the mechanical functionality of the Project – including but not limited to randomly inspecting a reasonable quantity of the fastening/mounting elements, equipment connection and coupling cases, visual inspection of overhead poles and lines, verifying that the threaded connections are tight, visual inspection of all parts of the equipment and checking the cabling. Quantity inspected shall be not less than 10% and is acknowledged as sufficient to make informed recommendation if follow-up or additional remediation is required.	1x per year

3	Inspect all electrical boxes, combiner boxes and electrical equipment for water damage or signs of significant water accumulation in underground conduit.	1x per year
4	Scan combiner boxes with Infrared camera to identify loose or broken connections.	1x per year
5	Visually Inspect the medium-voltage components and conduct grounding measurements and verification.	1x per year
6	Inspect accessible cabling for signs of cracks, defects, pulling out of connections, overheating, arcing, short or open circuits, and ground faults.	1x per year
7	Check for abnormal corrosion on parts of the Project and perform minor service on any parts with the potential for corrosion to remove long-term risks.	1x per year
8	Check the mechanical functionality of the built-in components and interrupters (ground fault circuit interrupters and circuit breakers).	1x per year
9	Check the functionality of the meters. For avoidance of doubt, functionality of the meters means that meters are operating, communicating reliably and measuring coherent values as compared to the backup meters.	1x per year
10	Maintain pyranometers on a regular basis according to the manufacturer's recommendations, including but not limited to: calibration, cleaning, checking electrical connections and mechanical supports, verifying installation tilt and azimuth, checking desiccant and filters.	As Needed
11	Maintenance of the structure that will support the Panels shall be by various means including visual inspection, searching for impacts, corrosion and condition of the protective paint, and absence of water deposits.	1x per year
12	Thermal camera testing of electrical current connections and circuit breakers.	1x per year
13	Carryout maintenance of Project transformer(s) in accordance with manufacturer's recommendation.	As Needed



2. Panel Maintenance

Ongoing panel maintenance includes but is not limited to the following operations:

Item	Service Description	Frequency
1	Check for possible glass breakage, normally caused by external actions, and rarely by thermal fatigue arising from assembly errors.	1x per year
2	Visually check for oxidation in the circuits and welding of the photovoltaic cells, normally due to the entrance of dampness into the panel because of a fault or breakage of the sealing layers.	1x per year
3	Check for change of color to yellow or brown (known as yellowing and browning) of the sealant or encapsulant.	1x per year
4	Where possible, check for issues with the panel backsheet, as inflammations in this area could be a symptom of a hot point in the module.	1x per year
5	Where possible, check for deformations in the junction boxes of the module due to overheating of the bypass diodes and/or high contact resistance because of bad tightness of an electrical terminal.	1x per year
7	Check the tightness and condition on not less than 10% of the module series connections.	1x per year
8	Where feasible, visually check the watertight integrity of the terminal boxes or the condition of the protective hoods of the terminals, depending on the type of Panel.	1x per year
9	In the event that faults are detected in the watertight integrity, either 1) make minor repairs that do not compromise the panel warranty or 2) process a panel warranty claim.	1x per year
10	Undertake comparative measurement of string DC currents.	1x per year

3. Inverter Maintenance

Ongoing inverter maintenance includes but is not limited to the following:

Item	Service Description	Frequency
1	Annual maintenance performed by O&M Contractor as required to meet the manufacturer's warranty requirements.	As required
2	General visual observation of the condition and functioning of the inverter.	1x per year
3	Check wiring and the connection tightness of the parts.	1x per year
4	Verify that the site of the inverter is clean, dry and well ventilated and insulated.	1x per year
5	Check that the inverter works properly and that unusual noises are not coming from inside it.	1x per year
6	Check that where the inverter is placed maintains suitable temperatures so that this equipment can always work within the temperature range specified by the inverter manufacturer such that it does not derate.	1x per year
7	Check the equipment protection and alarms.	1x per year
8	Inspect air filters annually. Replace or clean as necessary.	1x per year

4. Component Testing

Component tests required include:

Item	Service Description	Frequency
1	Test 100% of DC source circuits VOC and IMP.	1x per year
2	Test all OCPDs and disconnects.	1x per year

3	Test equipment grounding/continuity.	1x per year
4	Verify accuracy of all meters, sensors, monitoring devices, communications equipment, weather station.	1x per year

5. Ground-Mount Project Maintenance

Ongoing general Project maintenance includes but is not limited to the following:

Item	Service Description	Frequency
1	Visual inspection of the general Project conditions, vegetation, animal damage, and erosion. No ongoing SWPPP required inspections after NOT photos of erosion I any to be included.	2 x per year
2	Maintain weeds, grasses and ground cover to prevent shading and risk of fire. This includes: mowing, and reseeding grass when necessary to mitigate erosion.	.. 2 x per year
3	Monitor trees and larger vegetation to prevent shading. If shading is present or imminent, O&M Contractor will assist Owner in identifying a third party service to conduct the needed trimming. O&M Contractor will provide direction to that third party as to what vegetation needs to be trimmed.	As needed
4	Remove all rubbish, excessive vegetation, animal nests, dead animals, and other obstructions from underneath array, electrical equipment servicing zones and other key access areas.	.. As needed ..

6. Racking Maintenance

Ongoing tracking and non-tracking racking maintenance includes but is not limited to the following:

Item	Service Description	Frequency
1	Visually inspect all racking hardware and components for abnormal wear or excessive corrosion.	1x per year

2	Verify torque of not less than 5% of bolted connections on the racking.	At least 1x per year
3	Inspect all ground mounts, visually inspect structural footings and check for abnormal wear and physical damage from vehicles.	1x per year

Solar Liberty Energy Systems

Safety & Accident Prevention Program

**Location: 6500 Sheridan Drive,
Suite 120, Williamsville, N.Y.
14221**

July 2023

Presented by: Hamond Safety Management

Projects: NY Clarence I, LLC & NY Roll Road III, LLC

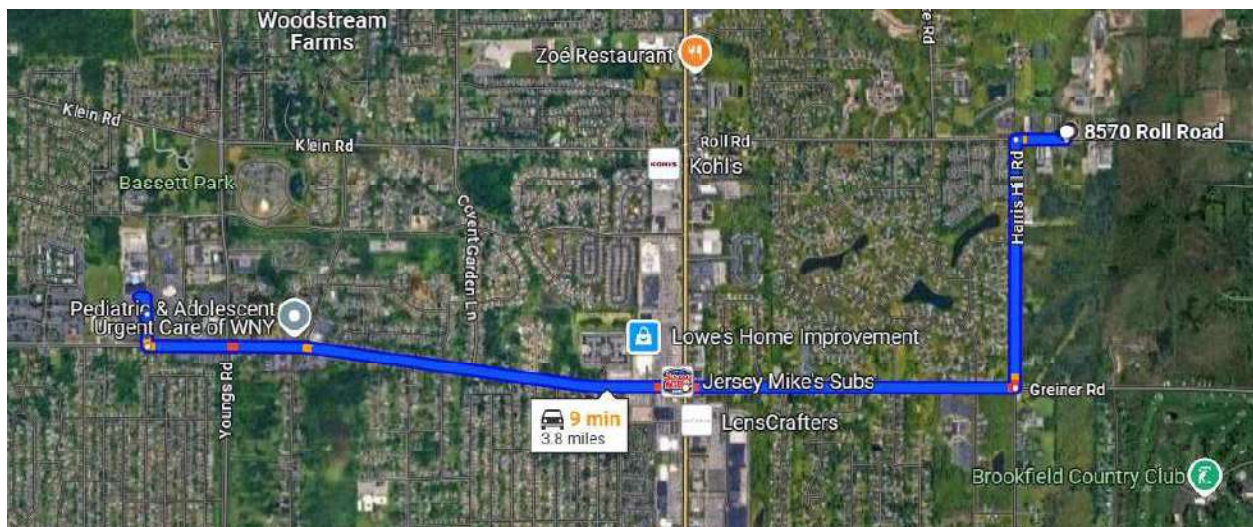
Address: 8550 Roll Rd, Clarence Center, NY 14032

Emergency Contact List:

Contact Name	Office Phone	Cell Phone
William Appenheimer – Project Development Manager	(716)-634-3780	(716)-429-7108
Aaron Caccamise – Construction Manager	(716)-634-3780	(716)-640-3803
Adam Rizzo – President	(716)-634-3780	(716)-909-1524
Nathan Rizzo – Vice President	(716)-634-3780	(716)-570-2732
Millard Fillmore Suburban Hospital	(716) 568-3600	
Police/Ambulance	Dial 911	
East Amherst Fire Department	(716) 688-2121	
Gas Emergency	Dial 911	
Electric Emergency	Dial 911	
Upstate New York Poison Control Center	1-800-222-1222	
Erie County Water Authority	(716) 684-1510	

Directions to Millard Filmore Suburban Hospital

1. Head south towards Roll Rd
2. Turn right onto Roll Rd
3. Turn left onto Harris Hill Rd
4. Turn right onto Greiner Rd
5. Continue onto Maple Rd
6. Turn right onto MacArthur Dr
7. Hospital is on the right



Solar Liberty Energy Systems

Table of Contents

- 1. SOLAR LIBERTY ENERGY SYSTEMS Environmental, Health, and Safety Mission**
- 2. List of SOLAR LIBERTY ENERGY SYSTEMS Responsible Individuals**
- 3. Management Duties and Responsibilities**
- 4. Safety Plan Program**
 - a. Goals & Objectives
 - b. Policy
 - c. Applicability
 - d. Implementation
 - e. Administration
 - f. Reporting Injuries
 - g. Notifications of Injuries/Agency Inspections
 - h. Basic Safety Rules
 - i. Housekeeping
- 5. Disciplinary Policy**
 - a. Objective
 - b. Policy
 - i. First Violation
 - ii. Second Violation
 - iii. Third Violation
- 6. Drug/Alcohol Abuse & Smoking Policy**
 - a. Objective
 - b. Policy
 - c. Incident Reporting
- 7. Accident/Near-miss Investigation**
 - a. Objective
 - b. Policy
 - c. Definition
 - d. Accident / Near-miss Reporting
 - e. Accident/ Near-miss Investigation

Solar Liberty Energy Systems

Table of Contents (continued)

8. Workplace Violence Policy

- a. Objective
- b. Policy
- c. Definitions
- d. Responsibilities
- e. Types of Workplace Violence
- f. Incident Reporting
- g. Incident Investigation

9. Employee Occupational Health and Welfare Program

- a. Objective
- b. Policy
- c. CPR/First Aid Training
- d. First Aid Kits/Eye Wash Stations
- e. Sanitation and Rodent/Vermin Control
- f. Heat and Cold Exposure

10. Hazard Communication Program

- a. Objective
- b. Policy
- c. Assignment of Responsibility
- d. Program
 - i. Hazardous Chemical List
 - ii. Safety Data Sheets
 - iii. Labeling
 - iv. Employee Training
 - v. Storage
 - vi. Non-Routine Tasks
 - vii Other Personnel Exposures
 - viii. Program Compliance

Solar Liberty Energy Systems

11. Hazardous Exposure Notification Program

- a. Objective
- b. Policy
- c. Applicability
- d. Asbestos
- e. Lead
- f. Mercury
- g. PCBs (Polychlorinated Biphenyls)
- h. Reporting Exposures

12. Spill/Release Prevention and Reporting Protocol (SPCC)

- a. Objectives
- b. Policy
- c. Definitions
- d. Spill Reporting Procedure
- e. Spill Kits

13. Electrical Safety Program

- a. Objective
- b. Policy
- c. General Safety Requirements
- d. Locking and Tagging of Circuits
- e. Electrical Personal Protective Equipment
- f. Training
- g. Protection Against Shock and Arc Flash/Blast
- h. Protection Barriers
- i. Approach Boundaries
- j. Flash Hazard Analysis
- k. Arc Flash Labeling
- l. Response to an Electrical Accident

Solar Liberty Energy Systems

Table of Contents (continued)

14. Control of Hazardous Energy (LOTO) Program

- a. Objective
- b. Policy
- c. Definitions
- d. Responsibilities
- e. Program Compliance
- f. Training and Communication
- g. Sequence of Lockout
- h. Lockout/Tagout Devices
- i. Sub-Contractor Responsibilities
- j. Evaluation of Program Effectiveness

15. Material Handling and Ergonomics Program

- a. Objective
- b. Policy
- c. Material Handling
- d. Mechanical Aids
- e. Powered Industrial Trucks - Forklifts

16. Crane and Lifting Operations Program

- a. Objective
- b. Policy
- c. General Safety Rules When Working Around Cranes
- d. Rigging Hardware

17. Mobile Equipment Inspection Program

- a. Objective
- b. Policy
- c. Responsibilities
- d. Mobile Equipment Inspection
- e. Leaking Equipment/Spill Kits

Solar Liberty Energy Systems

Table of Contents (continued)

18. Hand and Power Tool Safety Program

- a. Objective
- b. Policy
- c. Responsibilities
- d. General Tool Use Safety

19. Hearing Conservation Program

- a. Objective
- b. Policy
- c. Company Specific Hearing Conservation Programs
- d. Responsibilities

20. Respiratory Protection Program

- a. Objective
- b. Policy
- c. Responsibilities
- d. Applicability
- e. Respiratory Program
- f. Updating the hazard Assessment
- g. Training
- h. NIOSH Certification of Respirators
- i. Voluntary Respirator Use
- j. Medical Evaluation
- k. Respirator Fit-Testing
- l. General Respirator Use Policy
- m. Air Quality
- n. Changing Cartridges
- o. Cleaning Respirators
- p. Respirator Maintenance
- q. Storage
- r. Respirator Malfunctions and Defects
- s. Program Evaluation
- t. Documentation and Recordkeeping

Solar Liberty Energy Systems

Table of Contents (continued)

21. Excavation Safety Program

- a. Objective
- b. Policy
- c. Responsibility
- d. Competent Person
- e. Minimal Training for Employees

22. Scaffold/ Ladder/Aerial Lifts Safety Program

- a. Objective
- b. Policy
- c. Training
- d. Working on Scaffolds
- e. Fall Protection
- f. Ladders Use and Inspection
- g. Walking Working Surfaces/Holes

23. Fall Protection Program

- a. Objective
- b. Policy
- c. Guard rails
- d. Personal Fall Arrest Systems
- e. Other Fall Protection Methods
- f. Responsibilities

24. Hot Work Safety Program

- a. Objective
- b. Policy
- c. Definition of Hot Work
- d. General Requirements
 - i. Certification/Storage
 - ii. Valve Caps/Cylinder Transport
 - iii. Cylinder/Regulator/Gauge Usage
 - iv. Fuel Hoses/Apparatus Use/Storage
 - v. Welding/Cutting/Grounding Equipment
 - vi. Flammable/Combustibles/Ventilation

Solar Liberty Energy Systems

Table of Contents (continued)

25. Confined Space Program

- a. Objective
- b. Policy
- c. Definitions

26. Designated Competent Persons

- a. Objective
- b. Policy
- c. Definition
- d. Training
- e. Competent Person List

27. Personal Protective Equipment Program

- a. Objective
- b. Policy
- c. Training

28. Facility Evacuation Plan

- a. Objective
- b. Policy
- c. Rescue and Medical Duties for Employees
- d. Preferred Means of Reporting Fires and Other Emergencies
- e. Persons to Contact for Further Information
- f. Employee Training

29. Fire Prevention Plan

- a. Objective
- b. Policy
- c. Fire Prevention General Requirements

30. Silica Exposure Control plan

Solar Liberty Energy Systems

Attachments

- A. Supervisor Report of Injury Form
- B. Accident Investigation Form
- C. Near-miss Report Form
- D. Employee Violation Warning Notice
- E. Workplace Violence Report Form
- F. Employee Exposure Report Form
- G. Spill/Release Reporting Form
- H. Jobsite Inspection Checklist
- I. Supported Scaffold Checklist
- J. Ladder Inspection Checklist
- K. Hot Work Permit
- L. Jobsite Safety Talks
- M. Special Lock and Tag Removal Form
- N. Lockout/Tagout Periodic Inspection Audit Form
- O. Employee Hearing Conservation Training Form
- P. Respirator Hazard Assessment Log
- Q. Record of Respirator Issuance
- R. Respirator Inspection Checklist
- S. OSHA Appendix D to Sec. Respiratory Standard 29CFR 1910.134
- T. Job hazard Analysis

Solar Liberty Energy Systems

1. SOLAR LIBERTY ENERGY SYSTEMS Environmental, Health, and Safety Mission Statement

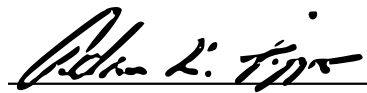
The Occupational Safety and Health Act of 1970 require employers to provide their employees with a safe working environment free from known safety and health hazards. It is the policy, of Solar Liberty Energy Systems that our employees are entitled to work under the safest conditions possible. It is our intent to make every reasonable effort to promote accident prevention for protection and health preservation.

We believe that accidents are avoidable and can be prevented. In order to achieve a safe working environment, all members of our organization are committed to safety through positive attitudes and compliance with our written programs.

As a corporate citizen, we understand that our business success is dependent upon the environment and the sustainability of the natural resources we all share.

SOLAR LIBERTY ENERGY SYSTEMS realizes that it is our responsibility to protect the environment by managing our operations in ways that reduce material waste and efficiently utilize natural resources.

The written programs contained in this Environmental Health and Safety Plan are intended to guide our organization and our employees toward compliance with applicable Federal, State, and City safety regulations. We understand that industry standards and regulations are constantly changing and for that reason, this manual will be periodically reviewed and updated by our organization.



Signature Adam K. Rizzo, President

Solar Liberty Energy Systems

2. SOLAR LIBERTY ENERGY SYSTEMS Corporate Responsible Individuals

SOLAR LIBERTY ENERGY SYSTEMS Management Staff

Adam K. Rizzo

President

Nathan T. Rizzo

Vice President

Joseph Vigneron

Corporate Safety Director

Nicholas Gregori

Office Manager

Solar Liberty Energy Systems

3. Management Duties and Responsibilities

Management's attitude toward the issues of the environment, safety, health, and loss prevention is conveyed to our employees both directly, by procedures, and indirectly, by example. Most employees strive to meet the goals and objectives established by management. Excellent leadership produces excellent results.

The **Project Director/Manager** will be held accountable for accomplishing the following safety, health, and loss prevention responsibilities:

- Support and enforce all aspects of this Environmental, Health and Safety Manual
- Ensure that sufficient responsibility and authority regarding safety, health, and loss prevention has been delegated to operational management and that they are consistently held accountable for these activities.
- Communicate to all employees that safety, health, and loss prevention are a vital part of all jobs, and require active participation and support for these activities.
- Review all accident investigation reports ensuring that recommended corrective actions have been implemented.
- Monitor site safety inspection reports ensuring that recommended corrective actions are implemented in a timely and acceptable manner.
- Monitor the effectiveness of all site safety committee activities by regularly reviewing meeting minutes and periodically observing and participating in these activities.

The **Project Foreman/designee** at each jobsite will be responsible for establishing effective environmental, safety, health, and loss prevention practices at their jobsite. The project Foreman / Supervisor will be held accountable for accomplishing the following environmental, safety, health, and loss prevention responsibilities:

- Support and enforce all aspects of this Environmental, Health and Safety Manual.
- Communicate to all employees and demonstrate by personal example the importance of working in a safe and healthful manner incorporating our written health and safety programs.
- Enforce the wearing of all required personal protective equipment.

Solar Liberty Energy Systems

- Perform site safety inspections using the form (Attachment E “Jobsite Inspection Checklist”) in this manual.
- Conduct and document Jobsite Safety Talks
- Report all accidents and incidents to the Project Manager and complete the applicable report forms in the Attachment section of this manual.
- Immediately correct any unsafe action or work practice at the jobsite. Never allow an unsafe act or condition to go unchallenged.

Each Employee has the responsibility to protect themselves, co-workers, our clients, the public, and the Company from unsafe acts and conditions. All employees will be held accountable for accomplishing the following environmental, safety, health, and loss prevention responsibilities:

- Support and enforce all aspects of this Environmental, Health and Safety Manual.
- Comply with instructions from the foreman
- Report all activities, injuries, and near-miss accidents to management and cooperate with required investigations.
- Submit recommendations for safety and efficiency.
- Know their exact duties in case of fire or emergency situations.
- Exercise good housekeeping in your work area.
- Participate in jobsite safety talks and apply the information learned to increase knowledge of safe work practices.

The Site Safety Representative will be accountable for the following environmental, safety, health, and loss prevention responsibilities:

- Advise and assist site management in carrying out their environmental, safety, health, and loss prevention responsibilities
- Head and participate in all safety committees investigations.
- Monitor accident investigation and safety inspection reports and follow-up to ensure that appropriate corrective actions are implemented by responsible personnel.
- Review, select, or develop appropriate safety materials and topics for jobsite safety talks and meetings.
- Communicate safety and health policies to all Company employees.
- Maintain all OSHA 300 logs and review all supervisor reports of injury/incidents.

Solar Liberty Energy Systems

- Review and update this safety manual with responsible Company officers.
- Represent the Company at the jobsite/location(s) where regulatory agencies perform inspections.
- Respond to regulatory and internal safety and health audits.
- Maintain employee safety training attendance records and certificates.
- Conduct periodic safety, and health inspection of jobsites.

4. Safety Plan Program

Goals

An effective Accident Prevention Plan can achieve the following goals:

- Effective involvement of each and every employee of the company in safety;
- eliminate any and all hazards (current and potential) that expose or create risk of any nature;
- reduce all work-related incidents resulting in injury or illness to employees or other person associated with our business operations;
- reduce lost work days due to incidents resulting in injury or illness to any employee or other person or property damage from such incidents;
- increase awareness of the overall safe operation of all facilities;
- increase employee morale by knowing their work environment is maintained as free as possible from any and all recognized hazards;

eliminate work-related injuries and illnesses, property damage, and all associated losses

a) Objective

The Safety Program of SOLAR LIBERTY ENERGY SYSTEMS is designed to comply with the Standards of the Occupational Safety and Health Administration, and maintain a safe and injury/illness free workplace. Compliance with the following Safety Program is mandatory for all employees of the Company and is a condition of employment.

b) Policy

It is Company policy that accident prevention be a prime concern of all employees. This includes the safety and well-being of our employees, subcontractors, the public, and customers, as well as the prevention of wasteful, inefficient operations, and damage to the environment, property and equipment.

c) Applicability

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This Safety Policy applies to all employees, regardless of position within the Company. The Safety Rules contained herein apply to all subcontractors and anyone employed by SOLAR LIBERTY ENERGY SYSTEMS on Company project sites. Every employee is expected to comply with this Safety Policy.

d) Implementation

This Safety Policy supports five fundamental means of maximum employee protection:

- A. Management commitment to safety
- B. Compliance and enforcement of safety regulations
- C. Effective job safety training and communication
- D. Clearly defined job hazard analysis
- E. Our ability to listen to the safety concerns of our employees

The Company officers will meet periodically to evaluate all areas of safety and make recommendations for improvement.

e) Administration

The Safety Policy will be carried out according to guidelines established and published in this and other related procedures. Specific instructions and assistance will be provided by the Company Corporate Safety Director or his designee as requested. Each foreman/designee will be responsible for meeting all of the requirements of the Safety Policy, and for maintaining an effective accident prevention effort within his or her area of responsibility. Each foreman/designee must also ensure that all accidents are thoroughly investigated and reported to the Company Corporate Safety Director or his designee immediately.

f) Reporting Injuries

All foremen/supervisors will be held accountable for correctly filling out a Supervisor's Report of Injury Form" (see Attachment "A") immediately after an injury occurs, even if medical treatment is not required. Notice must be made immediately to **the company safety director or his designee**. Supervisor's Report of Injury **form must be completed and faxed or delivered within 24 hours of the injury** and on t

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Solar Liberty Energy Systems

he same day of the injury. A casual mentioning of the injury will not be sufficient.

All employees must let their foreman/designee know:

- How they hurt themselves.
- What they were doing at the time.
- Who they were working with at the time.
- When and where it happened.
- Other pertinent information that will aid in the investigation of the incident such as what caused the injury.

Failure to report an injury immediately is a violation of the Safety Policy which may result in disciplinary action including termination in accordance with Company policy.

g) Notifications of Injuries/Agency Inspections

In Case of Death or Serious Injury:

New York Compensation Commission: Fatalities and accidents involving hospitalization of one or more injuries will be reported within 24 hours;

Within eight (8) hours after the death of any employee as a result of a work-related incident, we will report the fatality to the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor. Within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, as a result of a work-related incident, we will report the in-patient hospitalization, amputation, or loss of an eye to OSHA.

