



Arlington Battery Energy Storage System Operations & Maintenance Manual

February 3, 2025

for a

**25 MW / 100 MWH Grid-Connected
Battery Energy Storage Facility**

located at the

**Snohomish County Public Utility District
Clean Energy Center
17601 63rd Ave. NE, Arlington, WA 98223**

Program Overview

The purpose of this document is to describe Ameresco's Operational and Maintenance Procedures for system operations and monitoring, responding to alarms and performing Preventive Maintenance for the life the Energy Storage Agreement with the Snohomish Public Utility District No. 1 located in Arlington, CA. The Operations and Maintenance activities described herein provide the guidelines for the operation, monitoring and preventive maintenance program that will be followed throughout the life of the contract.

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EXHIBIT A

CRITICAL PROJECT CONTACTS

Operations & Maintenance Company

Company Name	Ameresco
Street	117 Flanders Road, Unit 100
City, State, Zip Code	Westborough, MA 01581
Contact	Remote Operations Control Center
Phone	1-508-598-4699
E-mail	roc@ameresco.com
Note	Available 24/7, 365 days per year

Project

Project Name	Snohomish County Public Utility District No. 1 (Snohomish PUD) Battery Energy Storage System (BESS)
Street	111 Speen Street
City, State, Zip Code	Framingham, MA 01701
Site Contact	Scott Wentworth
Phone	510-684-7684
E-mail	swentworth@ameresco.com

Battery O&M

Project Name	Snohomish PUD BESS
Manufacturer	Tesla Energy
24 hour, 7-Day Contact	650-681-6060
O&M Contact	Providing at closeout
E-mail	Providing at closeout

Owner

Company Name	Ameresco, Inc.
Street	111 Speen Street
City, State, Zip Code	Framingham, MA 01701
Contact	Warren Harrison III – Director O&M
Work Phone	(510) 982-3559
E-mail	wharrison@ameresco.com

Environmental, Health and Safety (EHS)	
<p>Ensure that all regulatory required policies/procedures/plans are written, certified when applicable, and maintained for the Site as required. This includes, but is not limited to, spill prevention, control, and countermeasure (“SPCC”) plans, emergency response plans, fall prevention plans, personal protective equipment (“PPE”) policies, fire prevention plans, electrical safety policies, hot work procedures, hazard communication procedures, first aid/CPR/blood borne pathogens etc. Plans that are required to be in place for site operation, such as an SPCC plan, and not for Operator’s employees and Subcontractors to perform work, will be performed as an Additional Service if the plans are not available. Updates or revision to policies in order to conform to current regulatory requirements shall not be considered an Additional Service.</p>	Ongoing
<p>Operator will submit all health and safety reports to Customer or its Affiliates governmental authorities required from the Operator as it pertains to the asset(s) for which Operator provides Services. Operator will provide information to the Customer or generate reports or forms, as may be required by Customer, in compliance with Customer’s procedures and processes for fulfilling health, safety and environmental reporting requirements set forth by Applicable Law and applicable to the operation and ownership of the Project. This includes, but is not limited to, waste reporting, hazardous materials business reports (HMBPs), spill reports, and state and federal injury reporting (OSHA, BLS, state specific). Reporting requirements that will either require third-party specialized experts or would lead Operator to incur material out-of-pocket expenses will be performed by Operator and billed to Customer as an Additional Service. Operator shall notify Customer of any new regulatory or environmental reporting/filing requirements of which it becomes aware pursuant in relevant section of final Agreement.</p>	Ongoing
<p>Inspect and replace as necessary signs and labels in accordance with regulatory requirements. This includes, but is not limited to emergency exit signs, chemical storage labels, traffic control signage, electrical safety signage & labels. For clarification, Customer to pay for cost of signs while labor to inspect and replace will be provided by Operator as part of the Service Fee.</p>	Ongoing
<p>Allow Customer or Customer’s representative to access Site and site personnel to perform EHS auditing on a periodic basis. Customer and/or its representative shall follow the Project’s safety procedures, including use of appropriate PPE.</p>	Ongoing
<p>Ensure that all on-site personnel are trained in accordance with applicable regulatory requirements and applicable required certifications/qualifications are maintained and available for review. When required, this includes, but is not limited to qualified electrical worker certifications, fall protection, competent persons and environmental certifications, etc.</p>	Ongoing
<p>All safety, environmental and emergency response equipment must be maintained by Operator throughout the Term. This includes but is not limited to fire extinguishers, spill kits, PPE, eyewash & shower stations, etc. Response equipment not on-site at hand over to Operator may be provided as an Additional Service. Re-charging or re-stocking of emergency response equipment used in response to an emergency event will be billed as an Additional Service.</p>	Ongoing

System Monitoring and Alarm Response	
Perform real-time monitoring of Project performance and all monitored equipment including inverters, combiners, re-combiners, weather stations, trackers, interconnection and meters 24 hours per day, 7 days per week, 365 days per year.	Ongoing
Respond to alarm and alert conditions and dispatch service personnel 7 days a week according to the response times indicated in Exhibit I of the Agreement.	Ongoing
Curtailed monitoring, tracking and execution. Operator's execution of curtailment will be subject to plant controller having the capability to perform such required curtailment.	Ongoing
Generation and outage management as directed by scheduling coordinator and/or the independent system operator ("ISO") in accordance with Project Agreements and current statutory/regulatory rules and requirements.	Ongoing
Manage and operate the communications and metering hardware and software applications for telemetry, voice and data communications between the Project and the monitoring system provider and ISO and/or scheduling coordinator in accordance with ISO/scheduling coordinator requirements when applicable.	Ongoing
Maintenance – Inverters and LV/MV Transformers and Protection Devices	
Perform inverter preventative maintenance as recommended by inverter manufacturer including, but not limited to: cable termination tightness (dc power cables from combiner/recombiner boxes to the inverter, ac power cables from the inverter to the pad mounted step up transformer, and connections from the inverter to the ground system), thermal imaging scans, replacement/washing of filters, clean-out of debris, verification of switches/fuses, check coolant level, check for moisture intrusion, checking of door seals, verification of ventilation/heating systems, checking for firmware upgrades.	Annually
Visually inspect inverter and/or transformer pad or skid (where applicable) for evidence of settlement or undermining/erosion.	Annually
Perform visual and mechanical testing of all electrical enclosures and equipment (including but not limited to disconnect switches, circuit breakers, metal-clad switchgear, protective relaying, battery systems, transformers, exposed bus work and containing structures).	Annually
Perform functional testing of any battery back-up systems (including but not limited to, verification the battery ventilation/heating system operates, inspection of physical and mechanical condition, inspection of battery support racks or cabinets, mounting, and grounding, electrical testing per OEM, measurement of charger float and equalizing voltage levels, and verification of all charger functions and alarms).	Annually
Medium Voltage - Transformer	
Inspect enclosure and devices for corrosion, heat distortion, moisture entry, insect and rodent infestation, and exterior damage. Confirm that all signage and labeling is in place.	Annually
Confirm that all signage and labeling is in place	Annually
Inspect anchorage and alignment.	Annually
Perform thermographic survey of all field terminations visually available from the opening of the cabinet	Annually

Inspect bushings	Annually
Verify tap-changer position is set as specified	Annually
Check and record existing and high temperature, pressure, and fluid level	Annually
Fluid & Gad Analysis Test Dissolved gasses in oil, water content, color number, interfacial tension, neutralization number, dielectric breakdown voltage, power factor @RTC °C, relative density/specific gravity, furanic compounds in oil, inhibitor content.	Annually
Inspect exposed insulation jacket for physical damage, evidence of overheating & corona	Annually
Inspect terminations and splices for physical damage, evidence of overheating & corona	Annually
Inspect compression-applied connectors for correct cable match and indentation	Annually
Inspect shield grounding and cable support	Annually
Verify that visible cable bends meet or exceed ICEA and/or manufacturer's minimum allowable bending radius	Annually
Maintenance – Telecommunications and Sensors	
Validate functionality of all communications, data logging and computer equipment, verify loss of communication alarms, test battery back-up systems and validate monitored data points appear correctly on the remote monitoring system.	Annually
Troubleshoot and reset site telecommunications as required to maintain connectivity between Site and monitoring platform/ user interface ("UI").	Annually
Perform scheduled maintenance on SCADA and data acquisition systems, in accordance with manufacturer's instructions.	Annually
Perform software updates within 30 days of software update release.	Ongoing
Warranty Administration (Warranties include both component and Project Agreement warranties)	
Manage and enforce warranties including supervision and verification of all Persons providing contractor, manufacturer and OEM warranties on the equipment installed in the Project ("Equipment Warranties") to ensure their compliance promptly and diligently with all of their respective Equipment Warranty obligations.	Ongoing
Manage and supervise all repairs and replacement of all equipment covered by Equipment Warranties when performed by the warranty provider, including without limitation, packaging and shipping warranted equipment and components to the warranty provider for repair or replacement and receiving and unpacking repaired or replaced equipment and components provided by the warranty provider.	Ongoing
Using commercially reasonable efforts, in coordination with the Owner, pursue all warranty-eligible claims with equipment suppliers including requesting of return material authorization numbers, processing warranty claim paperwork and responding to supplier inquiries to support warranty claim processing. Maintain warranty claim records and make such records available to Customer.	Ongoing

Corrective Maintenance – All Project Equipment	
Assess and make recommendations regarding required maintenance, repair, and replacements of Project equipment (other than required as part of the Services), which shall include such items as replacement of equipment or components prior to their reasonably expected replacement date, repairs or replacement of failed equipment or components, and repairs and replacements covered by insurance due to a casualty event including as a result of a Force Majeure event or non-warranted equipment malfunction or underperformance (“Corrective Maintenance”). Operator shall provide engineering support (as required), search for replacement parts, obtain quotation(s) and negotiate with replacement part suppliers on behalf of Customer.	Ongoing
Engineering support required to source Project Equipment including, but not limited to, wire, fuses, power transformers, inverters, instrument transformers, capacitor banks, MV and HV circuit interrupters/switchgear, and relays, that is not available from the same manufacturer and same model number as the installed major equipment. Notwithstanding, engineering services required for Project re-powering or for replacement of major Project equipment that requires an electrical redesign of the Project shall be considered an Additional Service. Purchase orders for major equipment will be negotiated to be invoiced from the supplier directly to the Customer.	Ongoing
Perform on-site trouble shooting Corrective Maintenance.	Ongoing
Subject to Customer’s approval, procure all Spare Parts and install all Replacement Spare Parts not covered under warranty or not required for Services for the Project.	Ongoing
Tesla Megapack MP2XL O&M Obligations	
Annual Preventative Maintenance inspections and as needed repairs to be covered under Tesla 20-year warranty. Refer to Tesla’s preventative maintenance scope of work in Exhibit E.	Ongoing
Inventory, Spare Parts Inventory and Safety Equipment Management and Storage	
Maintain inventory list, including serial numbers if applicable, of all Project spare parts/spare equipment. Operator shall keep the inventory list up to date to reflect changes when spare parts are drawn from inventory and new spares are received and shall conduct an annual physical inventory of spare parts/spare equipment. Customer shall have access to spare parts inventory via Operator’s CMMS.	Ongoing
Source, purchase and manage on-site Spare Parts including as provided in relevant section of final Agreement. This includes re-stocking of Spare Parts inventory in accordance with Customer approved reorder points and reorder quantities, either from warranty replacement or when paid by Customer, in order to maintain a sufficient level of spares on Site. Operator shall inspect Spare Parts storage for signs of deterioration, moisture intrusion and corrosion. Customer to pay Operator as Additional Service the cost of Spare Parts purchased by Operator.	Ongoing
Provide engineering services when needed to source and procure major equipment spares that are not available from the same manufacturer and same model number as the installed major equipment. Major equipment spares are power transformers, inverters, instrument transformers, capacitor banks, MV and HV circuit interrupters/switchgear, and	Ongoing