Statements from witnesses shall be taken. Witness statements shall include the time and date. Photographs of the area where the incident occurred and any other relevant items are to be taken by the foreman/ supervisor. Company officers/designees will assist in the investigation. The completed incident report form must be sent to the Company Corporate Safety Director within 24 hours of the incident.

In Case of an Inspection by an OSHA Inspector or other government agency:

The foreman/designee must immediately notify the Company Corporate Safety Director or his designee that an OSHA Inspector or other government agency is on the jobsite. It is the responsibility of all employees to fully cooperate with agency employees. The Company Corporate Safety Director or his designee and other management personnel will respond to the site.

h) Basic Safety Rules

Solar Liberty Energy Systems

- Compliance items listed within this Health and Safety Plan is a condition of employment. All injuries, regardless of how minor, must be reported to the foreman/designee and the Company Corporate Safety Director or his designee immediately. An employee who fails to fill out a "Supervisor's Report of Injury Form" (Attachment "A") and send it to the Company Corporate Safety Director or his designee may be subject to disciplinary action, in accordance with Company policy. In the event of an incident involving personal injury to themselves or others including damage to property, at the discretion of management, all persons involved in any way will be required to submit to drug testing. Refusal to comply with this section of the policy may result in termination from the Company.
- Hard hats will be worn by all employees on the jobsite at all times. The bill of the hard hat will be worn in front at all times. Alterations or modification of the hat or liner is prohibited. Equipment operators, when in an enclosed cab, have the option of not wearing a hard hat due to the possible obstruction of their view, unless otherwise instructed by the foreman/designee.
- ANSI approved safety glasses will be worn as the minimum-required eye protection at all times. Additional eye and face protection such as mono-goggles and face shields are required for operations such as grinding, jack hammering, chipping, utilizing compressed air or handling chemicals, acids and caustics. Burning goggles for cutting, burning or brazing and welding hoods for welding, etc., are required. The foreman/designee will determine the type of PPE to be worn based on the job hazards.
- Unless other methods of fall protection are employed, full body harnesses and lanyards shall be worn by trained personnel and secured any time there is a fall hazard of more than six (6) feet to a fixed point of anchorage meeting the OSHA requirements for fall protection of 5,000 lbs. per employee.
- Lifelines shall be erected to provide fall protection where work is required in areas where permanent protection is not in place. Horizontal lifelines shall be a minimum of 2-inch diameter wire rope. Vertical lifelines shall be 3/4 inch manila rope or equivalent and shall be used in conjunction with an approved rope grab.
- Employees using lanyards to access the work or position themselves on a wall or column, etc., must use an additional safety lanyard for fall protection.
- Man-lifts (aerial lifts) must be used properly. As soon as an employee enters an articulating boom lift and before the lift is started, the employee must put on the harness and attach the lanyard to the lift. Employees are not required to wear full body harnesses on scissor lifts. Employees must be trained and certified to operate equipment.

Solar Liberty Energy Systems

- Because of the nature of our business and the possible hazard of electrical shock and/or electrocution, proper protective clothing and PPE will be determined in accordance with OSHA regulations and NFPA 70E.
- No shorts, sneakers, sandals, clogs, tennis shoes, loafers, or open-toed shoes are to be worn on the job-site.
- Burners, welders, and as directed electricians, will not be permitted to wear polyester or nylon clothing. Sturdy work boots with rigid, slip resistant soles are required.
- All required personnel shall attend safety meetings/tool box safety talks as stipulated by the Company and or project requirements in order to meet OSHA Safety Standards.
- Firearms, alcoholic beverages or illegal drugs are not allowed on Company property, in Company vehicles, or on the jobsite at any time. The use or possession of illegal drugs or alcoholic beverages on the jobsite shall result in immediate termination.

i) Housekeeping

A clean, orderly, well-lit work area reduces the potential for slips, trips, falls, struck-by, and caught in-or-between accidents. Housekeeping is everyone's responsibility and applies to all work and storage areas.

- Employees shall keep the work area and surrounding grounds clean and free from trash and debris. All trash and debris will be discarded properly.
- Excess scrap materials and rubbish shall be removed from the work area by the end of the workday.
- All surplus materials shall be returned to stock in an orderly fashion at the completion of the job.
- Tools and material shall not be placed where they may fall causing injury to workers or damage to property. Store tools and materials in available gang boxes or other safe areas.

Solar Liberty Energy Systems

- Aisles and walkways must be clear of tools and materials and free from objects that could cause slips, trips, or falls.
- Fire exits, doors, walkways and designated employee emergency assembly areas shall be unobstructed and clear of materials and equipment at all times.
- Fire extinguishers are to be maintained, visible, reachable, and unobstructed by tools and materials. Empty fire extinguishers must be replaced immediately.
- Oily rags shall be placed in approved metal containers and emptied regularly.
- Ample temporary lighting (200 watt bulbs) must be placed at least 8 feet above the floor of the working area, guarded against damage, and fixtures separated by not more than 15 feet apart.
- Replace broken bulbs to maintain well lit work areas. Wires and extension cords must not be placed on floors where they can cause a tripping hazard.
- Spilled liquids (oil, grease, paint,) must be cleaned up immediately. Notify the foreman/designee if you are unable to identify the material.
- Accumulation of food and beverages attract vermin. Dispose of all food scraps properly.
- Company supplied toilets, wash-up facilities, and drinking fountains shall be kept clean and sanitary. Report unsanitary conditions to your foreman/designee, or Site Safety Representative.
- Inspect the jobsite daily for good housekeeping.

Solar Liberty Energy Systems

5. Disciplinary Policy

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS makes every effort to ensure the safety and health of all employees by enforcing this disciplinary policy as well as our other policies. The determination that a safety violation has occurred will be made by the employee's direct foreman/designee.

b) Policy

Violations of the Company's Environmental, Health and Safety Program will be addressed immediately as follows:

- i. First Violation - The employee will be re-instructed by his foreman /supervisor, superintendent in the safety procedure which must be followed. The employee must agree to comply in the future. A "Violation Warning Notice" (Attachment D) describing the unsafe act will be prepared for each employee violation. A copy of the warning will be furnished to the employee and a second copy will be maintained by the employee's immediate foreman/superintendent in the project file. The original warning will be kept in the employee's personnel file. A copy will be maintained by the Company Corporate Safety Director/designee.
- ii. Second Violation - The employee will be removed from the hazardous exposure and required to discuss the matter in detail with management and the Company Corporate Safety Director. The employee shall sign a form stating that the employee understands that a third violation may result in termination. A "Violation Warning Notice" will be submitted as outlined above.
- iii. Third Violation - The employee's actions indicate a continuous disregard of safety policies and procedures which have been adopted to protect the employees and the public at large from injury and/or death. The employee may

Solar Liberty Energy Systems

be terminated. A “Violation Warning Notice Form” will be submitted as outlined above.

A completed copy of Attachment D will be sent to the Company Corporate Safety Director within 24 hours of issuing the warning violation.

6. Drug / Alcohol Abuse & Smoking Policy

a) Objective

Countless on the job accidents are caused by the use of drugs and/or alcohol on the job. The use of drugs and/or alcohol is not only hazardous to the user, but also to coworkers. The misuse of prescription medication may be just as dangerous to yourself and others. Poor judgment, a lack of control over one’s actions and an overall disregard for safety, while under the influence, costs our industry hundreds of injuries and thousands of dollars in property and material damage. Our objective is to provide a safe working environment for our employees and to maintain our professional reputation by enforcing this policy.

b) Policy

The use of drugs, alcohol, and smoking is forbidden on all SOLAR LIBERTY ENERGY SYSTEMS jobsites and properties. The use or possession of any illegal drugs/substances by anyone employed by SOLAR LIBERTY ENERGY SYSTEMS or any sub contractor’s employees hired to work on Company projects will be removed immediately. The improper use of medication, prescribed by a health professional that will impact the performance and safety of the employee and others at the jobsite will not be permitted. Persons who do not comply with this policy will not be permitted to work for SOLAR LIBERTY ENERGY SYSTEMS or any related SOLAR LIBERTY ENERGY SYSTEMS project in the future.

New York City & State Building Codes prohibit smoking on any construction site. SOLAR LIBERTY ENERGY SYSTEMS will enforce this code and similar regulations to prevent fires at our jobsites and facilities. Our Company will enforce a zero tolerance policy and the employee will be removed from the project.

Solar Liberty Energy Systems

Any employee or subcontractor's employee who is asked to leave the site for any reason mentioned above will not be permitted to work on any SOLAR LIBERTY ENERGY SYSTEMS or any related SOLAR LIBERTY ENERGY SYSTEMS project in the future.

7. Accident/Near-miss Investigation

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS believes accidents are preventable. The failure of people to follow written procedures, the use of defective or unmaintained equipment and supplies, and unsafe jobsites are the cause of most accidents and near-misses. Accident investigations determine how and why these failures occur. By using the information gained through an investigation, a similar, or perhaps more disastrous, accident may be prevented. It is important to conduct accident investigations with prevention in mind not to place blame.

b) Policy

Our Company will investigate all reported employee accidents and near-misses. Reports of near-misses will not involve disciplinary action if it is determined by the Project Manager or supervisor that the near- miss was not the result of an employee's unsafe act or violation of Company policies and/or procedures. The information obtained by the investigations shall be communicated to employees as a way of preventing future injuries.

c) Definitions

"On - the- job- Accident" - an unexpected external happening that directly causes injury that occurs during normal work duties, at a specific time and place and not be related to a pre-existing condition.

"Work - related near- miss" - is an event where no physical injury or property damage has occurred but could have. A work-related near- miss is an event that if not corrected will cause an accident in the future. It may be the result of human error, defective equipment, or an outdated/improperly written procedure.

Solar Liberty Energy Systems

d) Accident / Near-miss Reporting

It is the responsibility of all employees to report and encourage other employees to report accidents and near-misses. All accidents (even minor first aid accidents) must be reported to the foreman/designee immediately. The injury may or may not be recordable as per OSHA. Whether or not the accident is recordable will be determined by the Company Corporate Safety Director who will be notified by the foreman/designee immediately after the occurrence.

e) Accident Near- miss Investigation

The Company Site Safety Representative will conduct an accident investigation for each injury and/or near- miss incidents that involves any Company employee, material, or equipment. The Company Corporate Safety Director will be immediately notified of any injury and/or near- miss and shall assist in the investigation.

Attachment "A" (Supervisor Report of Injury Form) or Attachment "C" (Near-miss Report Form) will be attached to Attachment "B" (Accident Investigation Form).

All relevant information shall be included with Attachment 'B' to aid in the investigation. The Company Corporate Safety Director or his designee will head the Investigation Committee. The findings of the committee will be communicated to management and employees.

Note: SOLAR LIBERTY ENERGY SYSTEMS believes the purpose of an accident/near-miss investigation is to prevent the incident from happening in the future, not to find fault.

8. Workplace Violence Policy

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS is aware that workplace violence presents significant business operating costs, a decrease in employee morale and damages our Company reputation. Our Company enjoys a long history of non-violence in the workplace. Our objective is to maintain our good record and continue to present ourselves in a professional manner. We refuse to tolerate violence in the workplace and will make every effort to prevent violent incidents from occurring by implementing this Workplace Violence Prevention Program (WPVP).

Solar Liberty Energy Systems

b) Policy

It is the policy of SOLAR LIBERTY ENERGY SYSTEMS to provide our employees with a safe working environment. We are committed to a zero tolerance policy of violence in the workplace. Any employee(s) committing an act(s) of violence in the workplace involving our employees, customers, or members of the public, will be disciplined and face possible termination. This policy applies to all our employees and subcontractors. Employees who are convicted of criminal acts or coercive behavior (the use of force), homicides, forcible sex offenses, Kidnapping, assault, robbery, menacing, reckless endangerment, harassment and or disorderly conduct will be subject to termination. A copy of this policy is readily available to all employees. Our Program will be reviewed and updated annually by Company Management.

c) Definitions

Our Company has adopted OSHA's definition of Workplace violence which states:

"Workplace Violence" - is any physical assault, threatening behavior or verbal abuse occurring in the work setting. It includes but is not limited to beatings, stabbings, suicides, shootings, rapes, near suicides, psychological traumas such as threats, obscene phone calls, an intimidating presence, and harassment of any nature such as being followed, sworn at or shouted at".

"Assault" - is the intentional use of physical injury, (impairment of physical condition or substantial pain) to another person, with or without a weapon or dangerous instrument.

"Criminal Mischief" - is the intentional or reckless damaging of the property of another person.

"Disorderly Conduct" - Intentionally causing public inconvenience, annoyance or alarm or recklessly creating a risk thereof by fighting (without injury) or in a violent or threatening behavior or making unreasonable noise, shouting abuse, misbehaving, disturbing an assembly or meeting or persons or creating hazardous conditions by an act which serves no legitimate purpose.

"Harassment" - means intentionally striking, shoving or kicking another or subjecting another person to physical contact, or threatening to do the same (without physical injury). Also, using abusive or obscene language or following a person in about a public place, or engaging in a course of conduct which alarms or seriously annoys another person.

"Larceny" - is the wrongful taking, depriving or withholding property from another (no force involved). Victim may or may not be present.

Solar Liberty Energy Systems

“Menacing” - means intentionally placing or attempting to place another person in fear of imminent serious physical injury.

“Reckless Endangerment” - means subjecting individuals to danger by recklessly engaging in conduct which creates substantial risk of serious physical injury.

“Robbery” - means forcible stealing another’s property by use of threat of immediate physical force. (Victim is present and aware of theft).

“Sex Offense” - described as:

- Public Lewdness: Exposure of sexual organs to others.
- Sexual Abuse: Subjecting another to sexual contact without consent.
- Sodomy: A deviant sexual act committed as in rape.
- Rape: Sexual intercourse without consent.

d) Responsibilities

It is the responsibility of all employees to conduct themselves in a professional manner in the workplace. SOLAR LIBERTY ENERGY SYSTEMS management will be immediately notified of any workplace violence. If necessary, law enforcement (911), as well as medical services 911 (ambulance) will be notified to prevent any further injury to employees, our customers, and the public.

e) Types of Workplace Violence

Workplace violence incidents are divided into categories, depending on the relationship between the assailant and the worker or workplace:

- **Violence by strangers (criminal intent) (Type I):** The perpetrator has no legitimate relationship to the business or its employees, and is usually committing a crime in conjunction with the violence.
- **Violence by customer/client (Type II):** The perpetrator has a legitimate relationship with the business and becomes violent while being served by the business.
- **Violence by Co-Worker (Worker on Worker) (Type III):** The perpetrator is an employee or past employee of the business who attacks or threatens another employee(s) or past employee(s) in the workplace.
- **Violence by Personal Relationships (Type IV):** The perpetrator usually does not have a relationship with the business but has a personal relationship with the intended victim.

Solar Liberty Energy Systems

f) Incident Reporting

Each incident must be reported immediately to a foreman/designee and the Company Corporate Safety Director/designee. Once an incident occurs, the foreman/designee at the jobsite must:

- If necessary, report it to the local police department
- Secure the work areas where the disturbance occurred
- Ensure the physical safety of employees, customers, and the public and others in the area
- Quickly assess the work area, to determine if it is safe
- Provide critical incident debriefing to victims, witnesses and other affected employees

The Workplace Violence Incident Report (Attachment E) must be completed by the foreman/designee and returned to the Company Corporate Safety Director/designee within 24 hours of the incident. The Company Corporate Safety Director will maintain the report as well as all related police and EMS/medical reports.

g) Incident Investigation

After an incident occurs, Company management will conduct a detailed investigation. The investigation will be focused on fact-finding to prevent recurrence. When conducting the investigation, the investigation team will:

- Collect facts on who, what, when, where and how the incident occurred
- Record all pertinent information
- Recommend corrective action
- Consider changes in controls, procedures, and policies.

Investigations will begin within 24 hours of the incident. The completed Incident Report Form will be reviewed as well as all witness statements, available photographs of injuries received by the victim(s), and of damaged property or equipment.

9. Employee Occupational Health and Welfare Policy

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS is committed to maintaining the health and welfare of our employees at the jobsite. This policy as well as other Company policies contained in this manual will help provide our employees with a safer workplace.

Solar Liberty Energy Systems

b) Policy

Because of the potentially hazardous nature of our business, employees may require some type of medical attention. Depending on the severity of the injury or condition, the foreman/designee will determine the type of action to be taken. In the event an employee(s) is seriously injured, 911 will be notified immediately. The employee will be accompanied to the hospital or medical facility by a member of Company management. During working hours, the employee is the responsibility of the Company. The foreman/designee will provide useful information concerning the incident to medical personnel which may be beneficial in the treatment of the employee.

911 will be notified immediately if an injury is life threatening (loss of consciousness, not breathing, no pulse, or severe breathing). It is not advisable to transport the employee to a hospital in a private or Company vehicle when the injury is life threatening.

c) CPR/First Aid Training

OSHA has certain requirements regarding first aid and CPR preparedness in the workplace. Some OSHA compliance standards require specific types of industry to provide first-aid and CPR training to employees. The specific industries identified by OSHA are:

- 1910.146 Permit-required Confined Spaces
- 1910.266 Appendix B: Logging Operations – First-Aid and CPR Training
- 1910.269 Electric Power Generation, Transmission, and Distribution
- 1910.410 Qualifications of Dive Team
- 1926.950 Construction Subpart V, Power Transmission and Distribution

In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. OSHA has interpreted "near proximity" to mean 4-6 minutes from injury to medical care in areas where accidents resulting in suffocation, severe bleeding, or other life threatening or permanently disabling injury or illness can be expected. If injuries like these are not common, then OSHA considers it reasonable to have response times of 15 minutes.

The SOLAR LIBERTY ENERGY SYSTEMS Project Director/Manager will evaluate each project for the need to supply a qualified CPR and First Aid trained person(s). Our Company encourages our employees

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to voluntarily enroll in CPR and first aid classes. SOLAR LIBERTY ENERGY SYSTEMS may provide courses on an as needed basis to comply with client requests.

d) First Aid Kits/Eye Wash Stations

First Aid Kits will be supplied for employee use at Company jobsites and facilities. First aid kits will be periodically checked for contents by the Site Safety Representative. First aid kits are for employee use only.

Eye Wash Stations

Portable eye wash stations will be supplied at jobsites as needed. The Site Safety Representative shall ensure that the portable eye wash station supplied by the Company:

- Is filled with eye wash solution
- Check the expiration date of the eye wash solution
- Are not located next to electrical sources of energy
- Are maintained, operable, and sanitary

e) Sanitation and Rodent/Vermin Control

A clean workplace is efficient, prevents accidents and helps control rodents and vermin. All jobsite personnel are instructed to:

- Maintain worksite cleanliness at their jobsite
- Remove trash (beverage cups and cans, food scraps, food wrappers) daily
- Ensure the jobsite has washing and toilet facilities for all Company employees in accordance with OSHA 29 CFR 1926.26 (c)(1) through (f)(1)
- Keep all passageways, means of egress and walking/working surfaces clear of beverage cups and cans, food scraps and food wrappers.
- Eat and drink in designated areas only and properly dispose of trash when finished
- Effectively wash hands before eating.

f) Heat and Cold Exposure

Heat Stress

The potential for heat stress is dependent on a number of factors, including environmental conditions, radiant heat sources, PPE, employee workload, age, and the employee's physical condition. Foremen/designee and employees shall be trained to recognize the signs and symptoms of heat stress, heat exhaustion, and heat stroke.

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Signs/Symptoms of Heat Stress:

- Heat rash - redness or irritation of the skin, profuse sweating, irritability, thirsty. Give the employee cool water to sip and allow time for the employee to rest. Foremen/supervisors shall monitor employees for signs of heat stress.

Signs/Symptoms of Heat Exhaustion:

- Muscle cramps/spasms, nausea, headache, pale looking skin, dizziness, fainting. Employees must be taken to a cool/shady area. Apply a cool wet cloth to neck and face, seek first aid, do not give liquids to drink if employee is unconscious.

Signs/Symptoms of Heat Stroke:

- Heat stroke is the most serious form of heat stress. **Call 911 immediately.** Remove the person to a cool/shady area, saturate clothing with water. Employee has hot dry skin, not sweating, possibly unconscious. Do not give anything to drink if unconscious. Remain with the employee to administer CPR/first aid until EMS arrives. Keep the employee cool and quiet, monitor for breathing and pulse.

Solar Liberty Energy Systems

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Solar Liberty Energy Systems

10. Hazard Communication Plan

a) Objective

The objective of this program is to set in place Company policies and procedures concerning Hazard Communications which will enhance the safety of SOLAR LIBERTY ENERGY SYSTEMS employees. Also, this program is designed to comply with the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard 29 CFR 1910.1200.

b) Policy

This policy applies to all SOLAR LIBERTY ENERGY SYSTEMS employees. Our employees have a need and a right to know the hazards and identities of hazardous chemicals they are exposed to when working. All questions about chemical(s) should be brought to the attention of the supervisor/ designee or Site Safety Representative.

c) Assignment of Responsibility

The Company Corporate Safety Director will assume duties as the Hazard Communication Officer. This position carries the responsibility of ensuring this program is followed and that applicable Safety Data Sheets are maintained, updated, and made available to employees upon request. The Company Corporate Safety Director may designate these responsibilities to qualified employees to be carried out at various Company locations.

d) Program

i. Hazardous Chemical List

A list of hazardous materials and chemicals which are used in the course of the Company's normal business activities must be maintained and continually updated. This list shall include all substances which require a Safety Data Sheet (SDS).

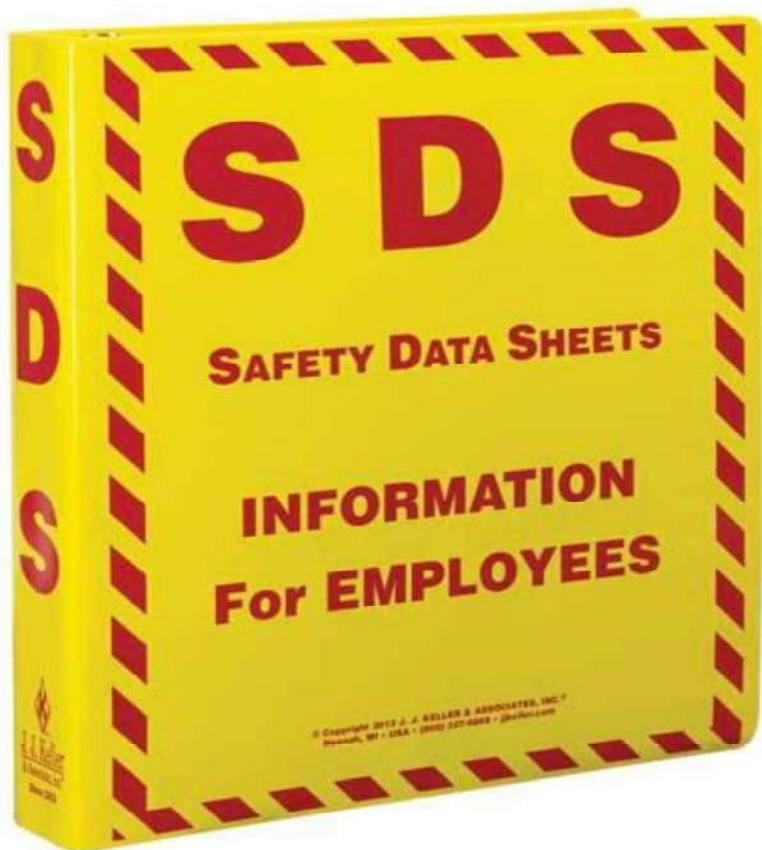
One copy of this list shall be kept in the front of each SDS book and one copy is to be kept on file with the Hazard Communication Officer. For each hazardous chemical used in the workplace, an SDS sheet must be available on that jobsite.

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Safety Data Sheets

All Safety Data Sheets must be kept in an organized fashion and must be placed in an identified and accessible location for all employees to view at will. A duplicate set of MSDS information must be maintained by the Hazard Communication Officer or his designee.

SDS binders and the Hazardous Chemical List must be maintained and kept up to date. As obsolete SDS's are replaced by updated copies, they must be retained in a separate file of obsolete SDS's. Do not throw them away. The Hazard Communication Officer or his designee will be responsible for maintaining the obsolete SDS's.



Solar Liberty Energy Systems

If a hazardous chemical or substance is received without a proper SDS, the receiving person must immediately notify the Hazard Communication Officer or his designee at that location. The manufacturer or distributor of the product must be contacted immediately and instructed to fax the SDS and mail a copy as a follow up. If, for some reason, the manufacturer or distributor is unable to immediately produce a SDS upon request, the Hazard Communication Officer or his designee must be notified. Immediate action will be taken to refuse the delivery. Hazardous materials or chemicals received without a SDS are to be returned to the sender immediately upon delivery. Do not unload the delivery. Improper handling and storage of unidentified and unapproved chemicals/materials is a serious health, safety and environmental concern.

ii. Labeling

Each container of a hazardous chemical that is used in or around the work area must be properly labeled with the identity of the hazardous material, the appropriate hazard warnings, and the name and address of the manufacturer. Appropriate labeling must be on all containers, regardless of size. Containers must be approved and recommended for storage and/or dispensing of the particular hazardous chemicals contained in them.

Worn or torn labels must be replaced. It is the responsibility of all employees to report inappropriate labeling to their foreman/designee. It is the responsibility of the Hazard Communication Officer or his designee to insure that appropriate labels are in place and that replacement labels are available.

iii. Employee Training

Employee training for this Hazard Communication Program consists of the following:

1. Each affected field employee working for, SOLAR LIBERTY ENERGY SYSTEMS is required to receive Hazard Communication training from a qualified individual. At a minimum, the Hazard Communication Officer at the site must review the location of the Safety Data Sheets, the types of hazardous chemicals at the site, and answer any employee questions concerning the chemical(s).
2. All Company employees assigned to fixed locations (management/office personnel), will receive formal Hazard Communication Training from a qualified individual.
3. This training is to be delivered during the new employee orientation process before the new employee actually assumes status as an active employee or whenever training is required as per the OSHA Hazard Communication Standard.

Solar Liberty Energy Systems

In addition to this training, affected employees must be shown the locations of Safety Data Sheets, fire extinguishers, first aid kits, and usage and storage of hazardous materials.

4. Each affected employee working for Solar Liberty Energy Systems at various locations, will know the location and phone numbers of local hospitals or health clinics in case of an emergency.

iv. Storage

All storage areas for hazardous substances are to be secured, properly ventilated, and identified by signs.

v. Non-Routine Tasks

Before any non-routine task is performed, employees shall be advised of and/or they must contact their foreman/designee for special precautions to follow. The foreman/designee shall inform other non-Company personnel who could be exposed to possible hazards. (No non-routine tasks are known to exist at the time of preparation of this program.)

If a non-routine task is necessary, the foreman/designee will provide the following information about the activity as it relates to the specific chemicals expected to be encountered to the Corporate Safety Director:

1. Specific chemical name(s) and hazard(s);
2. Personal protective equipment required and safety measures to be taken;
3. Measures that have been taken to lessen the hazards including ventilation, respirators, etc. and
4. Emergency procedures

If an employee has a question concerning the safe use of a chemical at their jobsite, they must immediately notify their foreman/designee before handling the chemical. The Hazard Communication Officer at that site or the Company Corporate Safety Director may also be notified concerning any questions.

vi. Other Personnel Exposures

The foreman/designee will provide outside contractors with the following information as follows when necessary:

Solar Liberty Energy Systems

1. Hazardous chemicals to which they may be exposed to while in the workplace;
2. Measures to minimize the possibility of exposure;
3. Location of the SDS and labeling requirements for all hazardous chemicals;
4. Procedures to follow if they are exposed

The foreman/designee will contact each affected contractor before work is started to gather and disseminate any information concerning chemical hazards Solar Liberty Energy Systems is bringing into the workplace, and visa versa. SOLAR LIBERTY ENERGY SYSTEMS employees are prohibited from using unapproved chemicals at the work-site. All hazardous chemicals used by our employees must have an updated SDS and be approved by the Hazard Communication Officer after reviewing that chemical's SDS. The Hazard Communication Officer or his designee must have prior knowledge of the use of these hazardous chemicals before they are used.

vii. Program Compliance

Any direct or intentional violation or non-compliance with this program may result in disciplinary actions and possible termination of the person or persons involved, in accordance with Company policy.

11. Hazardous Exposure Notification Program

a) Objective

Solar Liberty Energy Systems Hazardous Exposure Plan Policy is designed to comply with the Standards of the Occupational Safety and Health Administration, and the employee's right to know about chemicals in the workplace.

b) Policy

Our Company is aware that some of our jobsites may contain materials such as asbestos, lead, mercury, and PCB's (poly chlorinated biphenyls). It is SOLAR LIBERTY ENERGY SYSTEMS policy that our employees must be protected from recognized hazardous exposures by avoiding contact with such materials. Generally our employees are not required to work with and are therefore prohibited from removing or disturbing asbestos, lead, mercury, and PCB's without first notifying their foreman/designee. Every effort is made by the Project Director/Manager, and

Solar Liberty Energy Systems

the Site Safety Representative, to learn about the presence of hazardous materials at the jobsite before our work begins.

c) Applicability

This policy applies to all SOLAR LIBERTY ENERGY SYSTEMS employees, regardless of position within the Company. During the course of their work, it may be necessary for employees to disturb or remove construction materials. Before disturbing or removing questionable hazardous material, all employees must first notify their foremen/designee. The foremen/designee will make every effort to confirm the presence of hazardous materials in the immediate area of the employee's work location. Any concerns on the part of the foreman/designee must be brought to the attention of the Site Safety Representative, Project Director/Manager, or the Company Corporate Safety Director. It may be necessary, to check with building owner(s), other project managers, site safety representatives and other trades to determine if abatement activities are in progress or are to be scheduled in the immediate area of our employee's work location.

Every effort to contain abatement areas is the responsibility of the Contractor performing that work as directed by Federal, State, and City codes and regulations. In the event Solar Liberty Energy Systems fails to contain their abatement activities and possibly exposing our employees to hazards, the Company Corporate Safety Director must be notified.

d) Asbestos

As a rule, SOLAR LIBERTY ENERGY SYSTEMS employees are not qualified to remove asbestos containing material.

Every effort will be made to protect our employees from asbestos hazards in the workplace. Asbestos is the name given to a group of naturally occurring minerals used in certain products, such as building materials, to resist heat and corrosion. Asbestos groups include chrysotile, amosite, crocidolite, tremolite, anthophyllite, actinolite.

Class I is the most potentially hazardous class of asbestos work and involves the removal of thermal system insulation and sprayed-on or troweled-on surfacing asbestos-containing materials (ACM) or presumed asbestos-containing materials (PACM).

Class II includes the removal of other types of asbestos-containing materials that are not thermal system insulation, such as resilient flooring and roofing materials containing asbestos.

Class III focuses on repair and maintenance operations where asbestos-containing or presumed asbestos-containing materials are disturbed.

Solar Liberty Energy Systems

Class IV pertains to custodial activities where employees clean up asbestos-containing waste and debris.

PACM - Presumed Asbestos Containing Materials. When in doubt as to whether or not something contains asbestos, it is our policy that it is considered to be asbestos (until proven otherwise by analytical testing or other acceptable means). Our employees shall not intentionally disturb or remove asbestos containing material. Specific training is required for removal.

e) Lead

Lead is also found at jobsites. It is usually in the form of peeling lead-based paint chips and/or pipes. Lead adversely affects numerous body systems and causes forms of health impairment and disease that arise after periods of exposure as short as days (acute exposure) or as long as several years (chronic exposure). The frequency and severity of medical symptoms increases with the concentration of lead in the blood.

Although working directly with lead-based paint may not be in our job description, there may be times when we encounter lead paint chips peeling from walls and floors, or on pipes and other equipment.

Disturbing or removing these paint chips, as in demolition operations, may present inhalation and ingestion hazards. When in doubt, all employees must ask their foreman/designee to determine if the surfaces in the immediate area of the jobsite may contain harmful lead. Employees must not attempt to clean suspected areas or clean possible lead contaminated substances from the work area. Specific training is required for removal and when needed will be provided by a qualified individual.

f) Mercury

It is rare that our employees will be exposed to the harmful effects of mercury in the course of their daily duties. However, employees must report mercury releases at their jobsites to their foreman/designees immediately. Mercury or "*quick silver*" can be recognized as a silver metallic liquid. It is mostly used in old thermometers and manometers, mercury switches, fluorescent bulbs, and some gauges. Mercury containing equipment does not present a hazard as long as the equipment is not damaged and the mercury is contained. Once mercury escapes, the liquid vaporizes presenting a harmful inhalation hazard. If there is any doubt about an

Solar Liberty Energy Systems

employee's exposure to a mercury release, they must immediately notify their foreman/designee.

Failure to immediately report exposure to hazardous materials is a violation of this policy which may result in disciplinary action including termination in accordance with Company policy.

g) PCBs (poly chlorinated biphenyls)

PCBs belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until their manufacture was banned in the United States in 1979. They have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, and rubber products; in pigments, dyes, and carbonless copy paper; and many other industrial applications.

Although no longer commercially produced in the United States, PCBs may be present in products and materials produced before the 1979 PCB ban. Products that may contain PCBs include:

- Transformers and capacitors, voltage regulators, switches, bushings, electromagnets, and oil used in old motors, old electrical devices containing PCB capacitors, fluorescent light ballasts, and cable insulation.

Between 1950 and 1978, caulk containing potentially harmful PCBs (poly chlorinated biphenyls) was used in many buildings, including schools. Our employees must notify the supervisor before the removal of caulking necessary to perform their work.

Our employees must avoid handling any liquid that may leak from any of the electrical equipment mentioned. Using a chemically resistant glove when handling possible PCB contaminated material will help to limit accidental exposure. The foreman/designee will contact the Site Safety Representative for the proper use and type of PPE to be worn. If our employees believe they have been exposed by inhalation, ingestion, absorption, or injection (puncture), they must report the exposure to the foreman/designee immediately.

Solar Liberty Energy Systems

h) Reporting Exposures

In case of exposure, employees will immediately report the incident to their foreman/designee. The Company Corporate Safety Director or his designee will receive an Exposure Report Form from the employee (Attachment F). The employee will be given the option to go to an emergency room with a copy of the exposure report. The report is provided only as means for SOLAR LIBERTY ENERGY SYSTEMS to document the incident and does not assume SOLAR LIBERTY ENERGY SYSTEMS is responsible for the possible exposure. An employee statement and the names of witnesses shall be taken. The Site Safety Representative shall investigate the incident. The completed incident report must be sent to the Company Corporate Safety Director within 24 hours of the incident and placed in the employee's personnel folder. Another copy of the report will be maintained by the Site Safety Representative and a final copy of the report will be placed in the job folder.

12. Spill/Release Prevention and Reporting Protocol (SPCC)

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS is committed to preserving our environment by respecting our natural resources and to use construction methods and materials that will help protect the environment.

b) Policy

It is our policy to prevent spills of petroleum products and other pollutants whenever possible. Employees are to report spills or releases from Company oil drums, tanks, equipment, pumps, hoses, vehicles etc. to the foreman/designee/Site Safety Representative.

Spills shall be prevented from entering sewers, drains, catch basins, streams, rivers, and other waterways. The health of our employees is our greatest concern. Our employees shall prevent the release of pollutants from entering the environment when it is safe to do so.

c) Definitions

SOLAR LIBERTY ENERGY SYSTEMS has adopted the following definitions from The New York City/State Department of Environmental Protection:

Solar Liberty Energy Systems

“Environment” - (1) the navigable waters...and (2) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

“Impervious surfaces” - are mainly constructed surfaces - rooftops, sidewalks, roads, and parking lots - covered by impenetrable materials such as asphalt, and concrete. Whether the spill is on an impervious surface must be determined on a case-by-case basis. Soil is not an impervious surface.

“Release” - any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment (including abandonment or discarding of barrels, containers and other closed receptacles) of any hazardous substance from the ordinary containers employed during storage, transfer, processing or use. For purposes of this policy, the words spill and release are interchangeable.

When in doubt of reporting a release our employees must notify the Company Corporate Safety Director immediately.

d) Spill Reporting

The following reporting procedure shall be used to report spills on the jobsite and at our Company facilities. This policy only addresses the reporting of spills that occur as a result of our operations or from our equipment.

- Notify the foreman/designee immediately upon discovery of a spill
- Only contain the spill if:
 - You know what it is
 - You are wearing the proper PPE
 - It is safe for you to do so
 - Notify the Project Director/Manager who will immediately notify the Company Corporate

Attachment G (Spill/Release Reporting Form) shall be completed by the foreman/designee and sent to the Company Corporate Safety Director within 24 hours of the spill.

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e) Spill Kits

Our employees are required to clean-up small spills when:

- We have caused the spill or release
- The substance and the source of the release is known and is non-hazardous
- Wearing the proper personal protective equipment
- The employee knows how to discard the material properly

Spill kits containing absorbent pads, rubber gloves, dry absorbent material for oil and chemicals, brooms, shovels, and plastic bags shall be readily accessible at the jobsite and at Company facilities.

13. Electrical Safety Program

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS understands that the prevention of electrical accidents starts with our commitment to safety. Inclusion of our employees in safety and health decisions, a thorough job safety analysis, stringent prevention and control measures, and thorough training will help us provide a safer workplace.

It is the Company's intent to comply with the OSHA Electrical Safety Standards, 29 Code of Federal Regulations Subpart S of 1910 and Subpart K of 1926, the National Fire Protection Association's (NFPA) Standard for Electrical Safety in the Workplace and the National Electrical Code.

SOLAR LIBERTY ENERGY SYSTEMS management will enforce this program to prevent electric shock or other injuries resulting from direct/indirect electrical contacts to employees working on or near energized or de-energized parts. This program applies to all electrical work performed by our employees at jobsites where employees may be exposed to live parts and/or those parts which have been de-energized.

b) Policy

On occasion our employees perform electrical work necessary for the completion of our work. For electrical work beyond the scope of our experience, the Company will utilize licensed electricians who have a greater familiarity with related electrical codes, OSHA, and NFPA standards.

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Therefore, SOLAR LIBERTY ENERGY SYSTEMS reserves the right to request documented training records for sub-contracting employees performing work at our jobsites. Sub-contracting employees, who fail to provide proof of training, will not be allowed to perform work.

I. Management

The Company Corporate Safety Director has the overall responsibility for reviewing and updating this program as necessary. Management will be informed of any revisions. Management will inform employees of changes in this program through toolbox talks and training sessions.

II. Employees

Employees are responsible for complying with this program. All employees working at SOLAR LIBERTY ENERGY SYSTEMS facilities and jobsites must be qualified having the knowledge, skills and understanding required to safely work on energized and de-energized circuits and equipment. All questions regarding isolation of electrical sources of energy (Lockout/Tagout) must be immediately brought to the attention of the foreman/designee.

c) General Safety Requirements

- Employees shall not be permitted to work in such proximity to any part of an electric power circuit where the employee could contact the electric power circuit in the course of work, unless the employee is protected against electric shock by de-energizing the circuit and grounding it or by guarding it effectively by insulation or other means.
- Our employees will comply with the requirements of NYS Code 753- (Dig Safely New York). Underground facility verification, through “mark-outs”, will be made by local utilities before excavating operations begin.
- Before work is begun the foreman/designee shall ascertain by inquiry or direct observation, or by instruments, whether any part of an energized electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact with the electric power circuit. The foreman/designee will post or verify and maintain proper warning signs where such a circuit exists. The foreman/designee must advise employees of the location of such lines, the hazards involved, and the protective measures to be taken.
- Barriers or other means of guarding shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.

Solar Liberty Energy Systems

- Ground fault Circuit Interrupters (GFCI) protection will be used and frequently tested at all the jobsite.
- Working spaces, walkways, and similar locations shall be kept clear of electrical cords, hoses and other tripping hazards so as not to create a hazard to employees.
- In existing installations, no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring.
- When fuses are installed or removed with one or both terminals energized, special insulated tools shall be used.
- Worn or frayed electric cords or cables shall not be used and must be removed from the work site.
- Extension cords shall not be fastened with staples, hung from nails, run under carpeting or planks, or suspended by wire.

d) Lockout and Tagging of Circuits

Our employees and sub-contractors must place circuits in electrically safe working conditions by locking out and tagging out all sources (Chapter 1, Section 120.2(D) of NFPA 70E - 2004). They must then verify that no electrical energy is present (Chapter 1, Section 120.2(D) of NFPA 70E - 2004).

- Controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits shall be tagged as per OSHA 29CFR 1910.147.
- Equipment or circuits that are de-energized shall be rendered inoperative and shall have tags attached at all points where such equipment or circuits can be energized.
- Tags shall be placed to identify plainly the equipment or circuits being worked on.
- All employees must understand use the lockout/tagout system.

e) Electrical Personal Protective Equipment

Insulating gloves and sleeves are critical PPE for electrical work on or near exposed energized parts. The OSHA 1910.269 Standard (I)(2)(i) and (I)(3) requires that:

- Insulating (rubber) gloves along with leather protectors must be worn by qualified employees within the Minimum Approach Distance to exposed energized conductors.
- Insulating (rubber) sleeves must also be worn if the upper arms or shoulders are within the Minimum Approach Distance to other exposed energized parts.
- Additionally, OSHA 29 CFR 1910.137 provides specific design, care, and use requirements for rubber electrical protective equipment.
- Insulating gloves and sleeves must be rated for the voltage to which a worker will be exposed (phase to ground or phase to phase) and marked to indicate their rating. OSHA

Solar Liberty Energy Systems

29 CFR 1910.137 recognizes Class 0 (up to 1KV) through Class 4 (up to 36KV) rubber equipment.

Additional use of required PPE outlined in NFPA 70E for the protection of workers against arc flash must be worn. All PPE will be tested by qualified individuals. Defective PPE will be discarded. The foreman/designee will enforce the use of proper PPE.

f) Training

NFPA 70E applies to all employees who work on or near exposed energized electrical conductors or circuit parts. This includes all personnel or anyone exposed to energized equipment of 50 volts or more. SOLAR LIBERTY ENERGY SYSTEMS reserves the right to verify that our electrical contractors have received “Arc-Flash” training by a qualified individual.

The Company Corporate Safety Director or his designee will ensure that all SOLAR LIBERTY ENERGY SYSTEMS employees on the jobsite who are exposed to energized equipment of 50 volts or more have received arc flash training from a qualified individual. If necessary, the Company Corporate Safety Director will arrange and schedule employees for OSHA, NFPA, and or Electrical Code training if training has not already been provided by sub-contractors.

g) Protection Against Shock and Arc Flash/Blast

Qualified employees must apply the following measures to prevent against shock and arc flash or blast:

i) Safe Practices

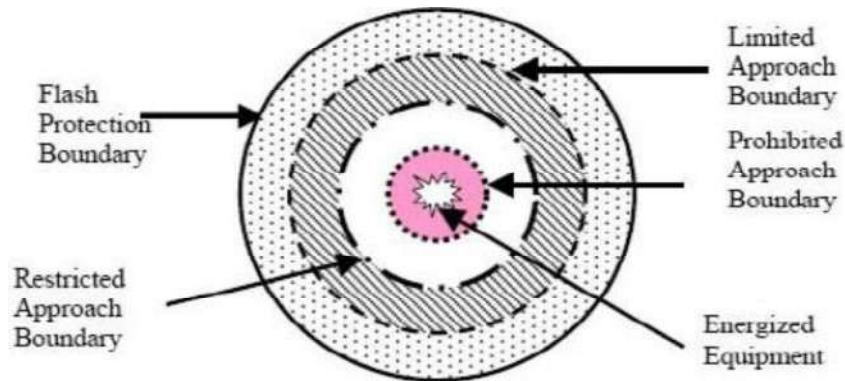
- Justification for live work
- Work permits secured if applicable
- Approach boundaries established

ii) Shock Protection

- Limited Boundary
- Restricted Boundary
- Prohibited Boundary

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h) Protection Boundaries



i) Approach Boundaries (NFPA 70E-2004 Ch. 1, Section 130.2 p24-25)

- Limited Approach Boundary - entered only by qualified persons or unqualified persons that have been advised and are escorted by a qualified person (10 ft. for 480 V for movable energized object 3 ft 6 in. for fixed energized object)
- Restricted Approach Boundary - entered only by qualified persons required to use shock protection techniques and PPE (12 in. for 480 V)
- Prohibited Approach Boundary - entered only by qualified persons requiring same protection as if direct contact with live part (1 in. for 480 V)
- Flash Protection Boundary - linear distance to prevent any more than 2nd degree burns from a potential arc-flash (typically 4 feet)

j) Flash Hazard Analysis

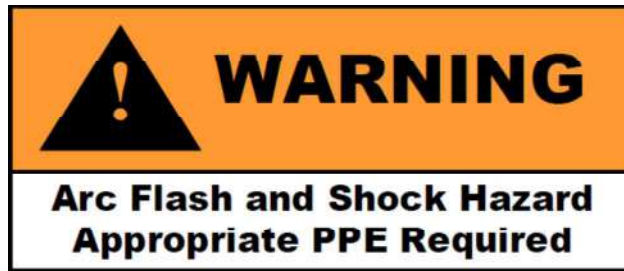
A flash hazard analysis shall be performed by the foreman/designee in order to protect personnel from the possibility of being injured by an arc flash. The analysis shall determine the

Solar Liberty Energy Systems

Flash Protection Boundary and the personal protective equipment that people within the Flash Protection Boundary shall use.

k) Arc Flash Labeling

Switchboards, panel boards, industrial control panels, and motor control centers in other than dwelling, that are likely to require examination, adjustment, servicing, or maintenance while energized, shall be field marked to warn qualified persons of potential electric arc flash hazards. The marking shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment. (example label below).



The appropriate PPE must also be provided for employee safety. (see example label below)



Solar Liberty Energy Systems

I) Response to an Electrical Accident

If there is an electrical accident involving our employee(s) or sub-contractors, the following steps will be followed by the foreman/designee. Do not endanger yourself or others by exposing yourself to the same hazard.

1. Remove the immediate hazards - turn off the power
2. Extinguish flames if safe to do so
3. Call 911
4. Immediately notify the foreman/designee
5. Notify the Project Director
6. Notify the Company Corporate Safety Director
7. Follow Section 4f (Reporting Injuries) of the SOLAR LIBERTY ENERGY SYSTEMS Environmental, Health and Safety Plan.

14. Control of Hazardous Energy (Lockout/Tagout) Program

a) Objective

The OSHA Standard, 29 CFR 1910.147, “The Control of Hazardous Energy” or otherwise known as Lockout/Tagout (LOTO) covers the servicing and maintenance of machines and equipment in which the “unexpected” energization or start up of the machines or equipment, or release of stored energy could cause injury to employees. The “Lockout/Tagout” Standard also identifies the practices and procedures necessary to shut down and lockout or tagout machines and equipment. SOLAR LIBERTY ENERGY SYSTEMS employees will follow this procedure to protect themselves and co-workers from possible injury or death.

b) Policy

It is our responsibility and therefore our policy to protect our employees by complying with 29 CFR 1910.147, 1910.331 through 1910.335, NFPA 70E, and other related electrical codes. This written hazardous energy program implements and addresses the following:

- Describes safe work practices,
- Establishes formal lockout/tagout procedures,
- Ensures our employees are trained concerning the Lockout/Tagout program, and
- Enforces the use of the procedures through periodic inspections (including disciplinary action for failure to follow them).

Solar Liberty Energy Systems

The procedures and practices established in this program are the minimum requirements for the lockout of energy isolating devices whenever our employees may be exposed to the hazards of working with electricity. The foremen/designee must recognize when and where additional safeguards must be implemented. No work shall be performed unless all existing and predictable hazards have been corrected.

SOLAR LIBERTY ENERGY SYSTEMS management must ensure that employees demonstrate the knowledge, skills, and ability to safely perform safe hazardous energy isolation.

It shall be the duty of each employee covered by this program to follow this plan and to ask their foreman/designee if they have any questions or concerns about how to proceed with effective methods to isolate sources of hazardous energy.

c) Definitions

Affected Employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized Employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this program.

Capable of Being Locked Out: An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized: Connected to an energy source or containing residual or stored energy.

Energy Isolating Device: A mechanical device that physically prevents the transmission or release of energy, including, but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and in addition, no pole can be operated independently; a line valve; a block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy Source: Employees may be exposed to hazardous energy in several forms and combinations during installation, maintenance, service or repair work. Examples include:

- Kinetic (mechanical) energy in the moving parts of mechanical systems

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Potential energy stored in pressure vessels, gas tanks, hydraulic or pneumatic systems, and springs (potential energy can be released as hazardous kinetic energy)
Electrical energy from generated electrical power, static sources, or electrical storage devices (such as batteries or capacitors)
Thermal energy (high or low temperature) resulting from mechanical work, radiation, chemical reaction, or electrical resistance
Potential energy from suspended parts
Steam and condensate systems under pressure

Note: Once the energy sources are neutralized, a machine is in a **zero mechanical state** (ZMS). Zero mechanical state provides the greatest protection against unexpected mechanical movement. Therefore, the objective of good lockout procedures is to achieve zero mechanical state.

Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device: A device that utilizes a positive means such as a lock, either key or combination type, to an energy isolating device in a safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds. Lockout devices shall indicate the identity of the employee applying the device(s).