relays. Purchase orders for major equipment will be invoiced from the supplier directly to the Customer.	
Perform, or cause to be performed, inspection and testing, of all safety equipment as required by the manufacturer and/or Applicable Law. Recharge fire extinguishers, eyewash and safety shower stations, hydrogen monitoring systems in battery rooms as needed. If testing of the hydrogen monitoring system identifies a need for corrective maintenance, such corrective maintenance shall be a Customer expense and performed by Operator as an Additional Service.	Ongoing
Perform any required maintenance services required for stored spare parts based on manufacturer's recommendations.	Ongoing
Site Security	
Manage security provider's contract (if applicable) and coordinate with security system manufacturer and/or security maintenance contractor to perform maintenance and troubleshooting on security equipment installed (including, but not limited to, security cameras, sensors, etc.) in order to ensure proper operation of site security systems.	Ongoing
Maintain and enforce an entry protocol to control and monitor access to and egress from the Site.	Ongoing
Immediately inform Customer, any person responsible for the Site security (including any mandated security companies) and (as appropriate) the police in case of witnessing any suspicious security events, including but not limited to non-authorized Persons accessing the Site or Project equipment or Spare Parts theft or vandalism.	Ongoing
Compliance Activities	
Perform inspections, including but not limited to, inspection and sampling of oil and spill containment systems, in accordance with the terms of any Applicable Permits or Applicable Law. Inspection and sampling reports shall be provided to Customer to provide to Governmental Authorities or the purchasing or interconnecting utility as required. Customer shall bear the costs of sample analysis as an Additional Service.	Ongoing
Implement Customer Permit requirements not in place at the Commencement Date. Obtain Customer Permits required to be obtained or amended following the Commencement Date.	Ongoing
Perform obligations under Project Agreements to compliantly operate the facility.	Ongoing
Site Maintenance and Erosion Control	
Visually inspect access and interior roads associated with Project. Operator to perform corrective action as can reasonably be carried out by regularly assigned site personnel with common hand tools and supplies. Report all other issues to Customer.	Annually
Visually inspect equipment foundations, PV module support posts, fence posts and all equipment/ground interfaces for evidence of erosion. Operator to perform corrective action as can reasonably be carried out by regularly assigned site personnel with common hand tools and supplies. Report all other issues to Customer.	Annually
Snow removal to access main equipment (as required with prior approval of Customer).	As needed

Visually inspect storm water management system (e.g., drainage channels, culverts, etc.) and erosion and sedimentation controls. Operator to perform corrective action as can reasonably be carried out by regularly assigned site personnel with common hand tools and supplies.	Annually
Visually inspect fencing and security equipment. Operator to perform corrective action as can reasonably be carried out by regularly assigned site personnel with common hand tools and supplies.	Annually
Visually inspect vegetation and weed growth. Operator will provide recommendations to Customer regarding timing of vegetation abatements.	Ongoing
Mowing & Trimming: Vegetation height not to exceed the leading edge of the lower modules	As needed
Perform landscaping services in addition to those included in the Services	As required
SCADA, Data Acquisition Systems and Protection and Control Systems	
Perform scheduled maintenance on SCADA and data acquisition systems, in accordance with manufacturer's instructions.	Annually
Perform software updates within 30 days of software update release	Ongoing
Record Keeping	
Perform comprehensive recording keeping of all relevant project documentation provided by Customer and generated by Operator including, but not limited, as-built drawings, equipment specifications, safety manuals, detailed maintenance and repair logs, preventative maintenance logs, equipment operating manuals, environmental compliance documents, contact lists, etc.). When required by Applicable Law, the purchasing or interconnecting utility or called for by Prudent Industry Practice, hard copy project documentation shall be stored at the Project. Equipment maintenance and operations manuals that are available in hard copy only will be stored at the Project Site provided a suitable storage facility is available. All other hard copy only documentation may be stored in Operator's hard copy library. Digital copy of project documentation, including copies of all maintenance and repair logs, shall be stored and maintained in Operator's digital record keeping system. Provided internet access is available, Customer and Operator shall have remote access to the digital records.	Ongoing
Maintenance and Performance Reporting	
Report to include MTD and YTD KWH Production Data, Actual to Forecast & Actual to Expected, Service Report Summary, Environmental Issues, Safety Issues or Concerns and Site and Security Issues or Concerns.	Monthly
Generate for Customer review within 10 days of completion of each service activity and downloadable from the Operator's CMMS, a service report for each maintenance service performed. The service report shall contain as applicable, the problem statement, apparent cause, corrective action, lost energy (if applicable), test report(s), photographs and thermal images.	Ongoing
Provide to Customer read-only access to Provider's computerized maintenance management system (CMMS), including but not limited to real-time visibility to work order details/status, maintenance reports, and parts inventories.	Ongoing