Servicing and/or Maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy. Additional typical situations include:

- When it is necessary to bypass or remove a guard or other safety device
- When it is necessary to place any part of your body where you could be caught by moving machinery
- When it is necessary to place any part of your body near an exposed or un-insulated electrical circuit
- When it is necessary to work on high-pressure systems or on piping which contains hazardous materials.

Setting Up: Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout: The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Solar Liberty Energy Systems

Tagout Device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed. Tagout devices shall indicate the identity of the employee applying the device.

d) Responsibilities

SOLAR LIBERTY ENERGY SYSTEMS management will implement this program and ensure that the employees under their supervision are trained in accordance with this program.

It shall be the duty of each employee covered by this program to follow this plan and to ask their foreman/designee if they have any questions or concerns about how to proceed with safe and effective methods to isolate sources of hazardous energy.

e) Program Compliance

All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout/tagout. The authorized employees are required to perform lockout/tagout in accordance with this procedure. All employees, upon observing a machine or piece of equipment which is locked out or tagged out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment.

SOLAR LIBERTY ENERGY SYSTEMS requires that any employee in violation of any provisions of this policy will be subject to disciplinary action, including possible termination. Each situation involving a violation will be thoroughly investigated and action taken on a case-by-case basis.

f) Training and Communication

Our Company will utilize employees/subcontractors who are trained to perform electrical work. Such employees shall be trained in compliance with OSHA 29 CFR 1910.147, 1910.331 through 1910.335, NFPA 70E, and other related electrical codes.

SOLAR LIBERTY ENERGY SYSTEMS reserves the right to request documented training records of employees performing work at our jobsites. Employees who fail to provide proof of training will not be allowed to perform work requiring the use of lockout/tagout operations.

All other personnel, employed by our Company performing electrical work and who are otherwise affected by the scope and application of this program are required to receive training

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from a qualified person to ensure that the purpose and function of this hazardous energy control program is understood.

Through training, authorized employees will be required to possess the knowledge, skills, and abilities for safe application, usage and removal of energy controls.

Training shall include the following:

- An overview of the OSHA Standard, 29 CFR 1910.147, "The Control of Hazardous Energy," and the contents of this program.
- Recognition of applicable hazardous energy sources, the type and magnitude of the energy employees are exposed to in the workplace and the methods and means necessary for energy isolation and control.
- Each affected employee shall be instructed in the purpose and use of the energy control procedure.
- All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed concerning the procedure and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked or tagged out.
- Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard or when there is a change in energy control procedures.
- Retraining shall also be conducted whenever a periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.
- Retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

g) Sequence of Lockout

Step 1: Preparation for Lockout/Tagout

- Authorized employees shall locate appropriate lockout/tagout procedures for the type of equipment or machine that will be involved in the lockout
- Authorized employees shall locate all isolating devices that apply to the equipment, machine, etc., that will be involved in the lockout/tagout procedures.
- Authorized employees shall notify all affected employees that a lockout/tagout system is going to be used and the reason e.g., necessary repairs, preventative maintenance, servicing or adjustments.

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Step 2: Isolate Energy Sources

If the machine or equipment is operating, shut it down by normal stopping procedure (e.g., depress stop button, open switch, secure valve). De-energize all sources of hazardous energy:

- Disconnect or shut down engines or motors.
- De-energize electrical circuits.
- Block fluid (gas or liquid) flow in hydraulic or pneumatic systems.
- Block machine parts against motion.

Step 3: Block or dissipate stored energy:

- Discharge capacitors.
- Release or block springs that are under compression or tension.
- Vent fluids from pressure vessels, tanks, accumulators.
- Block raised dies, gears, or equipment that could descend or move when the energy is removed. Lower suspended loads to the floor or secure them independently.

Step 4: Secure the equipment:

Apply all appropriate energy-isolating/lockout devices with danger tags in a safe state. The tag, at a minimum, should have the name of the authorized employee, location, time, and date. Fill out tags completely and place them in such a way as to be immediately apparent to anyone who might attempt to operate the device. Tags must be attached by a durable means, e.g., nylon cable tie. **String and tape are prohibited.**

- If more than one person is required to lockout/tagout a piece of equipment, etc., each authorized employee shall place his/her own personal lockout/tagout device on the energy-isolating device(s). When an energy-isolating device cannot accept multiple locks or tags, a multiple lockout/tagout device (hasp) can be used.

Step 5: Methods of Verifying Isolation of Equipment

After ensuring that no personnel are exposed, verify by test and/or observation that all energy sources are de-energized.

- Review methods of verifying isolation of equipment for the specific type of equipment.
- Operate the push button or other normal operating controls to make certain the

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Equipment will not operate. CAUTION: Return operating control(s) to “Neutral” or “OFF” position after the test.

- When practical, have a second authorized employee familiar with the equipment verify the integrity of your lockout.

Step 6: Perform the Necessary Work

Re-check the integrity of the lockout/tagout frequently, especially in tasks that last from several hours to several days.

Step 7: Prepare for Re-Energizing/Restoring Equipment to Service

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken:

- Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed (tools, work aids and spare parts) and that the machine or equipment components are operationally intact (close cabinets and panels).
- Check the work area to ensure that all employees have been safely positioned or removed from the area.
- Verify that the controls are in neutral.
- Remove the lockout devices and re-energize the machine or equipment. Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.
- Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

Step 8: Remove Locks and Tags

When all affected employees are ready (clear of danger points), each authorized employee may now remove his/her own locks and tags. ***No lock or tag shall be removed by anyone other than the employee who signed the tag except by means of the Special Lock and Tag Removal Procedure.***

If the authorized person who applied the Lock/Tag is unavailable, complete Attachment M (Special Lock and Tag Removal Form).

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Step 9: Shift or Personnel Changes

SOLAR LIBERTY ENERGY SYSTEMS has developed this procedures to be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and oncoming Company employees, to minimize exposure of hazards from the unexpected start-up of the machine or equipment or the release of stored energy.

h) Lockout/Tagout Devices

Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be used for isolating, securing or blocking of machines or equipment from energy sources. These devices and materials are to be provided to “authorized“(trained) employees.

Both lockout and tagout devices shall meet the following requirements:

- Singularly identified;
- Be the only device(s) used for controlling energy;
- Not be used for other purposes;
- Capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected;
- Indicate the identity of the employee applying the device(s); Standardized within the facility in at least one of the following criteria: (color, shape, or size).

Tagout devices shall meet the following requirements:



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- Constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible;
- Not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored; and their means of attachment be substantial enough to prevent inadvertent or accidental removal;
- Attachment means shall be of a non-reusable type, attachable by hand, self-locking and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece all-environment tolerant nylon cable tie;
- Warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following: **Do Not Start, Do Not Open, Do Not Close, Do Not Energize, Do Not Operate.**

Lockout devices shall meet the following requirements:

Be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.

i) Sub-Contractor's Responsibilities

Whenever outside personnel (contractors) are engaged in activities covered by the scope and application of this program, the foreman/designee responsible for overseeing Solar Liberty Energy Systems will be responsible for the following:

- Determine whether the sub-contractor has energy control procedures and devices for the type of service the sub-contractor will be conducting. If the sub-contractor has no lockout/tagout procedures, then they shall comply with the procedures established in our program.
- Communicate with the sub-contractor that the sub-contractor will be responsible for performing the same lockout/tagout procedures while conducting maintenance, servicing, repairing, etc., on any jobsite/facility equipment, machines, systems, etc., that have been locked and/or tagged out by authorized jobsite/facility employees.
- Ensure that each authorized jobsite/facility employee assisting the sub-contractor has performed the same energy control (lockout/tagout) procedures.
- Notify affected employees of Solar Liberty Energy Systems 's services.

Sub-Contractors who refuse to follow their LOTO program or SOLAR LIBERTY ENERGY SYSTEMS LOTO program (if they do not have an established program) will not be permitted to work at our jobsite.

Solar Liberty Energy Systems

j) Evaluation of Program Effectiveness

Annually, management (authorized supervisor) of employees that have been authorized to perform energy isolating procedures (lockout/tagout) shall conduct an audit to ensure that this program is in compliance with the requirements of the OSHA Standard 29 CFR 1910.147. The Company Corporate Safety Director will schedule audits and receive a full report of audit findings. Company management will review the effectiveness of this program based on the audit report(s).

The audit shall consist of three phases:

Phase One: Review of Lockout/Tagout Procedures

- The first phase shall consist of reviewing the lockout/tagout procedures found in this program.
- The review will concentrate on ensuring that the procedures are accurate for sequence of lockout/tagout and verification of isolation.
- It shall also involve determination on whether changes in equipment or operations have occurred that would require a change (additions or subtractions) in the written procedures.
- Finally, a review that determines that authorized and affected employees have been trained and documentation of that training is on file.

Phase Two: Periodic Inspection

- The lockout/tagout periodic inspection will be conducted to correct any deviations or inadequacies.
- This inspection will be conducted by an authorized supervisor (inspector) to evaluate each authorized employee's responsibilities under the energy control procedure being inspected.

Phase Three: Retention of Records and of Inspection/Audit Procedures

- Records shall be maintained documenting that procedures in Phase One have been conducted. These records will be maintained by The Company Corporate Safety Director
- Records shall be maintained of Periodic Inspections in Phase Two for 3 years. These records will also be maintained by the Company Corporate Safety Director (Attachment N) the Lockout/Tagout Periodic Inspection Audit Form.

Solar Liberty Energy Systems

15. Material Handling and Ergonomics Program

a) Objective

Employees performing construction activities are prone to back injuries and other muscle related injuries. Safe lifting is only one aspect of material handling; transporting the load safely is the other. How employees move or carry and put down the load is just as important as how they lift the load. Our objective is to reduce our employee rate of injury as a result of improper lifting and repetitive motion.

b) Policy

SOLAR LIBERTY ENERGY SYSTEMS believes the use of material handling aids and the development of ergonomic practices will reduce employee injuries. Thorough Job Hazard Analysis (JSA) will introduce safer procedures for our workers to follow.

c) Material Handling

Most back injuries occur because employees lift loads by bending from the waist and not using their legs to lift the load. Ideally loads should be lifted by:

- Approaching the load
- Bending the knees and taking a firm grasp of the load
- Keeping the load close to the body
- Keeping back straight and head up
- Lift with legs
- And reverse the process to put down the load

Back and muscle injuries can be avoided by estimating the weight of the load before lifting and to ask for help when needed. The foreman/designee must evaluate the job by looking for and enforcing ways to reduce back and muscle strain due to unsafe lifting.

When carrying the load, always check the path that will be followed. Check for uneven flooring and/or obstructions and tripping hazards. Wear gloves when handling loads with sharp edges or rough edges.

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d) Mechanical Aids

When possible, materials should not be manually lifted. Carts, hand trucks, dollies, and forklifts are examples of mechanical aids that can help transport a load without putting undue strain on your back muscles.

Note the following when using mechanical aids for material handling:

- Be sure that the load is secured in place before moving
- Push instead of pull
- Ask for help if the load cannot be properly grasped or is too heavy
- Have someone help if you cannot see over the load when transporting
- Select the correct mechanical aid to transport materials by considering the weight, size, and shape of the material

All material handling equipment must have capacity ratings. Do not overload mechanical aids. Multiple trips to accomplish the job may be necessary.

All stacked loads must be correctly piled and cross-tiered where possible as per OSHA standards for material handling. Precautions will be taken when stacking and storing material. Stored materials must not create a hazard. Storage areas must be kept free from accumulated materials that may cause tripping, or prevent safe evacuation in case of fires or other emergencies.

e) Powered Industrial Trucks - Forklifts

Many employees are injured when lift trucks are inadvertently driven off loading docks, lifts fall between docks and an unsecured trailer, they are struck by a lift truck, or when they fall while on elevated pallets and tines.

Most incidents also involve property damage, including damage to overhead sprinklers, racking, pipes, walls, and machinery. Unfortunately, most employee injuries and property damage can be attributed to lack of safe operating procedures, lack of safety-rule enforcement, and insufficient or inadequate training.

All SOLAR LIBERTY ENERGY SYSTEMS employees who operate or work near forklifts shall follow these safety requirements:

- Certification and training to operate the forklift is required every three years
- Inspect the forklift for problems before operating
- Avoid hazardous surfaces when feasible

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- Spread absorbent material on slick areas that cannot be avoided
- Cross slippery areas (snow/ice/mud/water) slowly and cautiously
- Report the area to prevent others from slipping
- Post signs or warning cones until the area can be cleaned
- Operate/drive the forklift slowly
- Maintain contact with the ground by crossing uneven areas at an angle
- Observe posted floor loading limits
- Inspect the condition of the floor. Look for holes or weakened flooring, loose objects or obstructions, protruding nails or boards.
- Inform the foreman/designee immediately if flooring is defective
- Do not travel over surface that cannot support the weight of the lift truck, its load and its operator
- Do not enter a truck/container without inspecting its floor and knowing its load limits
- Be aware of the height of fixtures
- Do not travel with loads in an elevated position
- When necessary use an employee as a “spotter” to help guide the operator through the work site.

16. Crane and Lifting Operations Program

a) Objective

Moving large heavy loads is crucial to construction industries and also necessary for some of the work that must be performed by SOLAR LIBERTY ENERGY SYSTEMS Technology has been developed for these operations, including careful training and extensive workplace precautions. There are significant safety issues to be considered, both for the operators of the diverse "lifting" devices, and for workers in proximity to them. Our Company's objective is to identify the hazards associated with lifting heavy materials and communicate those hazards to our employees by delivering toolbox safety talks and monitoring lifting operations.

b) Policy

As a general rule, our employees do not operate cranes or perform rigging operations. Most times cranes and their operating crews are provided by companies who employee certified operators and riggers. However, it is Solar Liberty Energy Systems policy to comply when necessary with OSHA 29 CFR Subpart CC.

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c) General Safety Rules When Working Around Cranes

A crane is one of the most versatile and important pieces of equipment usually found on a construction site. It can be used to accomplish a lot of otherwise heavy lifting tasks. However, it can also be one the most dangerous since it can lift heavy loads over large areas of a project. Although SOLAR LIBERTY ENERGY SYSTEMS employees do not operate cranes or perform rigging operations, they shall follow these rules when working around cranes.

- Always be aware of the swing radius of the crane
- Never walk within the swing radius of the crane
- Never work under suspended loads.
- Never ride the hook
- Always wear a hard hat when there is a possibility of a load being overhead
- Stay off and away from the crane unless you are assigned to be on the crane
- Never walk under a boom, especially if it has a load on it

When working around a crane, the operator is focused on the load and the signal person. Employees are to make themselves visible at all times by wearing reflective clothing or vests.

17. Mobile Equipment Inspection

a) Objective

It is our objective to maintain Company owned and leased mobile construction equipment (forklifts, aerial lifts, backhoes, scissor lifts, trucks, etc.) in good working condition at all times.

b) Policy

This is a preventative maintenance program. SOLAR LIBERTY ENERGY SYSTEMS employees will follow all mobile equipment manufacturer maintenance procedures and service schedules.

By regularly checking those important areas that are involved in the operation of mobile equipment costly mechanical problems and equipment downtime can be avoided. All Company operated equipment will be in good working condition before arriving to the work site. Mobile equipment in need of repair shall not be used until made safe and operable.

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c) Responsibilities

SOLAR LIBERTY ENERGY SYSTEMS is responsible for scheduling Company mobile equipment for maintenance. All records of scheduled maintenance and repairs will be maintained by the Project Manager/ designee.

d) Mobile Equipment Inspection

All employees utilizing boom lifts will be utilizing a personal Fall Arrest System. Employees operating power industrial trucks must comply with the requirements from OSHA 1926.602(d) – 1910.178 (I)

Mobile equipment (forklifts, aerial lifts, backhoes, scissor lifts, trucks, etc.) will be inspected for the following items:

- Lights - turning signal lights, head lights, brake lights, back-up lights and warning system, interior cab lights, instrument panel lights, body lights, emergency flashers
- Battery - charged, clean terminals
- Belts - all engine belts should be tight and without wear, seat belts operable
- Tires - air pressure, sufficient tread thickness, general condition of side walls, nails, screws or other materials that may puncture the tires must be noted
- Glass ware - windshield condition, side and back windows, light lenses, side and rear view mirrors
- Body - the general cleanliness of all vehicle interiors and exteriors will be maintained

Vehicles involved in accidents will be reported immediately to the Company Corporate Safety Director. 911 must be called if there are injuries or damage. Do not leave the scene of the accident if directly involved in a collision or operating accident.

e) Leaking Equipment/Spill Kits

Mobile equipment will be checked for leaks prior to leaving for the jobsite. Leaks discovered at the jobsite, from our vehicles, will be immediately addressed by placing absorbent pads and/or sweeping compound on top of the spilled fluid. The vehicle will then be removed and scheduled for maintenance.

Spill kits consisting of absorbent pads, sweeping compound, plastic bags, a small broom and a shovel, will be readily available at the jobsite or in the vehicle. The contents of the spill kit will be inspected and replaced as needed by the foreman/designee or Site Safety Representative at the jobsite.

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18. Hand and Power Tool Safety Program

a) Objective

Hand and power tools can be hazardous and have the potential for causing severe injuries when used or maintained improperly. Special attention toward hand and power tool safety is necessary in order to reduce or eliminate injuries. This program is designed to provide useful information that will help our employees remain safe while working on the jobsite.

b) Policy

SOLAR LIBERTY ENERGY SYSTEMS employees will comply with OSHA 29 CFR 1926 Subpart I (Tools - Hand and Power) and this Company program. Defective hand and/or power tools shall not be used at this Jobsite

c) Responsibilities

Our employees are responsible for the proper use and condition of hand and power tools. Hand and power tools will be inspected by the employee before use. The foremen/designee or the Site Safety Representative shall periodically check the condition of hand and power tools as well as verify that they are being used properly. Defective tools will be removed from the worksite.

d) General Tool Use Safety

Power tools shall include electric, pneumatic, hydraulic, powder actuated/explosive powered and projectile tools.

Note: All operators of powder actuated/explosive powered and projectile tools shall hold a “qualified operators card” and a Certificate of Fitness from the Fire Department of NY (when working in New York City). A certificate or label indicating that the tool is approved shall be attached to the toolbox or operator’s manual and shall be made available for inspection. The follow precautions must be observed:

- Select tools for the specific job.
- Maintain tools in good working condition.
- Use the tool the way it was intended to be used
- Place tools in a safe place when not in use
- Store tools properly to prevent damage

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- Keep tools secure to prevent use by unauthorized employees
- Never carry a power tool by the cord
- Inspect electrical cords for damage to prevent electrical accidents/fire
- Power tools must be double insulated or connected to a GFCI
- Disconnect power tools when not in service
- All power tools that are designed with a three pronged plugs shall have the ground plug in place
- Use a tool belt or tool bag/bucket to hoist tools when climbing and descending ladders and scaffolds
- Keep tools off walking/working surfaces and scaffold platforms
- Do not carry sharp tools (chisels, screw drivers) in your pocket. Use a tool box/tool belt
- Do not use defective/damaged tools
- Wear the proper PPE (eye protection, gloves, hearing protection) when using hand and power tools
- Utility blades, knives, scrapers, box cutter must be kept sharp, protected (sheathed), and only used by experienced employees
- Keep power/powder actuated projectile tools pointed in a safe direction at all times
- Look behind the work surface before using projectile tools to ensure employees and equipment are safe

Any questions concerning the proper use or operating condition of hand and/or power tools shall be brought to the attention of the foreman/designee or Site Safety Representative.

19. Hearing Conservation Program

a) Objective

OSHA notes that the construction industry is characterized by a high turnover of employees, short term employment for many employees, and the constantly changing nature of the worksite. These factors make construction unique in comparison to other industries.

SOLAR LIBERTY ENERGY SYSTEMS is committed to protecting the hearing of our employees through the use of engineering, administrative controls and as a last resort PPE in the form of ear plugs or ear muffs.

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b) Policy

SOLAR LIBERTY ENERGY SYSTEMS is involved in what OSHA identifies as construction and at times general industry operations. For this reason, it is the policy of SOLAR LIBERTY ENERGY SYSTEMS to comply with OSHA 29CFR 1926.101, 1926.52, and 1910.95. Our employees will comply with applicable sections of this Hearing Conservation Program as identified by the Company Corporate Safety Director.

c) Company Specific Hearing Conservation Programs

The Company Corporate Safety Director will decide what methods of hearing conservation will be used based on the operations of our employees.

Our Company will follow these requirements:

- Permanent employees exposed to over 85 dba, over a Time- Weighted Average (TWA) of 8 hours, will within 6 months of the employee's first exposure be provided with a baseline audiogram
- Annually, after obtaining the employees baseline, audiometric testing will be performed for each employee exposed to at or above 85 decibels over a time-weighted average of 8 hours. Employees who have a major threshold shift of 10 decibels in their hearing will be retested. If a threshold shift has been determined, the employee will be notified by the Corporate Safety Director and an entry placed in the Company's OSHA 300 Log.
- Sound level readings will be performed by a qualified individual(s), in locations identified by the Company Corporate Safety Director, to identify specific facility areas that are suspected to have decibel readings at or above 85 decibels over a Time-Weighted average of 8 hours based on work related operations.
- All identified areas will have signs posted to label them as high noise areas.
- Maintain/clean hearing equipment protection.
- Employees working in these areas must wear approved hearing protection, unless engineering controls and work practices have been used to eliminate the high levels of noise.
- All affected employees will be trained to understand the hazards of exposure to noise and how to properly wear their hearing protection.
- Training for these employees will be documented and recordkeeping will be the responsibility of the Company Corporate Safety Director (Attachment O) the Employee Hearing Conservation Training Form.

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- Employees will receive toolbox safety talks addressing the hazards of noise at the jobsite.
- Wear approved hearing protection when and where required.

d) Responsibilities

It is the responsibility of every employee to properly wear and maintain their hearing protect. The foremen/designee and the Site Safety Representative are responsible for enforcing the use of hearing protection in designated areas.

20. Respiratory Protection Program

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS Respiratory Protection Program is designed to protect employees by establishing accepted practices for respirator use, providing guidelines for training and respirator selection, and explaining proper storage, use and care of respirators. This program also serves to help the Company and its employees comply with OSHA's respiratory protection requirements as found in 29 CFR 1910.134.

b) Policy

The majority of our employees are not exposed to hazards on the jobsite that require the use of a respirator. However, if the need should arise, through evaluation and monitoring, those employees requiring the use of a respirator, will be medically evaluated, fit-tested, and trained to wear respirators.

c) Responsibilities

SOLAR LIBERTY ENERGY SYSTEMS is responsible for providing respirators to our employees when necessary for their protection. Our Company will provide respirators that are applicable and suitable for the intended purpose at no charge to our affected employees. Any expense associated with training, medical evaluations and respiratory protection equipment will be borne by the Company.

The Company Corporate Safety Director is responsible for administering the respiratory protection program. The Company Corporate Safety Director may assign his duties to a designated person. Duties of the Program Administrator include:

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- Identifying work areas, process or tasks that require workers to wear respirators.
- Evaluating hazards.
- Selecting respiratory protection options.
- Monitoring respirator use to ensure that respirators are used in accordance with their specifications.
- Arranging for and/or conducting training.
- Ensuring proper storage, cleaning, and maintenance of respiratory protection equipment.
- Conducting qualitative or quantitative fit testing through the services of a qualified individual.
- Administering the medical surveillance program.
- Maintaining confidential records required by the program.
- Evaluating the program.
- Updating written program, as needed.

The foreman/designee is responsible for ensuring that the respiratory protection program is implemented at the jobsite. In addition to being knowledgeable about the program requirements for their own protection, the foreman/designee must also ensure that the program is understood and followed by the employees under their supervision. Duties of the foreman/designee include:

- Ensuring the availability of appropriate respirators and accessories.
- Being aware of tasks requiring the use of respiratory protection.
- Enforcing the proper use of respiratory protection when necessary.
- Ensuring that respirators are properly cleaned, maintained, and stored according to this program.
- Ensuring that respirators fit well and do not cause discomfort.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Coordinating with the Company Corporate Safety Director/or designee on how to address respiratory hazards or other concerns regarding this program.

Each employee is responsible for wearing his or her respirator when and where required and in the manner in which they are trained. Employees must also:

- Care for and maintain their respirators as instructed, guard them against damage, and store them in a clean, sanitary location.

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- Inform their foreman/designee if their respirator no longer fits well, and request a new one that fits properly. **Employees may require an updated fit-test. If longer than one year since their last medical evaluation, it may also be necessary for an updated physical.**
- Employees will inform their foreman/designee of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding this program.
- Use the respiratory protection in accordance with the manufacturer's instructions and the training received.

d) Applicability

This program applies to all employees who are required to wear respirators during normal work operations, as well as during some non-routine or emergency operations.

In addition, any employee who voluntarily wears a respirator when one is not required is subject to medical evaluation, cleaning, maintenance, and storage elements of this program, and will be provided with necessary training. Employees who voluntarily wear filtering face pieces (dust masks) are not subject to the medical evaluation, cleaning, storage, and maintenance provisions of this program. The Company Corporate Safety Director or designee will be notified by the foreman/designee if employees require the use of a respirator at their jobsite. At that time, a decision will be made based on third party monitoring if a respirator is required and the type of respirator to be worn.

e) Respiratory Program

i. Hazard Assessment and Respirator Selection

The Company Corporate Safety Director or designee will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with the OSHA Respiratory Protection Standard 29CFR 1910.134.

The Company Corporate Safety Director will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations, non-routine operations, or during an emergency.

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The hazard evaluations shall include:

- Identification and development of a list of hazardous substances present at the jobsite.
- Review of work processes to determine where potential exposures to hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing the process records, and talking with employees and supervisors.
- Exposure monitoring to quantify potential hazardous exposures.

The proper type of respirator for the specific hazard involved will be selected in accordance with the manufacturer's instructions.

f) Updating the Hazard Assessment

The Company Corporate Safety Director will review the need for respiratory protection based on the presence of hazards at jobsites and possible exposure to our employees. If an employee feels that respiratory protection is needed during a particular activity, they must notify their foreman/designee. The Company Corporate Safety Director will evaluate the potential hazard, and arrange for outside assistance (monitoring) as necessary. The Company Corporate Safety Director will then communicate the results of that assessment to the foreman/designee and the employees. If it is determined that respiratory protection is necessary, all other elements of the respiratory protection program will be in effect for those tasks.

g) Training

The Company Corporate Safety Director or designee will provide training to respirator users and their supervisors on the contents of our Company Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection Standard 29 CFR 1910.134. All affected employees and their foremen/designee will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to supervising employees that must wear respirators.

The training course will cover the following topics:

- The SOLAR LIBERTY ENERGY SYSTEMS Respiratory Protection Program;
- The OSHA Respiratory Protection Standard 29 CFR 1910.134;
- Respiratory hazards encountered at jobsites and their health affects;

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- Proper selection and use of respirators;
- Limitations of respirators (protection factor for maximum use concentration)
- Respirator donning and user seal (fit) checks;
- Fit testing;
- Emergency use procedures;
- Maintenance, cleaning, and storage
- Medical signs and symptoms limiting the effective use of respirators

Employees will be retrained annually or more frequently as needed (for example, if hazards at the jobsite change, or if there is a changes to this Respiratory Protection Policy). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises. Respirator training will be documented by the Company Corporate Safety Director and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

h) NIOSH Certification of Respirators

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while the respirator is in use.

i) Voluntary Respirator Use

The Company Corporate Safety Director will authorize voluntary use of respiratory protective equipment as requested by employees on a case-by-case basis, depending on specific jobsite conditions and the results of medical evaluations.

The Company Corporate Safety Director will provide all employees who voluntarily choose to wear the respirators with a copy of Appendix D of the OSHA Respiratory Protection Standard. (Appendix D details the requirements for voluntary use of respirators by employees (Attachment S).

Employees who choose to wear a half face Air Purifying Respirator (APR) must comply with this policy for medical evaluation, respirator use, cleaning, maintenance and storage.

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j) Medical Evaluation

Employees who are either required to wear respirators, or who choose to wear a half face APR voluntarily, must pass a medical exam provided by SOLAR LIBERTY ENERGY SYSTEMS before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

A licensed physician associated with SOLAR LIBERTY ENERGY SYSTEMS will provide the medical evaluations. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the OSHA Respiratory Protection Standard. The Program Administrator or designee will provide a copy of this questionnaire to all employees requiring medical evaluations. The questionnaire will also be provided by fax or mail to the licensed physician.
- Follow-up medical exams will be granted to employees as required by the OSHA Standard, and/or as deemed necessary by the evaluating physician.
- All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.
- The Company Corporate Safety Director shall provide the evaluating physician with a copy of this Program, a copy of the OSHA Respiratory Protection Standard, the list of hazardous substances by work area, and the following information about each employee requiring evaluation:
 - His or her work area or job title;
 - Proposed respirator type and weight;
 - Length of time required to wear respirator;
 - Expected physical work load (light, moderate or heavy);
 - Potential temperature and humidity extremes; and
 - Any additional protective clothing that may be required.

Positive Pressure Air Purifying Respirators (PAPR's) will be provided to employees as required by medical necessity.

After an employee has received clearance to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:

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- The employee reports signs and or symptoms related to their ability to use the respirator, such as shortness of breath, dizziness, chest pains or wheezing. **It is the responsibility of the employee to immediately notify the foreman/designee if they have any of the signs and or symptoms listed above.** The evaluating physician or foreman/designee informs the Company Corporate Safety Director that the employee needs to be reevaluated.
- Information found during the implementation of this program, including observations made during the fit testing and program evaluation, indicates a need for reevaluation.
- A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

A list of SOLAR LIBERTY ENERGY SYSTEMS employees currently included in medical surveillance shall be maintained by the Company Corporate Safety Director.

All examinations and questionnaires are to remain confidential between the employee and the physician. The Company Corporate Safety Director or his designee will only retain the physician's written recommendations regarding each employee's ability to wear a respirator.

k) Respirator Fit-Testing

Employees who are required to wear or who voluntarily wear half-face Air Purifying Respirators (APR) will first be required to be medically evaluated by a licensed physician associated with SOLAR LIBERTY ENERGY SYSTEMS After a satisfactory medical evaluation, those employees will be fit tested:

- Prior to being allowed to wear any respirator.
- Annually; or
- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Fit testing, of Powered Air Purifying Respirators (PAPR's), will be conducted in the negative pressure mode.

The Company Corporate Safety Director or his designee will conduct fit tests in accordance with the OSHA Respiratory Protection Standard 29 CFR 1910.134.

Solar Liberty Energy Systems

I) General Respirator Use Policy

- Employees will use their respirators under conditions specified in this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.
- All employees shall conduct user seal checks each time they wear their respirators. Employees shall use the positive and negative pressure check methods specified in the OSHA Respiratory Protection Standard.
- Positive Pressure Test: This test is performed by closing off the exhalation valve/s with your hand/s. Breathe air into the respirator. The face fit is satisfactory if some pressure can be built up inside the respirator without any air leaking out between the respirator and the face of the wearer.
- Negative Pressure Test: This test is performed by closing of the inlet openings of the cartridge with the palm of your hand. Inhale gently so that a vacuum occurs within the face piece. Hold your breath for ten (10) seconds. If the vacuum remains, and no inward leakage is detected, the respirator provides a proper fit.

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All employees shall maintain their respirator as follows:

- Clean the respirator if it is impeding their ability to work;
- Change filters or cartridges as necessary;
- Inspect the respirator if it stops functioning as intended.

The above actions must not be performed in the area where the respirator is required to be worn. Employees should notify their foreman/designee before leaving the area.

- Employees are not permitted to wear headphones, jewelry, or other items that may interfere with the seal between the face and the face piece.
- Before and after each use of a respirator, an employee must make an inspection of tightness or connections and the condition of the face piece, headbands, valves, filter holders and filters. Questionable items must be brought to the attention of the foreman/designee before the respirator is worn.

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m) Air Quality

For Supplied Air Respirators (SAR), only Grade D breathing air shall be used in the cylinders.

Note: SOLAR LIBERTY ENERGY SYSTEMS employees are prohibited from entering atmospheres that are oxygen deficient, oxygen enriched, contain hazardous toxins, are greater than 10% of the LEL of a combustible gas, or are unknown/IDLH (Immediately Dangerous to Life and Health).

When working at a jobsite where these conditions exist, the foreman/designee will be immediately notified. The Project Director and Corporate Safety Director will also be notified.

n) Changing Cartridges

Respirator cartridges shall be replaced as determined by the manufacturer's recommendations. Employees will be trained to recognize when cartridge changes are necessary.

o) Cleaning Respirators

Respirators are to be regularly cleaned and disinfected when shared among qualified employees. Respirators issued for the exclusive use of one employee shall be cleaned as often as necessary. The Respirator Cleaning Procedure found in Appendix B-2 of the OSHA Standard 29 CFR 1910.134 will be followed.

p) Respirator Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and protect employees adequately. Maintenance involves a thorough visual inspection for cleanliness and defects. It is the policy of SOLAR LIBERTY ENERGY SYSTEMS to replace worn and defective respirators. Employees are responsible for notifying their foreman/designee if their respirator is worn or defective.

- All respirators shall be inspected routinely before and after each use.
- The Respirator Inspection Checklist (Attachment R) will be used when inspecting respirators. The Inspection Checklist will be kept with the respirator if the respirator is to be used by another employee. The Inspection Checklist will serve as proof that the respirator was properly cleaned and inspected.
- Employees are permitted to leave their work area to perform inspections and adjustments of their respirator in a designated area that is free of

Solar Liberty Energy Systems

respiratory hazards. Employees must notify their foreman/designee that they are leaving the work area. Situations when this is permitted include:

- Washing face and respirator face piece to prevent any eye or skin irritation;
- Replacing the filters, cartridges or canisters;
- Detection of vapor or gas breakthrough or leakage in the face piece; or
- Detection of any other damage to the respirator or its components.

q) Storage

After inspection and cleaning, respirators shall be stored appropriately in a zip lock bag to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.

- Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this program, and will store their respirator in a plastic zip lock bag. Respirators used by more than one employee will be inspected and cleaned and stored in a zip lock bag with a completed copy of Attachment R. The respirator will be returned to the foreman/designee who will return it to the Company Corporate Safety Director or designee. Respirators shall be packed or stored so that the face piece and exhalation valve will rest in a near normal position.
- Respirators shall not be placed in lockers or toolboxes where there is a possibility of distorting the shape of the respirator.
- The Company Corporate Safety Director or designee will store the community supply of respirators and respirator components in their original manufacturer's packaging in designated location(s).

r) Respirator Malfunctions and Defects

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator the employee is to bring the respirator to the foreman/designee. The employee will be issued a new respirator of the exact make, model, and size. If the exact model and size is not available, the employee must be re-fit tested for the available respirator. The foreman/designee will give all defective respirators to the Company Corporate Safety Director or designee. The defective respirator will be discarded.

Solar Liberty Energy Systems

s) Program Evaluation

The Company Corporate Safety Director will conduct periodic evaluations of jobsites to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their foremen. Site inspections, air monitoring and a review of records will also be conducted by the Corporate Safety Director. Items to be considered will include:

- Comfort;
- Ability to breathe without objectionable effort;
- Adequate visibility under all conditions
- Provisions for wearing prescription glasses;
- Ability to perform all tasks without undue interference; and
- Confidence in the face piece fit

Identified problems will be addressed by the Company Corporate Safety Director. The report will list plans to correct deficiencies in the respiratory program and target dates for the implementation of those corrections.

t) Documentation and Recordkeeping

- A written copy of this program and the OSHA Respiratory Protection Standard shall be kept in the office of the Company Corporate Safety Director or designee and made available to all employees who wish to review it.
- Copies of training and fit test records shall be maintained by the Company Corporate Safety Director or designee. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.
- For employees covered under the Respiratory Protection Program, the Company Corporate Safety Director will maintain copies of the physician's written recommendation regarding each employee's ability to wear a respirator. **The completed medical questionnaires and evaluating physician's documented findings will remain confidential in the employee's medical records at the location of the evaluating physician's practice.**

Solar Liberty Energy Systems

21. Excavation Safety Program

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS employees may be exposed to the hazards associated with excavations when performing sewer and water main service. It is the Company's objective to protect our employees from hazards such as cave-ins, underground utility, atmosphere, and soil contamination hazard.

b) Policy

SOLAR LIBERTY ENERGY SYSTEMS has developed our excavation program to comply with OSHA Standards 29 CFR 1926.650 and NYC Department of Buildings Chapter 33 Section BC 3304 Excavations.

c) Responsibility

SOLAR LIBERTY ENERGY SYSTEMS Project Directors/Managers, Site Safety Officers are responsible for determining if our employees will be working in excavations during the course of the project. If a project includes working in an excavation, the Company Corporate Safety Director/competent person will be notified before work begins to determine if those employees are qualified to recognize excavation hazards. The Company Corporate Safety Director will evaluate the project and develop a job hazard analysis (JHA) specifically for work our employees will be performing while in the excavation. In all cases a competent person will be at the site whenever our employees are working in the excavation.

d) Competent Person

A competent person, as defined by OSHA, will be present at the jobsite while our employees are in the excavation. The competent person will be a representative of SOLAR LIBERTY ENERGY SYSTEMS. If an existing excavation requires our employees to perform for existing excavations made by another company, communication pertaining to safe conditions of sheeting/shoring will be exchanged and approved for use by our Company competent person before the excavation is entered. The designated competent person will perform the required, documented inspections of the excavation and make the results of the inspection available to our Project Director/Manager, Site Safety Officer and employees entering the excavation.

Solar Liberty Energy Systems

e) Minimal Training for Entrants

At a minimum, our employees will receive an on-site tool box safety talk on the specific hazards associated with the particular excavation they are about to enter. A qualified person will conduct the safety talk. Employees will be made aware of the existing and predictable hazards and the protective measures taken by the competent person to eliminate those hazards. At a minimum, our employees will receive instructions on the action(s) to take in case of an excavation related emergency such as cave-ins and/or water accumulation. Any questions concerning the safety of an excavation must immediately be brought to the attention of the Project Director/Manager, Site Safety Officer. If necessary, notify the Company Corporate Safety Director.

22. Scaffold/Ladder/Aerial Lifts Safety Program

a) Objective

The objective of SOLAR LIBERTY ENERGY SYSTEMS is to provide our employees with policies and procedures that will help make the jobsite safer. Working from heights, scaffolds, ladders, or other elevated surfaces always presents the possibility of injury and death. For this reason, our Company will comply with applicable OSHA regulations for scaffolds, ladders, and walking working surfaces.

b) Policy

SOLAR LIBERTY ENERGY SYSTEMS management is expected to become familiar with the details of this program. Enforcement is mandatory. Unqualified employees shall not work from scaffolds. If there are questions concerning this program, the Company Corporate Safety Director will be notified before any employee performs work from the scaffold.

c) Training

As needed, Company employees will be properly trained to work on scaffolds. Training will be documented. Training records will be maintained by the Company Corporate Safety Director or designee. Refresher training will be provided by qualified individuals as required. At a minimum, selected employees must receive 4 hour supported scaffold training course from a qualified approved training academy.

Solar Liberty Energy Systems

d) Working on Supported Scaffolds

At major jobsites, scaffolds may be pre-erected and inspected for our use. As a rule, our employees are trained to erect, dismantle, or move Bakers scaffolds and supported scaffolds that are less than 20 feet in height. If required to erect larger scaffolds, the Company Corporate Safety Director will be notified by the Project Director/Manager so employees may receive the necessary training or a qualified vendor will erect, dismantle, move, maintain, and inspect. Erecting, dismantling, moving Bakers scaffold in most cases requires at a minimum 4 hour supported scaffold training course.

Through training, our employees are able to evaluate scaffold hazards, such as missing cross braces, top guard rails, mid rails, toe boards, the need for fall protection, poor base foundation, affixed ladders, defective scaffolding materials and knowledge of OSHA's scaffold tag system.

Green. - This color tag signifies the scaffold is safe for its intended use.

Yellow. - A yellow tag placed on a scaffold indicates the scaffold was constructed in a manner outside the norm in order to meet specific work conditions or requirements. All attempts should be made to restore a yellow tag to a green tag as soon as is practicable.

Red. -- This color tag indicates the scaffold is unfit for use.

Any question(s) regarding the safety of scaffolds shall be brought to the attention of the competent person before performing work on that scaffold. A scaffold inspection checklist has been included in this program and can be found in Attachment I.

e) Fall Protection

Our employees are required to use fall protection when working at heights above 6 feet.

OSHA recognizes four types of fall protection:

- Guard rail systems - top rails, mid rails, toe-boards
- Personal fall arrest systems - full body harnesses, lanyards, life lines, retractable systems
- Safety nets
- Safety personnel as "spotters" - for work on roof tops

Employees required to wear fall protection (full body harnesses) must be trained on the proper use, inspection, and maintenance of the equipment. Training provided by SOLAR LIBERTY ENERGY SYSTEMS will be conducted by qualified persons. Employee training records will be maintained by the Company Corporate Safety Director or designee.

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For more details regarding Fall Protection see Section 23 "Fall Protection Program".

f) Ladder Use and Inspection

SOLAR LIBERTY ENERGY SYSTEMS employees are required to inspect all ladders before use. This policy complies with the OSHA Standard 29CFR 1910.25 which addresses portable wood ladders and 29CFR 1910.26 which addresses portable metal ladders. OSHA does not address fiberglass ladders. ANSI (American National Standards Institute) does have guidelines to follow when choosing ladders constructed of fiberglass (ANSI 14.5 2000)

All Step Ladders will be Platform/ podium type either rolling or manufactured

- Decay (ladders must not be painted or coated that prevent inspection)
- Irregularities including shake, wane and compression failures, or other weaknesses
- Grease, oil, or other slippery substances
- Step spacing must not exceed 12" and all step spacing must be uniform
- Split side rails
- Loose steps
- Missing steps or any missing parts

Portable Metal Ladder Inspection/Usage

The general requirements call for ladders that are free of sharp edges and are structurally sound. Metal ladders must have rungs that are knurled, dimpled or treated to improve slip resistance.

OSHA also places ladder length restrictions on portable metal ladders. The length of single ladders or individual sections of ladders shall not exceed 30 feet. Two-section ladders shall not exceed 48 feet in length and over two-section ladders shall not exceed 60 feet in length. Overlap stops are required. Uniform step spacing must not exceed 12". **Note: Metal ladders are not to be used near live sources of electricity.**

Portable Fiberglass Ladder Inspection/Usage

Fiberglass ladders should be made out of good commercial grade thermosetting polyester resin reinforced with glass fibers. Ladders should have no defective parts and steps are to be free of slippery substances. Ladder should be sturdy with no signs of damage.

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The following conditions may dictate the use of fiberglass ladders:

- When working on or near energized sources of electricity
- When resistance against corrosive environments is needed

General Ladder Usage

Ladders must be marked with ladder size, type, maximum length, number of sections (if appropriate), highest standing level, total length of sections (if applicable), model number, manufacturer's name, manufacturer's location, and date of manufacture. Usage guidelines and other warning statements must also be placed on the ladders in specific locations depending on ladder type.

<u>Ladder Type</u>	<u>Duty Rating</u>	<u>Description</u>
<u>Type 1AA</u>	375 lbs.	Extra Heavy-duty industrial ladder
<u>Type 1A</u>	300 lbs.	Heavy-duty industrial ladder
<u>Type 1</u>	250 lbs.	Heavy-duty industrial ladder
Type 2	225 lbs.	Medium-duty commercial ladder
Type 3	200 lbs.	Light-duty household ladder

Only trained employees should be permitted to climb ladders. Employees will follow these rules when climbing ladders:

- Make sure side rails, shoes and ladder rungs are dry and free of grease, oil, and other slippery substances
- Use a second person to hold the bottom of the ladder and prevent others from disturbing ladder
- Keep a three-point grip on the ladder at all times (two hands and one foot or one hand and two feet)
- Avoid distractions that make you turn away from the front of the ladder
- Climb slowly with weight centered between the side rails
- Do not lean back, position yourself to maintain the proper point of gravity
- Never stand on the top two rungs of a stepladder or top four rungs of an extension ladder
- Keep tools in a tool belt or basket/bucket so they don't fall
- Don't carry tools or equipment in your hands while climbing a ladder
- Use rope or a tool belt to pass tools to an employee on the ladder. Do not throw tools

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- The feet of a ladder should be level and positioned solidly on the ground
- If the ground is soft or uneven, use boards under the legs for support
- For stability, both sides of the ladder need to be against the wall or other solid supporting structure
- The legs on a stepladder should be spread fully and locked into position
- Don't move the ladder with someone on it
- Don't move the ladder when you're on it
- Make sure door ways are temporarily blocked or guarded if you are on a ladder where someone can bump into you
- Signs or barricades can be used to warn others that work is proceeding above them and that they should be aware of possible falling objects. Use a spotter when necessary
- Ladders will be stored against a wall in an upright position away from moisture and direct sunlight
- Defective ladders will be destroyed and immediately removed from the jobsite

g) Walking Working Surfaces/Holes

Accidents involving slips, trips, and falls happen often. These accidents are avoidable. The following rules will be followed by employees at SOLAR LIBERTY ENERGY SYSTEMS facilities and jobsites:

- All rope, cable, wires, extension cords not in use will be removed from walking working surfaces, stairs, aisles, and passage ways and stored properly or discarded as necessary.
- Employees must be aware of tripping hazards in the workplace by removing. When possible, mark holes and tripping hazards with cones or barrier tape to alert employees of the hazards. Platforms used to cover holes will be labeled with the words "cover" or "hole". The cover will support twice the intended load to be supported.
- Temporary wiring used for lighting will be raised and secured at least eight feet above the working surface. Metal wire, staples, and/or metal clips will not be used to support electrical lines.
- Adequate lighting will be provided in workplaces.
- Temporary stairs leading to trailers and containers will be in good condition with, handrails, or stair rails for more than 4 steps or higher than 30 inches.
- All holes in floors and other walking surfaces will be adequately covered not to cause further tripping hazards.
- All oil, paint, or other liquids that may cause a slipping hazard on working walking surfaces must be cleaned up immediately.

Solar Liberty Energy Systems

- Elevated walkways higher than six feet will be guarded by a top rail, mid rail, and toe board to protect employees at that level as well as employees working below.

23. Fall Protection Program

a) Objective

The objective of the SOLAR LIBERTY ENERGY SYSTEMS Fall Protection Program is to identify and evaluate fall hazards that may expose our employees to injury. Our Company objective is to provide specific training as required by the OSHA Fall Protection Standard 29 CFR 1926, Subpart M.

b) Policy

It is the policy of SOLAR LIBERTY ENERGY SYSTEMS to protect its employees from occupational injuries by implementing and enforcing safe work practices and appointing a competent person(s) to manage the Fall Protection Program at this jobsite. All employees will comply with this Fall Protection Program.

c) Site-Specific Requirements

- Fall protection is required for all employees on walking/working surfaces with unprotected sides, edges, holes, and/or shafts which are 6 feet or more above a lower level.
- Fall protection will include the use of guardrails, safety nets, hole covers, barricades, or personal fall arrest systems.
Note: The use of full body harnesses and lanyards for fall protect is a last resort. Where possible, other methods of fall protection will be utilized.
- Where harnesses and lanyards are used:
 - Only shock absorbing lanyards are to be used
 - Employees are to tie-off to structural members or a fall anchorage system (i.e. Safety-T-Strap etc.) rated for 5,000 lbs. Anchor points may require the approval of a qualified person.
 - Lanyards are to be connected to the harness D ring(s) only, not to the harness webbing.
 - Lanyards are not to be connected in series. If a lanyard is not long enough, a retractable lifeline must be used.

Solar Liberty Energy Systems

- Any Fall Protection that is removed must be replaced prior to leaving the work area.
- If a problem is observed with any protection immediately notify the foreman/designee.
- Do not remove any more protection than is necessary to perform the work at hand.
- All employees must visually inspect all Personal Fall Arrest Systems (PFAS) before use. Defective and/or questionable equipment will not be used and removed from the jobsite and later tagged as defective or destroyed.
- **Six foot fall protection must be provided at all times during concrete operations. Controlled access zone with a safety monitoring system will not be an acceptable means of fall protection.**

d) Training

All employees who may be exposed to fall hazards are required to receive training on how to recognize such hazards, and how to minimize their exposure to them. Employees shall receive training as soon after employment as possible. Tool box safety talks, designed and delivered to address fall hazards at each jobsite, may be sufficient when delivered by a competent person. Further training will be determined by the foreman/designee or Site Safety Representative. **Training to be conducted as required by OSHA 1926.503 (A) 1926.503(B)**

Training of employees by a qualified person shall include:

- Nature of the fall hazards employees may be exposed to.
- Correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.
- Use and operation of controlled access zones, guardrails, personal fall arrest systems, safety nets.
- Limitations of the use of mechanical equipment during roofing work on low-slope roofs (if applicable).
- Correct procedures for equipment and materials handling, storage, and erection of overhead protection especially in locations near sources of electricity.

24. Hot Work Safety Program

a) Objective

Our objective is to comply with OSHA, NFPA and the local Building Department Codes and this written program. SOLAR LIBERTY ENERGY SYSTEMS is committed to providing our employees with a safe workplace.

B Policy

Solar Liberty Energy Systems

SOLAR LIBERTY ENERGY SYSTEMS employees, at all levels, will comply with this program. Any questions or concerns about hot work operations will be brought to the attention of the foreman/designee before any hot work begins.