EXHIBIT C

Ameresco Safety Policy

DEFINITIONS

- **MANAGEMENT:** VP of Operations, Operation's Manager, Field Supervisors
- **EMPLOYEE(S):** Field employees responsible for executing the physical work in the field
- **SAFETY PLAN OR PLAN:** Safety Plan for each Project, Work Order or Task
- **EHS:** Environmental, Health & Safety Plan

The safety of all personnel is a primary concern to Ameresco, Inc. Unsafe working conditions and unsafe behavior can result in injury and death, impact schedules, cause financial loss, and damage to Ameresco's reputation. As such, it is Ameresco's mandate for Management and Employees to plan, manage and execute the PLAN to remain injury and accident free. It is the responsibility of management to plan, manage and oversee the Plan. It is the responsibility of each Employee to follow the plan, which includes Ameresco's Safety Policy and Procedures, Pre-work Checklist, OSHA Guidelines, training they have received and common sense, such that risk of accident or injury is absolutely minimized. This Plan aims to emphasize that the protection of people and property is of paramount importance to the project's success. Therefore, the project is committed to the principles and functions of the AP and this ES&H Plan All personnel on an Ameresco Project have stop-work authority for any task that represents an imminent threat to safety. Only Management can authorize a restart of the identified task. Failure of an individual to follow these policies and procedures can result in removal from the project.

MANAGEMENT RESPONSIBILITIES

Management is responsible for:

- Empowering Employees with the training and authority necessary to establish and maintain safe operating methods commensurate with their assigned duties.
 - Communicating the Plan to the Employees
 - Training, motivating, and enabling Employees to understand and comply with the project's commitment to safety and ensure work success within the authorization basis.
 - Providing an example and working environment dedicated to safety
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EMPLOYEE RESPONSIBILITIES

- Employees are responsible for:
- Following the Plan, including:
 - Project or Task Specific Plans
 - Ameresco's Policies, Procedures and EHS Plan
 - OSHA Guidelines
 - Previous Safety Training
 - Common Sense
 - Communicating to Management
 - Identified Hazards
 - Deficiencies in the Plan
 - Required tools, equipment or safety gear that is needed

As a result, personnel have the tools to be empowered to provide their feedback and the tools necessary to accomplish the work safely. Personnel is held accountable for their actions. Everyone, in turn, is responsible for their actions.

CLEAR LINES OF AUTHORITY

The project organization structure focuses on Management and Employee involvement centered on planning and execution. Clear and unambiguous roles and lines of responsibility, authority, and accountability at all organizational levels must be established.

BALANCED PRIORITIES

The project ensures a "safety first" culture by effectively allocating, training, and monitoring resources to ensure that work is performed safely. A "safety first" attitude is a must for all personnel. Stop work authority is given to each employee to use when they believe an activity is unsafe. Restart approval is granted at the appropriate Management level. Specific job tasks are planned with appropriate worker involvement, and the work plan is required to be followed to ensure safe operation.

WORK AND ASSOCIATED HAZARDS

Before work is performed, the associated hazards are evaluated and an agreed-upon set of controls are established, which, if properly implemented, provide adequate assurance that the Employees are protected from adverse consequences.

CONTROLS

Administrative and engineering controls are essential elements of the Safety Plan. Wherever feasible, engineered controls are designed into the project, and administrative controls are used to supplement engineered controls appropriately. These controls are established through the work planning process.

CORE FUNCTIONS OF A SAFETY PLAN

There are five functions of a Safety Plan:

- Define the Scope of Work
- Identify and Analyze Hazards
- Develop and Implement Hazards Controls
- Perform Work within Controls
- Provide Feedback and Continuous Improvement.

These five functions are not independent and not necessarily sequential. Instead, they are linked and interdependent such that outcomes during the accomplishment of one may affect others. Identifying and implementing opportunities for improvement may arise at any stage of the work process.

DEFINE THE SCOPE OF WORK

Defining the scope of work entails identifying and defining all the steps needed to complete a particular job or task safely. Defining the scope of work is a critical element of the safety management system since it sets the stage for the scope and depth of hazard identification and analysis.

IDENTIFY & ANALYZE HAZARDS

Hazard identification includes hazards to Employees or property expected to be encountered while performing a particular task. An Activity Hazard Analysis (AHA) shall be performed for each task to address such hazards. There is also a potential that unexpected hazards may be encountered, or nature of the known hazards might change as work activities proceed. Should this occur the AHA shall be amended to incorporate the new conditions.

DEVELOP AND IMPLEMENT HAZARD CONTROLS

The development and implementation of hazard controls includes:

- Identifying controls to prevent and mitigate hazards
- Establishing the safety envelope (what conditions require what response)
- Performing periodic hazard assessments.

CONFIRM READINESS & PERFORM WORK WITHIN CONTROLS

Confirmation of readiness is an effort to verify that safety controls have been implemented before starting work. Performing work within controls entails adherence to work controls in a manner such that activities remain within the safety envelope.

PROVIDE FEEDBACK ON ADEQUACY OF CONTROLS

Feedback and continuous improvement are based on the premise that all work activities can be planned, performed, assessed, and improved. Continuous improvement entails proactive focus on problem prevention and performance improvement to prevent unsafe practices from occurring. The capability to prevent minor problems from becoming major risks or events relies heavily on feedback from Employees and observations from those not directly involved with the work.