In those locations where a “Hot Work Permit” is required by our clients, SOLAR LIBERTY ENERGY SYSTEMS employees will comply with the host’s Hot Work Program.

b) Definition of Hot Work

Hot Work - means welding, brazing, cutting, grinding, soldering, thawing pipes, using heat guns, torch applied roofing.

Hot Work Permit - is a signed document which is part of the Hot Work System intended to assure that the individuals involved in construction, renovation, repairs and maintenance are aware of the hazards associated with hot work and that they implement control measures to help mitigate them.

c) General Requirements

i) Certification and Storage

- *Any SOLAR LIBERTY ENERGY SYSTEMS employee, performing hot work operations, is to hold and carry on them, a current applicable FDNY Certificate of Fitness.*
- *All hot work operations require a Fire Guard who holds, and carries, a current Certificate of Fitness from FDNY.*
- *Storage of compressed gas cylinders and Liquid Propane Gas (LPG) gas is permitted as per NYS & Local codes.*
- *Inside of buildings, all compressed gas cylinders shall be stored in well protected, well ventilated locations, and at least 20 feet from highly combustible materials.*
- *Compressed gas cylinders shall be stored in definitely assigned places away from stairs, doorways, electrical panels, and elevators.*
- *Assigned storage areas shall be located where cylinders will not be knocked over or damaged by passing or falling objects, near sources of electricity such as electrical panels, or subject to tampering by unauthorized persons.*
- *Cylinders shall not be kept in closed containers.*
- *Oxygen cylinders should be stored at a minimum of 25 feet from fuel-gas cylinders, or with a non-combustible wall of at least 5 feet high one-half hour fire rated wall for separation.*
- *Empty and full cylinders are to be labeled as “EMPTY” and “FULL” and stored in separate storage areas.*

Solar Liberty Energy Systems

ii) Valve Caps/Cylinder Transport

- Valve caps must be on all cylinders at all times except when in use.
- Valve caps shall be hand tightened only.
- When cylinders are hoisted, they shall be secured in a cradle, sling board, or pallet designed to carry gas cylinders.
- Gas cylinders shall be stored and transported in an upright position, secured with chains (not rope or nylon cord).
- Valve caps shall not be used for lifting cylinders.
- Bars shall not be used on valve caps to pry them loose. When frozen, warm water shall be used to thaw icing. Do Not Use lubricating oil.
- Cylinders shall be moved short distances by tilting and rolling them on their bottom edges. They shall not be intentionally dropped or rolled, struck, or permitted to strike each other violently.

iii) Cylinder/Regulator/Gauge Use

- Cylinders, whether full or empty, shall not be taken into confined spaces.
- Defective pressure gauges, including broken lenses, must not be used.
- Do not cross thread or use adapters to secure gauges to cylinders.
- Before a regulator is connected to a cylinder the valve shall be opened slightly and closed immediately. This “cracking” of the valve is intended to clear away dirt/debris that may enter the regulator.
- Cylinder valves must always be opened slowly to prevent damage to regulators.
- Before a regulator is removed from a cylinder valve, the cylinder valve shall be closed and the gas released from the regulator.

iv) Fuel Hoses/Apparatus Use/Storage

- Fuel gas hoses and oxygen hoses shall be easily distinguishable from each other.
- Oxygen and fuel gas hoses are not interchangeable.
- Defective hoses shall be made unusable (cut up) and removed from service immediately.
- Hose couplings shall be of the threaded type (no quick disconnecting hardware).
- Boxes used for hose storage shall be ventilated and used only for hose storage.
- Clogged torch tips shall be cleaned with suitable cleaning tools designed for that purpose.

Solar Liberty Energy Systems

- Oxygen cylinders and fittings shall be kept away from oil and grease.
- Cylinders, caps and valves, fittings, couplings, regulators, hose and apparatus shall be kept free from oil or greasy substances. Do not touch with oily hands or gloves.
- Welding rods shall be stored properly. Welding rods may cause tripping hazards if not stored properly.
- Welding rods shall be removed from walking working surfaces.
- Whenever practical, all welding and cutting operations shall be shielded by non-combustible screens.

v) Welding/Cutting/Grounding Equipment

- Only manual electrode holders which are specifically designed for arc welding and cutting, and are of a capacity capable of safely handling the maximum rated current required by the electrodes, shall be used.
- Defective, frayed, repaired welding cables shall not be used.
- Welding cables should be raised above the floor and not allowed to rest in water or other liquids.
- Only the proper type of cables, rated for the maximum load, and properly spliced together, and in good condition, shall be used.
- Any current carrying parts passing through the portion of the holder which the operator can hold in his hands and other surfaces of the jaws of the holder shall be fully insulated against the maximum voltage encountered to ground.
- A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services.
- When a structure or pipeline is continuously used as a ground return circuit, it shall be determined that the required electrical contact exists at all joints, the joints are bonded, and periodic inspections shall be conducted to ensure that no condition of electrolysis or a fire hazard exists.
- The frames of all arc welding and cutting machines must be properly grounded.
- All ground connections shall be inspected by a qualified person to ensure they are mechanically strong and capable of handling the required current.
- Flammable and combustibles must be vented away from workers
- Pipelines containing combustible gasses or flammable liquids, or conduits containing electrical circuits, shall not be used as ground returns.
- Hot work operations shall not be performed on pipelines/containers containing combustible gasses or flammable liquids. Lines and containers must be drained/cleared and or purged with an inert gas.

Solar Liberty Energy Systems

- When practical, all hot work operations shall be moved a minimum of 35 feet from all flammable/combustible materials. If unable to move those materials, they must be adequately protected (covered with non-combustible materials) to prevent fires.
- Hot work operations shall be secured from unauthorized employees.
- Suitable fire extinguishing equipment shall be immediately available for use by qualified trained employees in the hot work area.
- Mechanical ventilation shall consist of either general mechanical ventilation systems or local exhaust systems. Fuel operated ventilation equipment is prohibited.
- General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air exchanges as necessary to maintain welding fumes and smoke within safe limits.
- Local exhaust ventilation shall consist of freely moving hoods intended to be placed by either the welder or burner as close as practical to the hot work.
- Fresh air free of toxins shall be used to replace welding fumes.
- Pure oxygen (100%) shall not be used for ventilation purposes, comfort cooling, blowing dust from work area and/or clothing.

d) Responsibilities

Employees performing Hot Work operations, foreman/designees, and Site Safety Representatives are responsible for following and enforcing this program. The Company Corporate Safety Director will be responsible for periodically reviewing this program for effectiveness and compliance with applicable regulations. A sample “Hot Work Permit” is included in Attachment K.

25. Confined Space Program

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS employees are prohibited from entering confined spaces. SOLAR LIBERTY ENERGY SYSTEMS has developed this confined space program so that our employees will be able to identify and avoid entering confined spaces at jobsites and our facilities.

b) Policy

As stated, SOLAR LIBERTY ENERGY SYSTEMS employees are prohibited from entering confined spaces. In the event that this should be necessary, employees will receive a minimum of 8 hours of formal training from a qualified individual for the purpose of entering to perform work under the supervision of a qualified “Entry Supervisor” and an “Authorized Attendant”. Copies of the

Solar Liberty Energy Systems

employee training records will be maintained by the Company Corporate Safety Director. All jobsites and our facilities must be evaluated by the Project Director/Manager, or Site Safety Representative to determine if work will be performed in confined spaces. The Company Corporate Safety Director will be notified so training may be scheduled before our employees enter the confined space.

c) Definitions

The following definitions were taken from OSHA 29 CFR 1910.146 Permit Required Confined Spaces. At a minimum, Company employees must be trained at an awareness level to identify confined spaces.

"Confined space" - means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry and
- (3) Is not designed for continuous employee occupancy.

"Entry" - means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

"Permit-required confined space (permit space)" - means a confined space that has one or more of the following characteristics:

- (1) Contains or has a potential to contain a hazardous atmosphere;
- (2) Contains a material that has the potential for engulfing an entrant;
- (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
- (4) Contains any other recognized serious safety or health hazard.

Solar Liberty Energy Systems

26. Designated Competent Persons

a) Objective

OSHA requires competent persons be used for excavations, scaffolds, ladders, confined spaces, etc. SOLAR LIBERTY ENERGY SYSTEMS has identified employees as competent persons for the protection of our employees.

b) Policy

It is our Company policy to adopt OSHA's definition of a competent person. A competent person shall be present at the jobsite when required.

c) Definition

As per OSHA 29 CFR 1926.32 a "competent person" is defined as:

One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

d) Training

Training is required for competent persons. The Corporate Safety Director or designee will verify that the designated person has had training in accordance with 29 CFR 192.21(b)(2), which states:

Company competent persons are trained to recognize, avoidance, and promptly correct unsafe conditions. Our competent persons are familiar with OSHA regulations applicable the work to be performed by our employees.

SOLAR LIBERTY ENERGY SYSTEMS will select its "competent person" employees based on documented training, having sufficient knowledge, experience and skills for the performance of the specific work, and authorize them to promptly correct unsafe conditions.

e) Competent Person List

The Company competent person list is maintained by the Company Corporate Safety Director. SOLAR LIBERTY ENERGY SYSTEMS management will inform the Company Corporate Safety Director of all additions and/or changes in status of competent persons for accurate recordkeeping.

Solar Liberty Energy Systems

27. Personal Protective Equipment

a) Objective

SOLAR LIBERTY ENERGY SYSTEMS shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE).

b) Policy

Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

Management shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment (Attachment T).

- Defective or damaged personal protective equipment shall not be used.
- Our employees will return defective protective equipment to the foreman/designee for replacement.
- Employees are not permitted to work without PPE when and where necessary.
- Employees will not use a sub-contractor's PPE without permission of the foreman/designee who will provide training.

c) Training

SOLAR LIBERTY ENERGY SYSTEMS provides training to each employee who is required to use PPE. Each such employee shall be trained to know at least the following:

- When PPE is necessary
- What PPE is necessary

Solar Liberty Energy Systems

- How to properly don, doff, adjust, and wear PPE;
- The limitations of the PPE
- The proper care, maintenance, useful life and disposal of the PPE.
- Each affected employee shall demonstrate an understanding of the training received, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.
- When the foreman/designee has reason to believe that any affected employee who has already been trained does not have the understanding and skill required to wear the PPE properly the employee will receive re-training.

Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

Any questions concerning the type of PPE that cannot be answered by the foreman/designee will be directed to the Corporate Safety Director.

28. Worksite Evacuation Policy

a. Objective

SOLAR LIBERTY ENERGY SYSTEMS complies with OSHA's General Industry Standards for fire safety and emergency evacuation (Subpart E, 29CFR1910.36, 37, and 38). Our Company also addresses OSHA standards for firefighting, fire suppression and fire detection systems and equipment (Subpart L, 29CFR1910.156 through 165).

b. Policy

Emergencies will occur. The effect of the emergency must be controlled by means of a proper pre-emergency plan. In order to respond to this need, our company has developed the following plan, which all employees are expected to follow in preventing or responding to emergency situations that we reasonably expect in our workplace.

As required by OSHA the following Emergency Action Plan has been developed to ensure employee safety from fire or other emergencies.

Emergency Escape Plan

Solar Liberty Energy Systems

Escape route assignments are posted throughout our worksite. A layout of the worksite clearly marked with escape routes is posted at the front of our worksite and in the main office. A copy of the layout is available from management along with a copy of this Emergency escape Plan.

If the alarm sounds or orders to evacuation of the building are given:

- Remain calm
- Walk to the nearest exit and leave the building immediately. After leaving the building, proceed to the front of the building and meet at the front entrance. Do not block the entrance to allow emergency responders to enter the worksite
- Do not leave the area.
- Do not return into the building. Follow supervisor's instructions.

In addition to the escape routes, the locations of fire extinguisher and safety stations are indicated by color coded labels. Fire extinguisher locations are indicated by yellow labels. Safety stations are indicated by green labels.

As there are no continued operations during an emergency, all employees are expected to leave the plant immediately when an evacuation order is announced. No provisions are made for employees who remain within the plant to perform rescue, medical or fire-fighting duties.

Accounting of All Employees after an Emergency Evacuation

Within the first 15 minutes of each shift, the supervisor is responsible for taking attendance of the workers. The attendance sheet should remain with the supervisor at all times. In the event of an evacuation, all employees are instructed to leave the building, proceed to the front of the building and meet by the front entrance. The daily attendance sheets will be used to account for the workers. In the event that a worker is absent, the supervisor/designee may at his or her own discretion sweep the area for the missing employee if it is safe to do so.

Employees must not leave the area until instructed to do so by the supervisor.

Rescue and Medical Duties for Employees

Employees are not expected to perform any rescue or medical duties. Therefore, there are no provisions for training employees in these tasks. Municipal emergency medical and fire facilities are used for emergency medical treatment. Emergency phone numbers are posted on each

Solar Liberty Energy Systems

building layout sheet. At no time will our employees be permitted or directed to perform emergency duties which may endanger their life.

Preferred Means of Reporting Fires and Other Emergencies.

The preferred means of reporting fires and other emergencies is by phone. Emergency phone numbers are posted on each building layout sheet. In the case of telephone failure, the authorities will be notified by cell phone.

Persons to Contact for Further Information.

If a fire or other emergency occurs at our main office, the owner will be notified immediately by phone at his home or on his cell phone.

Employee Training

All SOLAR LIBERTY ENERGY SYSTEMS employees will receive Emergency Evacuation training in the form of a Tool Box talk. The policy will be discussed in detail. Employees will have the opportunity to ask questions and contribute to the discussion in a positive way. Training will be documented and kept on file with the Office Manager for review by Company management and regulatory officials.

29. Fire Prevention Plan

a. Objective

SOLAR LIBERTY ENERGY SYSTEMS main objective is the safety and health of our employees. We believe that good housekeeping and employee awareness of unsafe conditions, such as accumulation of combustible materials and improper storage of flammable liquids, will help to greatly limit the chance of fire at our facility and on our jobsites.

b. Policy

Our company does not require our employees to fight fires. Solar Liberty Energy Systems Evacuation Policy (Emergency Action Plan) requires the immediate and total evacuation of employees from the workplace upon the sounding of a fire alarm signal. However, we have developed general requirements to ensure the safety of our employees in the event of a fire at our facility or at our jobsites.

Solar Liberty Energy Systems

c. Fire Safety General Requirements

The following requirements are necessary for the safety of our employees. They must be followed by every Company employee.

- All employees must know the location of fire extinguishers at the jobsite and in our facility. The locations of fire extinguishers are indicated with red marks on our facility evacuation plan.
- Class A, B, and C fire extinguishers are present on all Company work vehicles and must be readily accessible and clear of obstructions.
- Class A, B, and C fire extinguishers at our facility are fully charged and accessible to all employees.
- Fire extinguishers are inspected for proper working order every month (30 days) by a qualified individual. Annual inspections are performed by a qualified vendor.
- Fire extinguishers are not to be moved from their location unless they are in use.
- Oily rags and debris are to be stored in approved containers and emptied at the end of the day.
- Construction and other debris will be removed from the jobsite at the end of the day.
- All passage ways and exits shall remain unblocked at all times.
- Vehicles and equipment must not block the building exits.
- Faulty electrical wiring and extension cords will be repaired or replaced
- Roadways are to remain clear for emergency responders to enter the facility and jobsites.
- Our employees are not required to fight fires. However, incipient fires may be extinguished by an employee when the following conditions are met:
 - The employee has been trained on the Classes of fire and how to use the fire extinguisher
 - The employee knows what is on fire
 - There is a clear path for the employee to exit
 - Employees are permitted to use only 1 (one) fire extinguisher and must then leave the site.
- All employees at our facility will take part in scheduled fire/evacuation drills.
- Combustible materials and flammable liquids will be stored properly as per OSHA regulations and local fire codes.

Solar Liberty Energy Systems

30 Silica exposure control plan

1.0 Applicability and Scope

1.1 Applicability

This Written Exposure Control Plan (Plan) applies to **Solar Liberty Energy Systems personnel** who are potentially exposed to airborne concentrations of respirable crystalline silica (silica) because of their work activities or proximity to the work locations where airborne silica is being emitted. This Plan also applies to **Solar Liberty Energy Systems superintendents**, foremen, or safety personnel who may be responsible for overseeing a subcontractor's operations that have the potential to expose personnel to airborne concentrations of silica at or above regulatory and industry action levels and exposure limits.

1.2 Scope

This Plan describes the hazards associated with projects involving potential exposure to airborne concentrations of silica and the issues to be addressed during these projects. These projects include, but are not limited to:

- Use of stationary masonry saws used to cut concrete, tile, concrete masonry block, sheet rock, gypsum fiber roof board, or any other product containing quartz.
- Handheld power saws used to cut concrete, asphalt, concrete masonry block, sheet rock, gypsum fiber roof board, or any other product containing quartz.
- Walk-behind saws used to cut concrete or asphalt.
- Rig-mounted or free standing core saws or drills (including impact and rotary hammer drills) used to penetrate concrete, concrete masonry block, sheet rock, gypsum fiber roof board, or any other structural component or product containing quartz.
- Jackhammers and handheld powered chipping tools used to demolish or modify concrete, concrete masonry block, or any other structural component or product containing quartz.
- Vehicle mounted hammers or chipping tools used to demolish concrete, concrete masonry block, or any other structural component or product containing quartz.
- Handheld grinders or cut-off wheels used for mortar removal or cutting/grinding of concrete, concrete masonry block, sheet rock, gypsum fiber roof board, or any other structural component or product containing quartz.
- Walk-behind milling machines or bead blasters used for surfacing activities on concrete, concrete masonry block, asphalt, or any other product containing quartz.
- Installation or demolition of sheet rock, including mudding, taping, texturizing activities with quartz containing materials.
- Hand or power tool sanding of painted surfaces. Current latex paint products contain quartz and the painted substrate (sheet rock, concrete masonry block, concrete) contains quartz.
- Drivable asphalt milling machines used to mill asphalt roadways or walkways.
- Ball mills or crushing equipment used to size products containing quartz.
- All housekeeping operations associated with the activities described above.

Solar Liberty Energy Systems employees who work in proximity to silica-related operations must be aware of safe work practices and take all necessary precautions associated with avoiding and minimizing airborne silica exposure.

2.0 Regulatory Review

Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1153: Respirable Crystalline Silica (Construction Industry) and 29 CFR 1910.1053: Respirable Crystalline Silica (General Industry), contain

Solar Liberty Energy Systems

regulatory requirements specific to respirable crystalline silica. This Written Exposure Control Plan is developed in accordance with the requirements in 29 CFR 1926.1153(g).

3.0 Project Planning

3.1 Training Requirements

Solar Liberty Energy Systems employees who anticipate working on projects where they could be exposed to airborne silica will be provided training in silica hazards in accordance to the **{Solar Liberty Energy Systems s}** program established to comply with the hazard communication standard (29 CFR 1910.1200). Each employee will have access to labels on containers of crystalline silica and safety data sheets, and be provided information on the health hazards of silica including cancer, lung effects, immune system effects, and kidney effects. In addition, **Solar Liberty Energy Systems** employees will be provided training and information regarding specific activities identified in this Plan that could result in airborne silica exposure, and the specific engineering controls, work practices and respiratory protection requirements to mitigate the potential airborne silica exposures. This training will provide a discussion of silica hazards, initial exposure determination either by complying with 29 CFR 1926.1153 Table 1 requirements or air monitoring, specific engineering and work practice control measures, personal protective equipment (PPE), and medical surveillance requirements. The training will also identify the **Solar Liberty Energy Systems** competent person for silica exposure identification and determination of control requirements. All **Solar Liberty Energy Systems** employees will be provided with access to a copy of 29 CFR 1910.1153 and be trained on the contents of 29 CFR 1926.1153.

3.2 Medical Surveillance Requirements

Solar Liberty Energy Systems shall institute medical surveillance for any employees required by this Plan to where a respirator 30 or more days per year. Initial medical surveillance consists of medical and work history with emphasis on: past, present, and anticipated exposure to silica, dust and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing); history of tuberculosis; and smoking status and history; a physical examination with emphasis on the respiratory system; chest X-ray (a single posterior-anterior radiographic projection or radiograph of the chest at full inspiration recorded on either film (no less than 14 x 17 inches and no more than 16 x 17 inches) or digital radiography systems), interpreted and classified according to the International Labor Office (ILO) International Classification of Radiographs of Pneumoconiosis by a NIOSH-certified B Reader; a pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH approved spirometry course; testing for latent tuberculosis infection; and any other tests deemed appropriate by the Occupational Medicine Provider. Subcontractors are responsible for implementing a medical surveillance program for their employees.

2.3 Competent Person Requirements

Solar Liberty Energy Systems shall identify a competent person to inspect and oversee all activities with potential airborne silica exposure. Subcontractors working on projects within the scope of this Program shall appoint a competent person capable of executing the duties described herein. The competent person must have training in the inspection of work areas and equipment and in the determination of safe working conditions. This person shall have a working knowledge of the 1926.1153 standards, shall be capable of identifying airborne silica hazards, shall determine the need for initial and additional exposure monitoring, shall recommend and implement engineering and work practice controls, shall establish levels of PPE, and shall have the authority to take action to eliminate hazards and correct incidences of noncompliance.

2.4 Planning Activities

Projects where anticipated activities involve concrete cutting, grinding, sandblasting, drilling, coring, or other

Solar Liberty Energy Systems

abrasive operations are treated as potential sources for airborne silica exposure. Additionally, existing structures and materials such as sheetrock, any painted surfaces with low volatile organic compounds, tile, brick, or some insulation products may contain silica. Likewise, new material installation may involve silica-containing mortar, paints, or insulation. Where process knowledge indicates the presence of silica, **Solar Liberty Energy Systems** will either implement all controls required by 1926.1153 Table 1- Exposure Control Methods for Selected Construction Operations or conduct an initial determination in accordance with 29 CFR 1926.1153(d)(2).

3.0 Project Execution

3.1 Safe Work Practices

The requirements of this section are to be followed by **Solar Liberty Energy Systems employees**, who may be exposed to airborne concentrations of silica at or above the regulatory limits.

3.1.1 Exposure Assessment

Solar Liberty Energy Systems will either comply with and implement all controls required by 1926.1153 Table 1- Exposure Control Methods for Selected Construction Operations or conduct an initial determination in accordance with 29 CFR 1926.1153(d)(2).

An exposure assessment is required when employees may be exposed to airborne silica at or above the action level in order to determine the extent to which employees are exposed and the appropriate exposure controls required.

- An initial determination of exposure shall be made at the beginning of operations. The determination shall consist of the collection of personal air samples representative of a full shift including at least one sample for each job classification in each work area, either for each shift, or for the shift with the highest exposure level.
- During the initial determination, until such time that actual airborne concentrations are determined, personnel shall be protected by respiratory protection based on task- specific anticipated airborne concentrations of silica as illustrated in Table 2 below:
- During the initial determination, and in addition to the levels of respiratory protection required, personnel shall be provided with protective clothing and equipment, hygiene facilities, and training.
- Whenever a change in equipment, process, controls, or personnel occurs, or a new task has been initiated, an additional exposure assessment is required.
- When an assessment determines that exposure has occurred above the action level but below the PEL, additional monitoring shall be required at least every 6 months. Additional monitoring shall continue until such time that the monitoring results fall below the action level on two separate occasions at least 7 days apart.
- When monitoring yields results above the PEL, then quarterly monitoring is required. In addition, the quarterly monitoring may be suspended when additional monitoring results fall below the action level on two separate occasions at least 7 days apart.
- Where the competent person can clearly demonstrate, in the absence of air monitoring data, that a work activity will not create airborne silica concentrations in excess of the action level, then air monitoring may be unwarranted. Where a negative initial determination is reached without air monitoring, the competent person must develop a written explanation as to why exposures are not expected to exceed the action level.

3.1.2 Communication of Hazards

- Each employee shall be provided training and demonstrate knowledge and understanding of the

Solar Liberty Energy Systems

following:

- Health hazards associated with exposure to respirable crystalline silica
 - Specific tasks that could result in exposure to respirable crystalline silica
 - Specific measures that are required to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and required use of respiratory protection
 - The contents of the 29 CFR 1926.1153
 - The identity of the competent person
 - Purpose and description of the medical surveillance program
- A written compliance program shall be made available to all affected employees.
 - In addition, notification to owners, contractors, and other personnel working in the area shall be made.