ROLES & RESPONSIBILITIES

- **VP OF SAFETY & RISK MANAGEMENT:** Ken Gross
 - 520 West Summit Hill Dr, Ste 401
 - Knoxville, TN 37902
 - Telephone: 508-661-2274
 - **PROJECT SAFETY REPRESENTATIVE & PROGRAM MANAGER:**
 - **VP OF OPERATIONS:**
 - **OPERATIONS MANGER – ELECTRICAL:**
 - **OPERATIONS MANGER – SITE MAINTENANCE:**
 - **FIELD SUPERVISORS:**
-

VP OF SAFETY & RISK MANAGEMENT

It is the primary responsibility of the Vice-President – Safety & Risk Management to insure a safe and healthy working environment for all Ameresco Employees. This is accomplished through insuring compliance with applicable regulations, codes, and standards, along with the enforcement and maintenance of the Ameresco Environmental, Safety & Health Program. The specific functions are as follows:

- Ensure OSHA record keeping and recording requirements are met.
- Ensure the compliance, updating/maintenance of the Environmental, Safety & Health Program.
- Provide council on environmental and safety related matters.
- Provide senior review of accident investigations, site specific plans, task hazardous analysis, training, and inspections.
- Prepare and provide reports and updates to Executive management as required related to the status of the company ES&H program.
- Track, report, and manage claims related to General Liability and Employees Compensation.
- Represent the company to outside compliance agencies on safety related matters.
- Support Business Development related to safety requirements.
- Track and conduct trend analysis of related company safety statistics.
- Ensure reporting and environmental compliance related to Ameresco projects and operations.
- Manage the development, delivery, and scheduling of compliance related training programs.

PROJECT SAFETY REPRESENTATIVE/PROGRAM MANAGER

The site safety representative has the responsibility to ensure the adherence to established EHS related policies and guidelines on their assigned projects. These responsibilities are carried out in conjunction with on-site supervisory and management personnel. These duties include:

The Project Safety Rep/SSHO will visit worksites when work is being performed by Employees.

- Day-to-day adherence to the sites ES&H Plan codes, rules, and regulations.
 - Project record keeping and reporting requirements.
 - Assist project management with conducting accident/incident investigations.
 - Assist project management with the development of site-specific plans.
 - Ensuring project employee training requirements are met.
 - Assist management in conducting weekly safety meetings.
 - Conduct scheduled inspections and audits.
 - Identifying and addressing specific site hazards.
 - Assist project management with the development and implementation of recommended corrective actions.
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PROGRAM MANAGER

- Provide the personal knowledge, leadership, and guidance necessary to insure the implementation and compliance with the company environment, safety & health program on project sites.
- Review inspections reports, accident reports, injury reports, supervisory safety reports, and other documentation to maintain a working knowledge of the safety activities on their jobsites. It is their responsibility to see that the program, as established by management, is carried through on their projects. It is imperative that project managers Employees of the Ameresco ES&H safety program requirements during pre-job briefings, and that they will be expected to comply with the program.
- Ensure their managers/supervisors submit required reports on any accidents or injuries within a timely manner to meet reporting and follow-up activities preventing reoccurrence.
- Ensure that safety related recommendations or policy changes are reviewed and implemented in a timely and reasonable manner.

VP OPERATIONS – BESS GROUP

- Provide personal knowledge, leadership, and guidance necessary to insure the implementation and compliance with the company environmental, safety and health program.
- Review inspection reports, accident reports, injury reports, supervisory safety reports, and other documentation to maintain a working knowledge of the safety activities related to their defined projects. It is their responsibility to see that the program, as established by management, is carried through by their assigned operations managers.

OPERATIONS MANAGERS & FIELD SUPERVISORS

The Operations and Field Supervisors are the key personnel in the day-to-day enforcement of the environmental, safety & health program. It is his /her responsibility to see that all elements of the jobsite are maintained in a safe condition, and that all ES&H policies are enforced. Site managers/supervisors have the authority and responsibility to remove any person from the worksite who is not working in a safe manner. Some of these responsibilities are:

- The project manager/operations manager/supervisor shall conduct periodic inspections of worksites to ensure safety regulations are being enforced.
 - All Employees shall be oriented on the requirements of the ES&H program, company safety rules. Right to Know program, and site-specific safety requirements. This orientation shall be conducted before the employee starts his/her assigned tasks.
 - Scheduled Safety Meetings are most effective if held by the operations manager/supervisor. The meetings should last no more than fifteen (15) minutes and cover
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pertinent topics such as hazards the Employees are likely to face, recent accidents, etc. Ensure the meeting is documented.

- Ensure that a daily hazard analysis is being performed to cover task performed by the employee.
- On all accidents and injuries, the site manager/supervisor shall submit a completed report to his project manager as soon as possible. This report will include what actions have been taken, and suggestions to prevent a reoccurrence.
- Reinforce safety policy by words and actions.
- Enforce the rules and regulations and require use of all safety and personal protective equipment.
- Educate the Employees on the relationship of safe working habits as they are related to their day-to-day tasks.
- Educate the Employees as to the hazard they may encounter on any work prior to their starting this task, and what safety controls are required to prevent injury.
- Report all incidents, injuries, and near misses immediately to the Site Safety and Health officer and complete the investigation report.
- Prevent all Employees from committing unsafe acts and prohibit the use of unsafe equipment.