3.1.3 Control Methods

- Engineering and work practice controls, including administrative controls, shall be implemented to reduce and maintain employee exposure to silica at or below the PEL, to the extent that such controls are feasible.
- Where all feasible engineering and work practice controls that can be instituted are not sufficient to reduce employee exposure to or below the PEL, such controls shall be used, nonetheless, to reduce employee exposure to the lowest feasible level (and in conjunction with respiratory protection).
- Respiratory protection shall be selected based on guidance in 1926.1153 Table 1 or based on a Certified Industrial Hygienist's or competent person's assessment of the potential airborne exposure that may be created by the means and methods of work (high energy operations with high airborne dust generation or low energy operations with low dust generation).
- When using mechanical ventilation to control exposure, regularly evaluate the system's ability to effectively control exposure.
- If administrative controls are used to limit exposure, establish and implement a job rotation schedule that includes employee identification as well as the duration and exposure levels at each job or work station where each affected employee is located.
- A written compliance program shall be established and implemented prior to the start of operations within the scope of this Written Compliance Plan. The written program shall outline the plans for maintaining employee exposure below the PEL.
- Maintain all surfaces as free as possible from accumulations of silica. Select methods for cleaning surfaces and floors that minimize the likelihood of silica becoming airborne (such as using a HEPA vacuum).
- **If vacuuming is the method selected, specialized vacuums with HEPA filtration are required. Methods to use and empty vacuums in a manner that minimizes the re-entry of silica into the workplace shall be described and used. Use of household vacuums with HEPA filters are not allowed at any time for the collection of dust or debris that contains silica.**
- Never use compressed air to remove silica from any surface unless it is used in conjunction with a ventilation system designed to capture the airborne dust created while using the compressed air.
- Employees shall not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in any areas where exposure to silica is above the PEL (in other words, regulated areas).
- Do not allow employees to leave the workplace wearing any protective clothing or equipment that is required to be worn during their work shift without HEPA vacuum removal of dust.

Solar Liberty Energy Systems

- Where feasible, install shower facilities and require employees who work in regulated areas to shower at the end of their work shift. Also provide an adequate supply of cleaning agents and clean towels.
- Provide hand washing facilities for use by employees working in regulated areas. Furthermore, require
- employees to wash their hands and face at the end of the work shift and prior to eating or entering eating facilities, drinking, smoking, or applying cosmetics.
- Eating facilities or areas shall be provided for employees working in regulated areas. These facilities shall be maintained free of silica contamination and shall be readily accessible to those employees.

3.2.5 Personal Protective Equipment (PPE)

Respiratory protection must be used for the following conditions:

- During periods when employee exposure to airborne silica exceeds the PEL
- For work operations where engineering and work-practice controls are not sufficient to reduce employee exposure to or below the PEL
- During periods when an employee requests a respirator
- During periods when respirators are required to provide interim protection while conducting initial exposure assessments
- Powered air-purifying respirators (PAPR) shall be provided to employees who request such a respirator to use where it will provide adequate protection.

Employees shall be provided, at no cost, protective work clothing and equipment including cotton coveralls or similar full-body clothing, gloves, hats, shoes or disposable shoe

Solar Liberty Energy Systems

Attachment A

SUPERVISOR'S REPORT OF INJURY

This Supervisor's Report of Injury form is to be completed in accordance with the SOLAR LIBERTY ENERGY SYSTEMS Health, Safety & Accident Prevention Program. The Company Corporate Safety Director or designee will be notified immediately of any injury on the jobsite. The foreman/designee must accompany the injured employee by ambulance to the hospital and will remain with the employee until an immediate member of the family arrives. The completed report must be sent to the Corporate Safety Director or designee within 8 hours of the incident. This form must be filled in neatly and completely.

Foreman/designee's Name: (print)

Foreman/designee's (signature)

Date: _____ Time of Injury: _____ Report # of pages _____

Location: _____

Name(s) of injured employee(s) _____

Company name if not an SOLAR LIBERTY ENERGY SYSTEMS employee

1. What was the employee(s) doing when the incident happened?

2. Who was the employee(s) working with?

Page 1 of 3

Solar Liberty Energy Systems

3. When and where did the incident happen?

4. What was the direct cause of the injury (ladder, tool, electrical source)?

5. What was the nature of the injury?

Abrasion _____	Fracture _____
Asphyxiation _____	Laceration _____
Bite _____	Poisoning _____
Bruise _____	Puncture _____
Burn _____	Scalds _____
Concussion_ Cut_	Scratches _____
Dislocation _____	Shock (electrical) _____
	Sprain _____

Other (specify) _____

6. What part of the body was injured?

Abdomen _____	Ankle (____ R / ____ L)
Back _____	Arm (____ R / ____ L)
Chest _____	Ear (____ R / ____ L)
Face _____	Elbow (____ R / ____ L)
Finger _____	Eye (____ R / ____ L)
Head _____	Foot (____ R / ____ L)
Mouth _____	Hand (____ R / ____ L)
Nose _____	Knee (____ R / ____ L)
Scalp _____	Leg (____ R / ____ L)
Tooth _____	Wrist (____ R / ____ L)

Other (specify) _____

Solar Liberty Energy Systems

7. List specifically any unsafe acts or conditions that may have contributed to the injury.

8. What immediate action was taken?

First Aid Treatment given: YES NO By who (Name): _____

Phone #: _____ Email: _____

Address:

Ambulance: YES NO Employee transported to Hospital? YES NO

Hospital Name and Address:

Were witnesses present at the time of the injury? YES NO

1. Witness: _____

2. Witness: _____

Address: _____

Address: _____

Phone #: _____

Phone #: _____

Email: _____

email: _____

Statements from witnesses, photographs of the incident area, and any other relevant information shall be attached to this report.

Solar Liberty Energy Systems

Attachment B

Accident Investigation Form

Date of Accident: _____

Accident Location: _____

Investigation Committee Names: _____

Required for report:

- Supervisor's Report of Injury (Attachment A)
- Hospital/Doctors Report
- Injured Employee(s) interview report
- Foreman/designees interview report
- Witness Statements
- Photographs/Sketches/Diagrams
- Copy of applicable procedures
- Investigation Committee Findings (Attach report)
- Committee recommendation(s)
- Method of communicating near-miss prevention to employees

Note: This completed form must be returned, along with items listed above, to the Corporate Safety Director.

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Attachment C

Near-miss Report Form

This Supervisor's Report of a Near-miss is to be completed in accordance with the SOLAR LIBERTY ENERGY SYSTEMS Environmental, Health and Safety Plan Program. The Company Corporate Safety Director or designee will be notified immediately of any near-miss.

A ***“Work - related near- miss”*** - is an event where no physical injury or property damage has occurred but could have. A work-related near- miss is an event that if not corrected will cause an accident in the future. It may be the result of human error, defective equipment, or an outdated or improperly written procedure. The completed report must be sent to the main office within 8 hours of the incident. This form must be filled in neatly and completely.

Foreman/designee's Name: (print)

Foreman/designee's (signature)

Date: _____ Time of the incident: _____

Location:

Name(s) of involved employee(s)

Type of equipment involved:

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Was anyone injured?

Was there any damage to property and/or equipment?

Describe the incident: _____

Were witnesses present at the time of the near-miss incident? _____ YES _____ NO

1. Witness: _____

2. Witness: _____

Address: _____

Address: _____

Phone #: _____

Phone #: _____

email: _____

email: _____

Statements from witnesses, photographs of the incident area, and any other relevant information shall be attached to this report.

A copy of this report shall remain in the job folder. Another copy shall be sent to the Company Corporate Safety Director or his designee within 24 hours of the incident.

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Attachment D Employee Violation Warning Notice

Foreman/designee Name (print): _____

Foreman/designee Name (signature) _____

Employee Name: _____

Date: _____

Location: _____

Reason for Violation Warning:

Alcohol related

Drug related

Smoking

Safety related

Workplace violence

Insubordination

Weapon related

Other _____

Foreman/designee comments: _____

A completed copy of Attachment D will be sent to the Company Corporate Safety Director within 24 hours of issuing the warning violation.

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Attachment E Workplace Violence Report Form

Each incident must be reported immediately to the Company Corporate Safety Director or his designee. Once an incident occurs, the foreman/designee at the jobsite must:

- If necessary, report it to the local police department
- Secure the work areas where the disturbance occurred
- Ensure the physical safety of employees, customers, and the public and others in the area
- Quickly assess the work area, to determine if it is safe
- Provide critical incident debriefing to victims, witnesses and other affected employees

Foreman/designee's Name: (print)

Foreman/designee's (signature)

Date: _____ Time of Incident: _____ Report # of pages _____

Location: _____

Name(s) of affected employee(s) _____

Names, addresses, phone numbers of members of the public:

1. Victim's name: _____

2. Victim's name: _____

Address: _____

Address: _____

Phone #: _____

email: _____

Phone #: _____

Email: _____

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Was equipment or property damaged as a result of the violent act? _____

Identify the damaged equipment/property _____

Has 911 been called? _____

Are the police on the scene? _____ Officer(s) name/badge # _____

Is the Fire Department on the scene? _____ FDNY Company _____

Are employees, other contractor employees, the public safe? _____

What was the nature of the violence?

Was the employee(s) arrested by police or other agency? _____

Has the victim(s) been taken to the hospital? _____

What is the hospital's name and address?

Is there a copy of the EMS report (attach to this document)? _____

1. Witness name: _____

2. Witness name: _____

Address: _____

Address: _____

Phone #: _____

Phone #: _____

Email: _____

Email: _____

This report must be completed by the foreman/designee and returned to the Company Corporate Safety Director or designee within 24 hours of the incident.

Page 2 of 2

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Attachment F

Employee Exposure Report Form

This report of employee exposure to possible harmful/hazardous materials is to be completed in accordance with the SOLAR LIBERTY ENERGY SYSTEMS Hazardous Exposure Notification Program. The Company Corporate Safety Director or designee will be notified immediately of any employee's exposure to harmful materials such as: asbestos, lead, mercury, or PCBs on the jobsite. The exposed employee may choose to go to a hospital and seek medical advice. The employee may take a copy of this exposure report to the hospital to present to the medical professional as a source of information. A copy of this completed report must be sent to the Company Corporate Safety Director or his designee within 24 hours of the incident. This report must be filled in completely and neatly.

Foreman/designee's Name: (print) _____

Foreman/designee's (signature) _____

Date: _____ Time of Possible Exposure: _____

Location: _____

Name(s) of employee(s) _____

What was the employee(s) doing when the possible exposure incident happened?

Who was the employee(s) working with?

When and where did the possible exposure incident happen?

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What was the direct cause of the possible exposure (insulation, manometer, oil- filled capacitor)?

What part of the body was possibly exposed?

List specifically any unsafe acts or conditions that may have contributed to the possible exposure.

Witness (print):

Witness (signature):

Employee's statement:

Employee (signature) _____ Date: _____

This report is used to document an employee's possible exposure to hazardous materials.

SOLAR LIBERTY ENERGY SYSTEMS acknowledges the employee's right to claim to have been exposed to possible hazardous or harmful materials at the jobsite. However, SOLAR LIBERTY ENERGY SYSTEMS reserves the right to investigate the employee's claim. This report may be presented to a medical professional should the employee choose to seek medical advice. SOLAR LIBERTY ENERGY SYSTEMS will do what is necessary to verify the employee's claim of exposure.

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Attachment G

Spill/Release Reporting Form

This report must be completed and sent to the Company Corporate Safety Director within 24 hours of the incident. All spills must be immediately reported to the Company Corporate Safety Director.

“Release” - any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment (including abandonment or discarding of barrels, containers and other closed receptacles) of any hazardous substance from the ordinary containers employed during storage, transfer, processing or use. For purposes of this policy the words spill and release are interchangeable.

Foreman/designee's name: (print) _____

Foreman/designee's (signature) _____

Date: _____ Time of Spill: _____

Location: _____

What was spilled? _____

Where did the spill come from (drum, vehicle, equipment...)? _____

Was anyone injured? _____

Was there property damage? _____

Did the spill reach a sewer, storm drain, stream, waterway, marsh land? _____

Did a regulatory agency come to the location? _____

Has the spilled been cleaned up by qualified employees or vendors? _____

What is the name and address of the vendor who cleaned up the spill?

Foreman/designee comments: _____

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Attachment H Jobsite Inspection Checklist

This daily jobsite inspection checklist must be completed by the foreman/designee/Site Safety Representative. This checklist shall be available for both Company and regulatory agency review upon request. Copies of jobsite inspections will be stored in the job folder.

Foreman/designee's name: (print)

Foreman/designee's (signature)

Date: _____ Time of Inspection: _____

Location: _____

1. _____ Employees wearing appropriate PPE correctly.
2. _____ Ladders, scaffolds in good condition.
3. _____ Tool box safety talks conducted
4. _____ Housekeeping, storage areas neat, fire exits clear and unobstructed
5. _____ Work areas are safe, clean, and free of tripping/fall hazards at the time of this inspection.
6. _____ Electrical cords in good condition, equipment properly grounded, GFI's in use
7. _____ No use of alcoholic beverages, controlled substances, smoking at the jobsite.
8. _____ Hand and power tools in good condition and used properly
9. _____ Fall protection used properly (guard-rails, full body harnesses, other).
10. _____ Flammables/combustibles /gas cylinders used and stored properly.
11. _____ Company vehicles in good condition
12. _____ Adequate lighting
13. _____ First Aid kits on jobsite
14. _____ Spill Kits on jobsite
15. _____ Fire extinguisher(s) on site
16. _____ Site-Specific Health and Safety Plan on site
17. _____ Material Safety Data Sheets on site and accessible to employees
18. _____ Bathroom facilities, showers, changing rooms, in sanitary, working order
19. _____ Emergency evacuation plan posted in trailer(s)
20. _____ Jobsite security in place

Page 1 of 1

Solar Liberty Energy Systems

Attachment I Supported Scaffold Checklist

Date: _____ Time: _____

Location: _____

Type of Scaffold: _____

Scaffold Height: _____

		Yes	No	Action(if no)
#	GENERAL REQUIREMENTS			
1	Is the scaffold being erected under the direction of a competent person?			
2	Is the footing sound and rigid - not set on soft ground, frozen ground (that could melt), or resting on blocks?			
3	Has the erection site been evaluated for hazards such as earth fills, ditches, debris, underground electric wires, unguarded openings, or conditions created by other trades?			
4	Are wheels / castors locked?			
5	Is the scaffold able to hold four times its maximum intended load + its own weight?			
6	Are guardrails and toeboards in place on all open sides?			
7	Is the platform complete front to back and side to side (fully planked or decked, with no gaps greater than 1 inch)?			
8	Is the lumber free of cracks, splits, knots, or damage?			
9	Is the scaffold level?			
10	Have all compounds been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented tubes?			
11	Are all braces, bearer, and clamps secured all sections pinned or appropriately secured?			

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12	Is there a safe way to get on and off the scaffold, such as a ladder (without climbing on crossbraces)?			
13	Is the front of the scaffold within 14 inches of the work?			
14	Does the scaffold meet electrical safety clearance distances (more than 10 feet away)?			
15	Is the scaffold under 40 feet in height?			
16	Is the "X" bracing installed on the ends of the scaffold and every third set of post horizontally and every fourth vertical runner?			
17	Are severe weather provisions in place i.e. during high winds, rain, snow, or bad weather?			
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?			
19	Where persons work under scaffold, is a 1/2 inch mesh screen provided between toeboard and guard rail or has the area below the scaffold been cordoned off?			
20	Are tag lines available for items to be loaded on to scaffold?			
21	When employees are working on suspended scaffolds, are lifelines firmly anchored to an overhead structure and not to the scaffold?			
22	Is the scaffold over 6 feet high, (if yes) is personal fall protection available, or are guardrails in place?			
23	Are guardrails 38 inches high?			
24	Are toeboards in place and at least 4 inches high?			
25	Are midrails or equivalent in place?			
26	Does the scaffold have a height to base ratio of at least 4:1?			

Job Competent Person: _____

Inspected By: _____

Signature: _____ Date: _____

This inspection report will be kept in the job folder and will be available for review upon request.

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Attachment J Ladder Inspection Checklist

Name: _____ Date: _____

Portable Wood Ladder Inspection/Usage

Pass	Fail

- decay (ladders must not be painted)
- irregularities including shake, wane and compression failures, or other weaknesses
- grease, oil, or other slippery substances
- step spacing must not exceed 12"
- split side rails
- loose steps
- missing steps or any missing parts

Portable Metal Ladder Inspection/Usage

Pass	Fail

- loose steps
- missing rungs/steps or any missing parts
- grease, oil, or other slippery substances
- located near electrical sources
- no sharp edges
- irregularities including shake, wane and compression failures, or other weaknesses

Portable Fiberglass Ladder Inspection/Usage

Pass	Fail

- no defective or missing parts
- steps are free of slippery substances
- sturdy with no signs of damage or splintering.

Page 1 of 1

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Attachment K Hot Work Permit

Name of Permit Holder (print) _____

Name of Permit Holder (signature) _____

Date: _____ Time Permit Issued: _____ Time Permit Expires _____

Site Location _____

Type of Hot Work to be performed (welding, burning, grinding etc.) _____

Equipment to be used: _____

Firefighting equipment to be laid out at the worksite: _____

*Note: All questions are to be answered and initialed by the issuing responsible individual.
NA means not applicable.*

	Yes	NA
Have drains, pits, and depressions, been isolated and sealed?	<input type="checkbox"/>	<input type="checkbox"/>
Have flammable/combustible materials been removed or made safe?	<input type="checkbox"/>	<input type="checkbox"/>
Have tanks, valves, vents, and pipelines been blanked off or effectively isolated?	<input type="checkbox"/>	<input type="checkbox"/>
Is ventilation adequate?	<input type="checkbox"/>	<input type="checkbox"/>
Are spark and flash screens in place?	<input type="checkbox"/>	<input type="checkbox"/>
Have leaks from pump valves, flanges, fitting, etc. been effectively controlled or repaired?	<input type="checkbox"/>	<input type="checkbox"/>
Have pressure relief valves been vented to safe areas?	<input type="checkbox"/>	<input type="checkbox"/>
Is the firefighting equipment checked, laid out and ready for use?	<input type="checkbox"/>	<input type="checkbox"/>

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Yes

NA

Has contaminated ground been cleaned or covered?		
Are Fire Guards required?		
Are Fire Guards FDNY Certified with a Certificate of Fitness		
Are welders, burners FDNY Certified with a Certificate of Fitness		
Is the wind direction satisfactory for hot work operations to begin?		
Has the hot work area been isolated, protected, roped off?		
Has the atmosphere been tested for oxygen, combustibles, toxins?		
Has the area been walked down for a final inspection before hot work begins?		

If a gas tester was used answer the following:

Gas tester equipment make and model _____

Gas Tester Serial Number _____

Date of last equipment calibration _____

% Oxygen _____, % LEL _____ Toxins (CO) ppm _____

Tester's name (print) _____

Tester's signature _____

Name of Fire Guard (print) _____

Name of Fire Guard (signature) _____

Name of Hot work operator (print) _____

Name of Hot work operator (signature) _____

Hot Work Permit returned Date and Time _____

This site was inspected by me and found safe to return to normal operation by:

Name (print) _____ (signature) _____

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Attachment L Jobsite Safety Talk

Jobsite safety talks are signed to record attendance. Use an additional form for more employees. This form shall be filled out for each jobsite talk conducted at the work site. After completing the form, the foreman/designee will keep it in the jobsite folder for review by the Company Corporate Safety Director or designee.

Safety Talk Date: _____ Location: _____

Topic: _____

Safety Talk delivered by:

Foreman/designee name (print) _____

Foreman/designee (signature) _____

Employee Name (print)	Employee Signature	Job Title

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Attachment M Special Lock and Tag Removal Form

This form is to be utilized when an authorized employee has applied a personal energy isolating (lockout/tagout) device(s) and is not available to remove it. An authorized supervisor and a witness must, at a minimum, ensure the following procedures have been completed prior to any lock/tag removal:

1. Verification that the authorized employee who applied the device is not at the facility and/or jobsite has been achieved; and
2. Reasonable efforts have been made to contact/locate the authorized employee to inform him/her that his/her lockout or tagout device has been removed; and
3. The authorized employee has been notified prior to resuming work, that his/her lockout/tagout device(s) has been removed.

Lock Assigned to: _____
(Name of Authorized Employee)

Reason for Lock Removal:

Please Circle the Appropriate Check Marks:

1. Employee has been personally contacted. How & When: _____

Was the employee informed that his/her lockout/tagout device(s) has been removed?
Please check: ___ Yes ___ No

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2. Unable to contact the employee.

If Number "2" Is Circled, Complete The Following:

- ✓ a. Checked time sheet for person's name.
- ✓ b. Called employee's home. Spoke to: _____
Call witnessed by: _____
(Name & Signature of Witness)
- ✓ c. Asked co-workers: (Name:) _____
(Name:) _____
- ✓ d. Other attempts: _____
- ✓ e. A standby person will be stationed by the work location or point of exposure until the equipment is running.

BY VIRTUE OF OUR SIGNATURE BELOW, WE ATTEST TO THE FACT THAT, TO THE BEST OF OUR KNOWLEDGE, THE OWNER OF THIS LOCK AND TAG IS NOT AT THE FACILITY AND WORKSITE.

(Supervisor's Signature) (Date)

(Witness Signature) (Date)

Note: Prior to removal of any locks or tags, this form shall be signed by both the authorized supervisor and witness. Once completed, a copy shall be placed in the job folder. Another copy shall be retained and kept on file with the Company Corporate Safety Director or designee along with the Lockout/Tagout Periodic Inspection Record for 3 years.

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Attachment N Lockout/Tagout Periodic Inspection Audit Form

Inspector: _____ Title: _____
Date: _____

Authorized Employees Inspected:

Equipment Locked Out: _____

Location: _____

Procedures Requirements

Preparation for Shutdown

Yes No The employees have demonstrated knowledge of the type and magnitude of the *energy*, the hazards of the *energy* to be controlled, and the method or means to control the energy.

Yes No The employees have conducted an orderly shutdown of the equipment utilizing the established procedures for this piece of equipment.

Yes No All energy isolating devices for this piece of equipment have been located and physically operated in a manner so as to isolate the equipment from the *energy* source(s).

Yes No Lockout or tagout devices have been effectively affixed to all energy isolating devices.

Yes No All potentially hazardous stored or residual *energy* was relieved, disconnected, restrained, or otherwise rendered safe.

Yes No Verification of isolation and de-energization of the equipment was performed.

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Procedures for Lockout/Tagout Release & Restoration of Energy

Yes No The work area was inspected to ensure that nonessential items had been removed and that the equipment components were operationally intact.

Yes No All employees were safely positioned or removed from the area.

Yes No The employees understood the concept that before the equipment is started, all affected employees must be informed of the removal of the Lockout/Tagout devices.

Yes No Each Lockout/Tagout device was removed by each employee if the equipment required more than one employee to lock out the equipment.

Procedures for Lockout/Tagout Removal by the Employer

Yes No The employer-assigned employee responsible for Lockout or Tagout device removal in the event that the individual who applied the device is not available to remove it understands the following procedures that are outlined in the written plan:

- Verify that the employee who applied the device(s) is not at the facility.
- Make all reasonable efforts to contact the employee who applied the device in order to inform them that the Lockout/Tagout device has been removed.
- Ensure that the employee has this knowledge prior to resuming work at the facility.

Yes No This inspection has included a review with each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

(The authorized inspector shall correct any inadequacies or deviations from procedures with the employee prior to this form being completed. The Authorized inspector shall note in comment section if retraining of employee is required. This document will be filed for 3 years with the Company Corporate Safety Director).

_____ **CHECK IF INSPECTION IS COMPLETE**

COMMENTS:

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Attachment O

Employee Hearing Conservation Training Form

Training for employees, exposed to over 85 decibels of noise, over a Time Weighted Average (TWA) of 8 hours in the workplace, will receive hearing conservation training by a qualified individual. This form, along with other employee medical records including audiograms, will be kept on file with the Company for 30 years after the employee leaves the employment of SOLAR LIBERTY ENERGY SYSTEMS The Company Corporate Safety Director will be responsible for recordkeeping.

Name of Employee: _____

Date of Training: _____

Training delivered by: _____

Comments:

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ATTACHMENT P

Respirator Hazard Assessment Log

Total # of pages _____

Hazard Assessment Log				
Location : _____			DATE : _____	
Jobsite location	Contaminants	Exposure Level (8 hr TWA*)	PEL**	Controls

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Hazard Assessment prepared by (print): _____

(signature): _____

Company name: _____

Address _____

Phone: _____

* Summarized from Industrial Hygiene report provided by: _____

** These values were obtained from a survey on average exposures as published in the American Journal of Industrial Hygiene _____.

Attach testing Company reports/analysis to this form. A copy of this form and any attachments will be placed in the job folder. An additional copy will be maintained on file with the Company Corporate Safety Director or designee.

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ATTACHMENT Q

Record of Respirator Issuance

SOLAR LIBERTY ENERGY SYSTEMS				
Personnel in Respiratory Protection Program				
Respiratory protection is required for and has been issued to the following personnel:				
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued
Name	Medical Date: _____ Fit-Test Date: _____	Job Title	Type of Respirator	Date Issued

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ATTACHMENT R

Respirator Inspection Checklist

Type of Respirator: _____ Model : _____ Size: _____	Respirator Inspected and Cleaned by: Name (print): _____ (signature): _____ Date: _____
Respirator Issued to: _____ Name (print): _____ (signature): _____ Date: _____	Respirator New: _____ Yes _____ No _____ Comments: _____ _____
Face piece condition: Acceptable: _____ Failed: _____	_____ Cracks, tears, or holes _____ Face mask distortion _____ Cracked or loose lenses/face shield
Head straps condition: Acceptable: _____ Failed: _____	_____ Breaks or tears _____ Broken buckles
Valves condition: Acceptable: _____ Failed: _____	_____ Residue or dirt _____ Cracks or tears in valve material _____ Missing valves
Rubber/Elastomer parts condition: Acceptable: _____ Failed: _____	_____ Pliability _____ Deterioration

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Attachment S

OSHA Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If the Company provides respirators for your voluntary use, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

Do the following:

- 1.** Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
- 2.** Choose respirators certified for use to protect against the contaminant of concern. The National Institute for Occupational Safety and Health (NIOSH) of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
- 3.** Do not wear your respirator in atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- 4.** Keep track of your respirator so that you do not mistakenly use someone else's respirator.

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Attachment T

Job Hazard Analysis

A job hazard analysis is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. After identifying uncontrolled hazards, take steps to eliminate or reduce them to an acceptable risk level by using this form. A copy of this form will be kept on file with the Corporate Safety Director.

Job Location: _____

Analyst: _____

Date: _____

Task Description: _____

Hazard Description: _____

Hazard Controls:

1. _____

2. _____

3. _____

4. _____

5. _____

Comments: _____

Supplemental Health and Safety Plan to address Novel Coronavirus COVID 19

POLICY STATEMENT

The personal safety and health of each employee of our organization is of primary importance. We believe that our employees are our most important assets and that their safety at the worksite is our greatest responsibility. The prevention of occupationally induced injuries and illnesses is of such consequence that it will be given precedence over operating productivity whenever necessary.

Our goals are to reduce employee injury, prevent potential hazards through consistent safety management, and ensure compliance with relevant safety and health standards. Through the attainment of these goals, our company will remain competitive and viable in our industry.

Management will procure the necessary resources to execute the objectives of our company's safety and health program. Everyone in our organization will need to ensure that this health and safety plan is implemented consistently for the good of our company and the public at large.

HOW COVID-19 SPREADS

When someone who has COVID-19 coughs or exhales they release droplets of infected fluid. Most of these droplets fall on nearby surfaces and objects - such as desks, tables or telephones. People could catch COVID-19 by touching contaminated surfaces or objects – and then touching their eyes, nose or mouth. If they are standing within one meter (3 feet) of a person with COVID-19 they can catch it by breathing in droplets coughed out or exhaled. Most persons infected with COVID-19 experience mild symptoms and recover. However, some go on to experience more serious illness and may require hospital care. Risk of serious illness rises with age: people over 40 seem to be more vulnerable than those under 40. People with weakened immune systems and people with conditions such as diabetes, heart and lung disease are also more vulnerable to serious illness.

The Management and the Field Employees will focus on how best to decrease the spread of COVID-19 and lower the impact on our workplace. This will include activities to:

- a. Reduce transmission among employees,
- b. Maintain healthy business operations, and
- c. Maintain a healthy work environment.

Corporate Safety and Health Officer's Role & Responsibilities

This Company Representative will have the authority to request an individual showing symptoms seek Medical Attention immediately.

- a) Causes – Contact with surfaces or airborne droplets that contain the Coronavirus (SARS-CoVid-19)
- b) Symptoms – Low grade fever, Dry cough, difficulty breathing, runny nose, Sore throat
- c) Effects – A persistent Pneumonia like condition causing pockets in the lungs to be filled with fluid causing reduced inner lung surface for oxygen exchange with the blood
- d) Response – Immediate Medical Attention in all cases

Project Site specific protocol and best practices to prevent spread and transmission as published by the CDC & other recognized expert health agencies

- Encourage sick workers to stay home
- Employees who have symptoms should notify their supervisor and stay home.
- Employees who are well but who have a sick family member at home with COVID-19 should notify their supervisor and follow CDC recommended precautions.
- Remind site personnel to avoid touching their faces and cover coughs and sneezes.
- Employees will practice social distancing, maintaining a 6' separation from other employees as often as possible and practical.
 - Employees who work within the 6' boundary should wear N95 rated Protective masks.
- Clean common surfaces in job offices, door handles, and tools frequently
- Employees will practice hygiene as recommended by the CDC & communicate the same to fellow workers.
 - Hand washing with soap and water for a minimum of 20 seconds in duration
 - Frequent use of Hand Sanitizer during the work shift containing 60% alcohol content or greater
- Employees will not share tools
- We will encourage workers to change clothes prior to arriving home and wash work clothes in hot water and sanitizer.
- Use disposable products whenever possible
- Office supplies should not be shared
- Continuously evaluate the risks and exposures on the job site.
- Surfaces (e.g. handrails, doorknobs, elevators, desks and tables) and objects (e.g. telephones, keyboards, hand tools, building products) should be wiped with appropriate disinfectant regularly. Contamination on surfaces touched by employees and other personnel is one of the main ways that COVID-19 spreads.

Regular disinfection schedules will be established for common surfaces and objects dictated by jobsite conditions.

- Disinfect surfaces using the following CDC guidelines:
 - Options include:
 - Diluting your household bleach to make a bleach solution, mix:5 tablespoons (1/3rd cup) bleach per gallon of water OR 4 teaspoons bleach per quart of water
 - Follow manufacturer's instructions for application and proper ventilation. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted with Alcohol solutions.
 - Ensure solution has at least 70% alcohol.

Training & education of all staff that may be exposed to COVID-19

All employees at all levels should read and understand this policy before resuming work and questions should be directed at the Health and Safety officer at any time. Toolbox talks on this subject should be delivered to the workforce to reinforce the concepts of Hygiene, symptoms to look out for, and how to prevent the spread of Coronavirus. Employees should sign off on these trainings and acknowledge understanding of the topic. The following topics should be discussed with the employees.

- Understanding the symptoms of Covid-19 and how it spreads.
- What to do when you feel sick or have come into contact with a person that tested positive Covid-19.
- Current Your Company Name sick leave policies.
- Cleaning your hands.
- Practicing social distancing.
- Avoid touching your face.
- Practicing good hygiene.
- Coughing and sneezing etiquette.
- Proper care and use of personal protective equipment (respirators, gloves, eye, and face protection)

Self-quarantine and social isolation suggested practices

- Increasing physical space between employees at the worksite
- Flexible work hours (e.g., staggered shifts)
- Implementing flexible meeting and travel options (e.g., postpone non-essential meetings or events)
- Hand shaking should be avoided, other noncontact methods should be used for greeting.

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- Maintain Social Distancing during Lunch and Breaks
- Do not share food, drinks, dishes, or utensils
- Do not ride in groups in vehicles at lunch whenever possible
- Use Phones, Email, or Text for communication whenever possible
- Do not allow visitors on the site unless their presence is purpose driven

Reporting procedures to ensure communication to supervision is timely and When and how to seek medical attention.

When to Seek Medical Attention:

Basic Symptoms:

- Low grade fever, Dry cough, difficulty breathing, runny nose, Sore throat
- Anyone who believes that they have been exposed or is experiencing symptoms or the virus – will be sent to seek medical attention.
- If exposure to COVID-19 is confirmed – they will go home and quarantine for 14 days.
- If in quarantine they begin to experience symptoms – they will seek medical attention.

Emergency Warning Signs

- If you develop emergency warning signs for COVID-19 get medical attention immediately. Emergency warning signs include*:
 - Trouble breathing
 - Persistent pain or pressure in the chest
 - New confusion or inability to arouse
 - Bluish lips or face

*This list is not all inclusive. Please consult your medical provider for any other symptoms that are severe or concerning.

Roll Road

Roll Road 1 and 3 Tracker

Created Jan 29, 2025
Updated Jun 11, 2025
Time-step 1 minute
Timezone offset UTC-8
Minimum sun altitude 0.0 deg
Site ID 139970.23697

Project type Advanced
Project status: active
Category 1 MW to 5 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad

PV Analysis Methodology: Version 2
Enhanced subtended angle calculation: On

Summary of Results Glare with low potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV array 1	SA tracking	SA tracking	305	0	-
PV array 2	SA tracking	SA tracking	287	0	-

Component Data

PV Array(s)

Total PV footprint area: 30.1 acres

Name: PV array 1
Footprint area: 29.1 acres
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 0.0 deg
Ground Coverage Ratio: 0.5
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	43.002716	-78.673520	610.77	5.50	616.27
2	43.002701	-78.674475	609.54	5.50	615.04
3	43.002701	-78.675451	606.83	5.50	612.33
4	43.004882	-78.675558	617.31	5.50	622.81
5	43.004850	-78.676889	617.08	5.50	622.58
6	43.005196	-78.676889	614.03	5.50	619.53
7	43.005211	-78.676567	614.64	5.50	620.14
8	43.006718	-78.676588	605.03	5.50	610.53
9	43.006718	-78.676159	605.40	5.50	610.90
10	43.007283	-78.676138	604.23	5.50	609.73
11	43.007283	-78.675859	604.37	5.50	609.87
12	43.007440	-78.675859	605.31	5.50	610.81
13	43.007471	-78.673842	610.15	5.50	615.65
14	43.007596	-78.673842	609.44	5.50	614.94
15	43.007596	-78.673520	610.77	5.50	616.27
16	43.007471	-78.673520	612.82	5.50	618.32
17	43.007471	-78.673421	613.27	5.50	618.77
18	43.007473	-78.673330	612.66	5.50	618.16
19	43.007593	-78.673322	609.41	5.50	614.91
20	43.007589	-78.672635	614.66	5.50	620.16
21	43.006686	-78.672619	609.26	5.50	614.76
22	43.006686	-78.672855	609.45	5.50	614.95
23	43.005666	-78.672790	612.51	5.50	618.01
24	43.005651	-78.673177	613.55	5.50	619.05
25	43.005886	-78.673434	612.00	5.50	617.50
26	43.005886	-78.674250	614.70	5.50	620.20
27	43.005713	-78.674507	614.97	5.50	620.47
28	43.005337	-78.674529	615.23	5.50	620.73
29	43.005384	-78.672919	613.22	5.50	618.72
30	43.004945	-78.673263	614.00	5.50	619.50
31	43.004929	-78.673563	610.88	5.50	616.38

Name: PV array 2
Footprint area: 1.0 acres
Axis tracking: Single-axis rotation
Backtracking: Shade
Tracking axis orientation: 180.0 deg
Maximum tracking angle: 60.0 deg
Resting angle: 0.0 deg
Ground Coverage Ratio: 0.5
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	43.002896	-78.675872	606.72	5.50	612.22
2	43.002896	-78.676816	605.14	5.50	610.64
3	43.002237	-78.676794	602.67	5.50	608.17
4	43.002237	-78.676301	603.13	5.50	608.63
5	43.002582	-78.676306	604.79	5.50	610.29
6	43.002580	-78.675872	606.33	5.50	611.83

Route Receptor(s)

Name: Route 1
Route type: Two-way
View angle: 50.0 deg



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	43.000265	-78.684669	604.34	4.00	608.34
2	43.000249	-78.667717	625.07	4.00	629.07
3	43.000265	-78.667552	626.36	4.00	630.36

Name: Route 2
Route type: Two-way
View angle: 50.0 deg



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	43.000237	-78.677064	612.29	4.00	616.29
2	42.997852	-78.677000	614.03	4.00	618.03

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	43.004275	-78.676486	619.21	6.00	625.21
OP 2	43.003993	-78.676234	617.74	6.00	623.74
OP 3	43.003687	-78.676755	613.38	6.00	619.38
OP 4	43.000682	-78.676288	609.73	6.00	615.73
OP 5	43.000744	-78.673734	606.41	6.00	612.41
OP 6	43.001372	-78.681395	602.65	6.00	608.65
OP 7	43.002013	-78.681291	606.35	6.00	612.35
OP 8	43.003096	-78.681526	605.99	6.00	611.99
OP 9	43.003370	-78.681526	605.85	6.00	611.85
OP 10	43.003806	-78.681618	605.82	6.00	611.82
OP 11	43.004645	-78.680896	607.29	6.00	613.29
OP 12	43.005037	-78.681497	606.19	6.00	612.19
OP 13	43.005351	-78.681668	604.38	6.00	610.38
OP 14	43.005634	-78.681625	603.03	6.00	609.03
OP 15	43.005948	-78.681218	602.59	6.00	608.59
OP 16	43.006403	-78.681411	604.32	6.00	610.32
OP 17	43.006694	-78.681751	605.82	0.00	605.82

Obstruction Components

Name: Obstruction 1

Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.003414	-78.679814	605.66
2	43.002519	-78.679653	609.65
3	43.002723	-78.678527	605.08
4	43.002778	-78.677186	606.52
5	43.003351	-78.677207	614.99
6	43.003539	-78.678677	616.42
7	43.003414	-78.679814	605.66

Name: Obstruction 10

Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.005081	-78.679524	605.55
2	43.004854	-78.679770	605.44
3	43.004822	-78.679620	606.00
4	43.004987	-78.679363	605.71
5	43.005113	-78.678783	606.55
6	43.005199	-78.679116	605.70
7	43.005081	-78.679524	605.55

Name: Obstruction 2

Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.001005	-78.680877	600.98
2	43.000817	-78.679696	601.48
3	43.001625	-78.678452	608.85
4	43.002057	-78.677164	603.69
5	43.001602	-78.677154	604.53
6	43.001421	-78.678055	606.19
7	43.000393	-78.678634	604.46
8	43.000440	-78.680759	599.97
9	43.001005	-78.680877	600.98

Name: Obstruction 4

Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.004926	-78.678033	611.38
2	43.004667	-78.678227	611.35
3	43.004392	-78.677926	616.99
4	43.004377	-78.677443	620.74
5	43.004573	-78.677293	617.80
6	43.004934	-78.677518	613.60
7	43.004926	-78.678033	611.38

Name: Obstruction 5
Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.005415	-78.680946	603.10
2	43.005187	-78.680968	604.33
3	43.005195	-78.679294	606.88
4	43.005439	-78.679251	606.48
5	43.005415	-78.680946	603.10

Name: Obstruction 6
Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.004563	-78.675932	619.12
2	43.004469	-78.676123	618.13
3	43.004249	-78.676107	618.49
4	43.004167	-78.675986	617.86
5	43.003853	-78.675965	612.01
6	43.003702	-78.675785	610.18
7	43.003706	-78.675560	609.67
8	43.004557	-78.675602	618.08
9	43.004563	-78.675932	619.12

Name: Obstruction 6
Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.007169	-78.678736	607.82
2	43.006228	-78.679723	603.87
3	43.006008	-78.678597	608.39
4	43.007091	-78.678328	608.96
5	43.007169	-78.678736	607.82

Name: Obstruction 7
Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.001560	-78.681269	606.73
2	43.001631	-78.680899	605.67
3	43.001784	-78.680840	606.85
4	43.001744	-78.680685	607.67
5	43.001136	-78.680926	602.00
6	43.001203	-78.681151	597.74
7	43.001458	-78.681017	605.48
8	43.001509	-78.681280	606.78
9	43.001560	-78.681269	606.73

Name: Obstruction 8
Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.004366	-78.681210	606.00
2	43.004358	-78.679794	605.83
3	43.004527	-78.679692	606.28
4	43.004523	-78.679638	606.37
5	43.003619	-78.679553	609.99
6	43.003627	-78.679714	608.44
7	43.003980	-78.679869	607.96
8	43.003996	-78.681044	605.97
9	43.004366	-78.681210	606.00

Name: Obstruction 9
Upper edge height: 32.8 ft



Vertex	Latitude deg	Longitude deg	Ground elevation ft
1	43.005613	-78.679719	604.14
2	43.005797	-78.679665	603.81
3	43.005715	-78.678625	609.08
4	43.005428	-78.678668	608.50
5	43.005475	-78.679236	605.72
6	43.005668	-78.679199	605.41
7	43.005726	-78.679381	604.95
8	43.005613	-78.679719	604.14

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
PV array 1	SA tracking	SA tracking	305	0	-	-
PV array 2	SA tracking	SA tracking	287	0	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
pv-array-1 (green)	0	6	154	0	0	0	0	0	63	82	0	0
pv-array-1 (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
pv-array-2 (green)	0	0	0	0	22	187	78	0	0	0	0	0
pv-array-2 (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	117	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	188	0
OP: OP 17	0	0
Route: Route 1	0	0
Route: Route 2	0	0

PV array 1: OP 1

No glare found

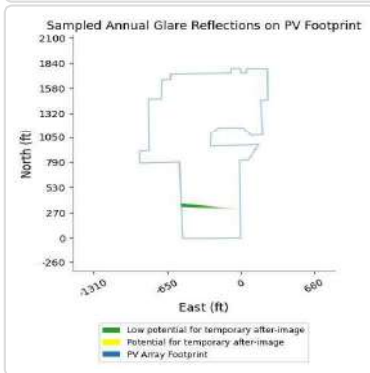
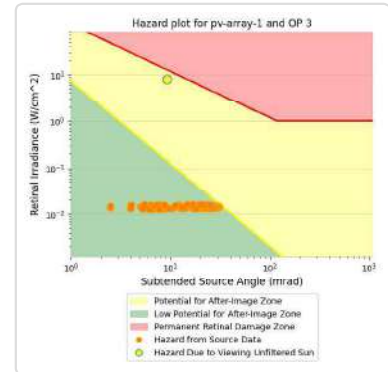
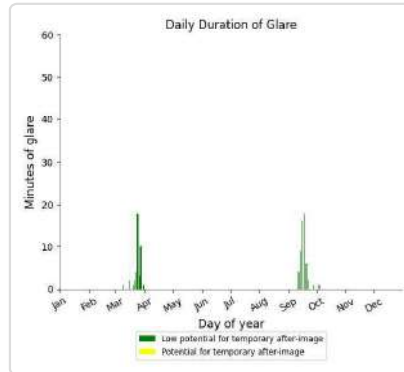
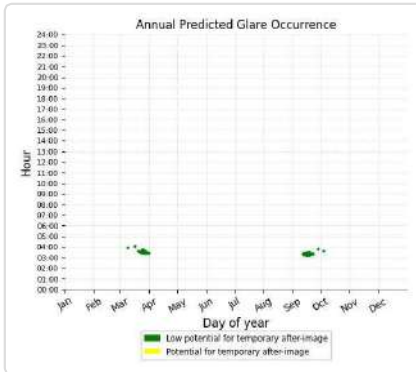
PV array 1: OP 2

No glare found

PV array 1: OP 3

PV array is expected to produce the following glare for this receptor:

- 117 minutes of "green" glare with potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1: OP 4

No glare found

PV array 1: OP 5

No glare found

PV array 1: OP 6

No glare found

PV array 1: OP 7

No glare found

PV array 1: OP 8

No glare found

PV array 1: OP 9

No glare found

PV array 1: OP 10

No glare found

PV array 1: OP 11

No glare found

PV array 1: OP 12

No glare found

PV array 1: OP 13

No glare found

PV array 1: OP 14

No glare found

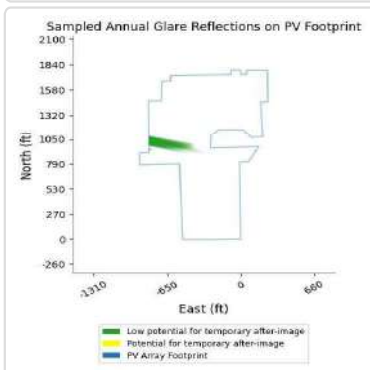
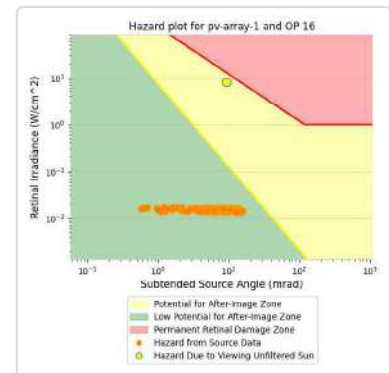
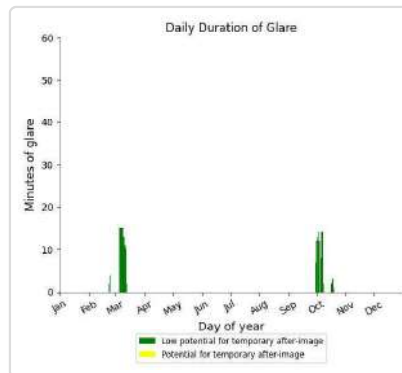
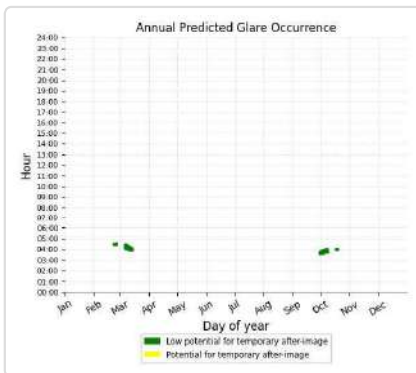
PV array 1: OP 15

No glare found

PV array 1: OP 16

PV array is expected to produce the following glare for this receptor:

- 188 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1: OP 17

No glare found

PV array 1: Route 1

No glare found

PV array 1: Route 2

No glare found

PV array 2 low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
Route: Route 1	287	0
Route: Route 2	0	0

PV array 2: OP 1

No glare found

PV array 2: OP 2

No glare found

PV array 2: OP 3

No glare found

PV array 2: OP 4

No glare found

PV array 2: OP 5

No glare found

PV array 2: OP 6

No glare found

PV array 2: OP 7

No glare found

PV array 2: OP 8

No glare found

PV array 2: OP 9

No glare found

PV array 2: OP 10

No glare found

PV array 2: OP 11

No glare found

PV array 2: OP 12

No glare found

PV array 2: OP 13

No glare found

PV array 2: OP 14

No glare found

PV array 2: OP 15

No glare found

PV array 2: OP 16

No glare found

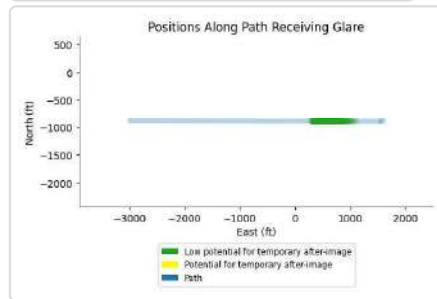
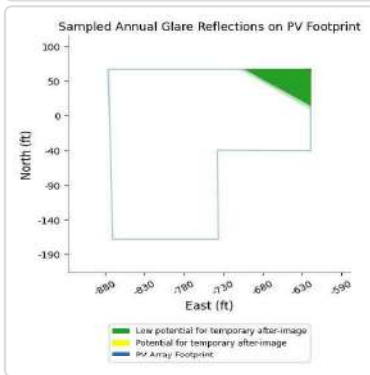
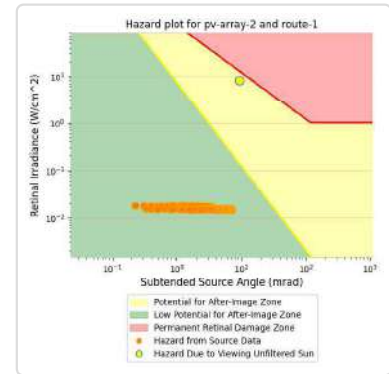
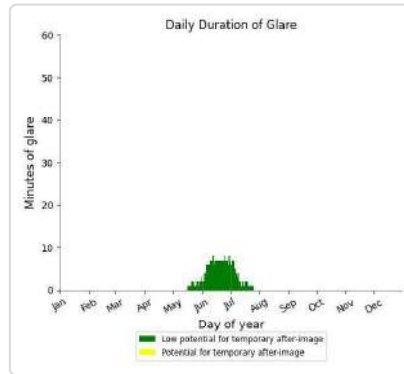
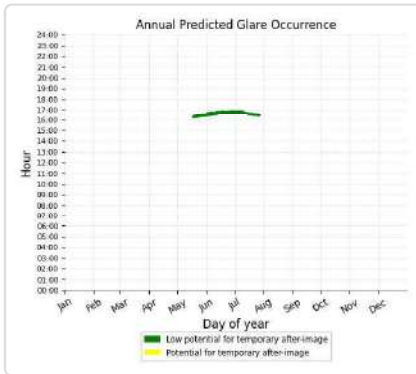
PV array 2: OP 17

No glare found

PV array 2: Route 1

PV array is expected to produce the following glare for this receptor:

- 287 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 2: Route 2

No glare found

Summary of Vertical Surface Glare Analysis

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographical obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.