EMPLOYEES

All Employees shall be solely responsible and fully accountable for their own behavior, conduct and actions regarding their own safety and the safety of others in their work area. They shall adhere to all jobsite safety rules, policies and procedures. All Ameresco Employees shall have “stop work authority” if imminent danger/serious unsafe/unhealthful conditions or practices exist in performance of their work or if observed of other Employees. They shall stop work and request help when unsure about how to perform a task safely, request appropriate personal protective equipment when it has not been provided for them, help all fellow Employees with safety requirements, report uncorrected unsafe acts or conditions to their immediate supervisor, maintain their own mental and physical health conducive to working safely, and strive to help make all Ameresco operations as safe as practically possible.

Worker input shall be obtained in development in Pre-hazard analysis & AHA development. All Employees will be knowledgeable/trained & comply with all applicable client (emergency & non-emergency) policies & procedures that may relate to your project work/worksite environment.

SAFETY RULES & REGULATIONS

- OSHA Regulations – All subcontractors must comply with all applicable OSHA requirements.
 - Safety Representatives – Each contractor and their subcontractors shall designate a company representative who will be responsible to oversee compliance of this attachment. The subcontractor representative shall be responsible for reporting to Ameresco project management and addressing all specific concerns. This person will be required to attend all jobsite safety meetings. Ameresco may require and retain approval rights for a full-time safety representative on a project when deemed necessary by project requirements or subcontractor compliance becomes an issue.
 - Protective Equipment and Clothing – All subcontractor personnel shall be required to wear the following while within the Ameresco worksite, except in office areas:
 - ANSI approved hardhats with bills forward.
 - ANSI-approved safety glasses, including hard side shields.
 - Long pants that include jeans, khakis, etc., exclude sweatpants, warm-ups, etc.
 - Shirts with at least short sleeves.
 - No dangling jewelry, such as necklaces, earrings, bracelets, etc. Necklaces can be worn inside shirts and earrings must be removed or taped over. Bracelets must be removed.
 - All long hair must be put up under hardhat.
 - Leather work boots are required; however, it is strongly suggested and may be required by project requirements that subcontractor personnel wear protective toe and metatarsal footwear.
 - Employee Training – All subcontractor personnel must attend a site-specific safety briefing as required by Ameresco. The initial site-specific safety briefing will be provided to Subcontractor supervision by the Ameresco Project Manager. Subcontractor supervision shall provide the safety briefing to their Employees and lower-tier subcontractors. In addition, each subcontractor must submit evidence of employee training as required by specific OSHA subparts. This evidence must be in writing and submitted before work covered under a particular subpart begins.
 - Accident Reporting – All subcontractors must notify the Ameresco Project Manager verbally of any accidents or injuries within 15 minutes. Additionally, complete and submit an Accident/Injury Report with the Ameresco Project Manager within 24 hours of an incident.
 - Fall Protection – Ameresco will practice 100% fall protection over 6' protection plan to Ameresco prior to work that may expose Employees to fall hazards.
 - Tools and Equipment – All tools and equipment brought into an Ameresco jobsite must have been inspected and free of defects.
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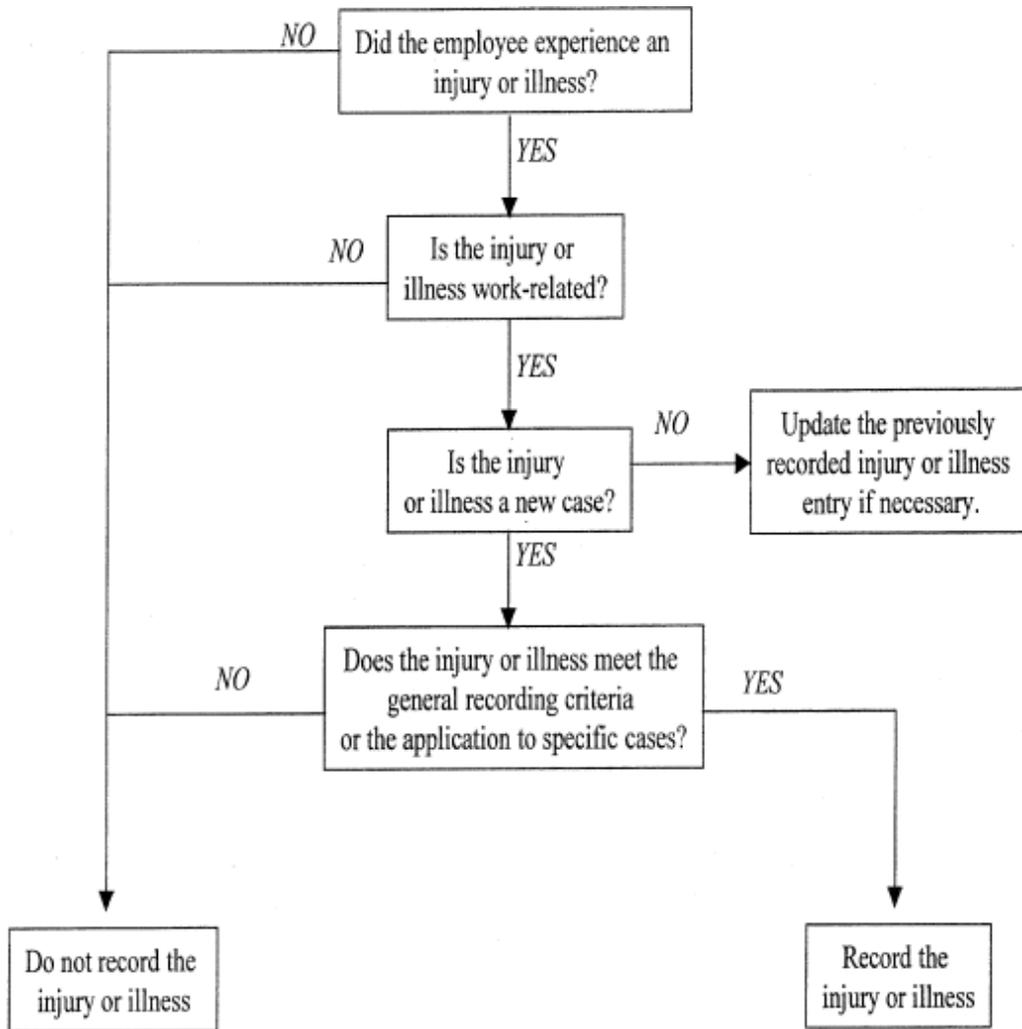
- Scaffolding – All scaffolding shall be constructed in strict accordance with the applicable OSHA subpart. Evidence of required OSHA training must be provided in writing to Ameresco.
- Aerial Lifts – Occupants of all types of aerial lifts and scissor lifts shall be always trained and tied-off with harnesses and lanyards during occupancy. This includes JLGs, articulating boom lifts and scissor lifts.

RECORD KEEPING

In order to comply with particular OSHA regulations and applicable State requirements related to documented project activities, certain recordkeeping procedures have been established for all Project Managers/Site Managers and the Vice-President – Safety & Risk Management.

Comply with 29CFR1904, RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES OSHA for record keeping requirements. The purpose of this rule (Part 1904) is to require employers to record and report work-related fatalities, injuries, and illnesses. Ameresco has more than ten (10) Employees at any time during the last calendar year and must keep OSHA injury and illness records.

Basic requirement. Each employer required by this part to keep records of fatalities, injuries, and illnesses must record each fatality, injury, and illness that: (1) Is work-related; and (2) Is a new case; and (3) Meets one or more of the general recording criteria of § 1904.7 or the application to specific cases of § 1904.8 through § 1904.12.



COMPLIANCE REPORTING

OPERATIONS MANAGERS

It is the responsibility of the Operations Manager to ensure that their assigned Employees comply to the project reporting and recordkeeping criteria as defined below.

FIELD SUPERVISORS

All Field Supervisors are required to complete, submit, and maintain the following documents separate from production related documents related to their assigned projects or operational facilities.

- Completed First Report of Injury Form should be faxed or reported to Senior Project Manager and Vice-President – Safety & Risk Management
- Completed Incident/Injury Investigation Reports should be faxed or reported to Program Manager and Vice-President – Safety & Risk Management
- Completed Employee Accident/Injury Investigation Report should be faxed or reported to Program Manager and Vice-President – Safety & Risk Management
- Current OSHA 300A log for recordable injuries
- Annual OSHA 300 log (maintain on site-posted notice provided by Vice-President – Safety & Risk Management for February posting)
- All files of training certifications
- Copies of safety inspections and checklists
- Written notices of employee disciplinary actions
- Copies of employee monitoring data (as required)
- Copies of OSHA citations
- Federal and State required Postings (i.e., safety, Employees' comp., labor laws, etc.)
- Site specific safety plans and programs
- Required specialty forms—lift tickets, confined space permit
- Copies of all Employees Compensation and Medical Forms (keep in separate file)
- Notices of pending legal filings requiring property losses, injuries, and fatalities

VP OF SAFETY & RISK MANAGEMENT

In addition to overseeing the completion, review, and maintenance of the documentation required above, the Vice-President – Safety & Risk Management will be required to maintain the following documentation:

- Ameresco Environmental, Safety & Health Program
 - Company yearly OSHA 300 log
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- Company employee training documents
- Company OSHA citations
- Corporate injury/incident illnesses and other regulatory statistical data
- Accident/Incident Investigation and Reporting
- The accident/injury investigation and reporting policy is designed to provide a system of procedures for investigating and reporting accidents/injuries that resulted in some type of medical treatment, lost or restricted time, hospitalization, fatality, or property damage. In addition, any near misses that may have caused an injury, fatality, or property damage and that resulted in any work halting must also be investigated and reported. This also includes vehicular traffic accidents and equipment accidents.
- All mishaps and close calls shall be reported to the as soon as, possible. Completed First Report of Injury Form should be faxed or reported to Senior Project Manager and Vice-President – Safety & Risk Management
- Completed Incident/Injury Investigation Reports should be faxed or reported to Program Manager and Vice-President – Safety & Risk Management
- Completed Employee Accident/Injury Investigation Report should be faxed or reported to Program Manager and Vice-President – Safety & Risk Management

Accident/injury investigations are conducted for the reason of preventing them from occurring again. Unless the contributing factors and major causes are identified, there is a high probability that similar accidents/injuries will occur. Accident/injury investigations are also conducted to meet regulatory requirements, improve the effectiveness of the safety program, and to aid Employees in identifying potential hazards. The purpose of this policy is NOT to place blame. Reporting of accidents and injuries is required to comply with record keeping requirements as outlined by OSHA. These reports also aid in providing statistical information and a tracking system.

RESPONSIBILITIES

MANAGEMENT

- Conduct accident prevention and investigation training for supervisors.
 - Ensure all accidents and injuries are investigated.
 - Ensure immediate and long-term corrective actions are taken to prevent reoccurrence.
 - Maintain Accident Reports permanently on file.
 - Ensure proper entries are made on the OSHA 300 Log and First Report of Injury form.
 - Provide all necessary medical care for injured Employees.
 - Employees
-

- Immediately report all accidents and injuries to his/her supervisor.
 - Assist as requested in all accident investigations.
 - Report all hazardous conditions and near-misses.
 - Accident/Injury Investigation
 - The Site Manager or designee will conduct the investigation with the assistance of needed persons, such as Site Safety Representative, victim's foreman, and Vice-President – Safety & Risk Management. The Incident/Injury Report Form is to be used for documentation purposes and faxed to the Vice-President – Safety & Risk Management following the investigation. This initial notification should be on the First Report of Injury/Illness Form. This form should be faxed to the Safety Department upon accident/injury occurrence.
 - Survey the scene for hazards that could worsen.
 - Control possible hazards depending on the critical nature of evacuation and treatment of injured persons.
 - Isolate and evacuate scene.
 - Treat injured persons or notify emergency agencies.
 - Identify witnesses and obtain statements.
 - Take pictures of evidence and scene (drawings, diagrams, etc.).
 - Notify the Ameresco's Vice-President – Safety & Risk Management or Regional Safety Manager as soon as practical.
 - Fact-Finding
 - Gather evidence from many sources during an investigation. Get information from witnesses and reports as well as by observation. Witnesses should be interviewed as soon as possible after an accident. Inspect the accident site before any changes occur. Take photographs and make sketches of the accident scene. Record all pertinent data on maps. Get copies of all reports. Documents containing normal operating procedures, flow diagrams, maintenance charts, or reports of difficulties or abnormalities are particularly useful. Keep complete and accurate notes in a bound notebook. Document the pre-accident conditions, the accident sequence, and post-accident conditions. In addition, document the location of victims, witnesses, machinery, energy sources, and hazardous materials.
 - In some investigations, a particular physical or chemical law, principle, or property may explain a sequence of events. Include laws in the notes taken during the investigation or in the later analysis of data. In addition, gather data during the investigation that may lend itself to an analysis by these laws, principles, or properties. An appendix in the final report can include an extended discussion.
 - **Interviews**
 - In general, experienced personnel should conduct interviews. The interviewer should:
 - Have each witness separately prepare a (signed), written statement as soon as possible (avoid collaboration).
-

- Locate the position of each witness on a master chart (including the direction of view) and take a picture of their viewpoint.
 - Arrange for a convenient time and place to talk to each witness.
 - Explain the purpose of the investigation (accident prevention) and put each witness at ease.
 - Listen, let each witness speak freely, and be courteous and considerate.
 - Take notes without distracting the witness. Use a tape recorder only with consent of the witness.
 - Use sketches and diagrams to help the witness.
 - Emphasize areas of direct observation. Label hearsay accordingly.
 - Be sincere and do not argue with the witness.
 - Record the exact words used by the witness to describe each observation. Do not “put words into a witness’ mouth.”
 - Word each question carefully and be sure the witness understands.
 - Identify the qualifications of each witness (name, address, occupation, years of experience, etc.)
 - Supply each witness with a copy of his or her statements. Signed statements are desirable.
 - After interviewing all witnesses, the interviewer should analyze each witness’ statement. They may wish to re-interview one or more witnesses to confirm or clarify key points. While there may be inconsistencies in witnesses’ statements, investigators should assemble the available testimony into a logical order. Analyze this information along with data from the accident site.
- **Investigation Report**
 - An accident/injury investigation is not complete until a report is prepared and submitted to proper authorities. An accident report should be clear and concise. The purpose of the investigation is to prevent future accidents.
 - Records
 - All accident and associated investigative reports will be submitted and maintained on file permanently at the project office and at the Safety Department. They shall receive timely review by upper management to ensure proper corrective actions have been taken.

 - First Report of Injury and OSHA 300 Log entries will be made within eight (8) hours of notification of injuries or illnesses. All First Reports of Injuries must be faxed to the Vice-President – Safety & Risk Management within eight (8) hours of the incident with the investigation report to follow as soon as possible.
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Emergency Action Plan

- **Purpose**
 - Ameresco is dedicated to the protection of its Employees from emergencies such as tornadoes and fires. When emergencies do occur, our Emergency Action Plan (EAP) is initiated. This EAP is in place to ensure employee safety from emergencies during regular hours and after hours. It provides a written document detailing and organizing the actions and procedures to be followed by Employees in case of a workplace emergency.
 - OSHA's Emergency Action Plan standards require Ameresco to have a written emergency action plan (EAP). This EAP addresses emergencies that our Ameresco expects may reasonably occur at any of sites.
 - The EAP communicates to Employees, policies, and procedures to follow in emergencies. This written plan is available, upon request, to Employees, their designated representatives, and any OSHA officials who ask to see it.
 - Our emergency action plan must be in writing, kept in the workplace, and available to Employees for review. However, if Ameresco has 10 or fewer Employees, we may communicate the plan orally to Employees.
 - If the requirements of the facility owner supersede or supplement the practices of Ameresco, these will additionally be followed.
 - **Administrative Duties**
 - Ameresco's site Representative Safety Officer (RSO), or his designee (operations manager) as may be necessary, is the EAP administrator and has overall responsibility for the plan. This responsibility includes the following:
 - Developing and maintaining a written Emergency Action Plan for regular and after hours work conditions.
 - Notifying the local fire or police departments, and the building owner/superintendent in the event of an emergency affecting the facility.
 - Taking security measures to protect Employees.
 - Integrating the Emergency Action Plan with any existing general emergency plan covering the building or work area occupied.
 - Distributing procedures for reporting emergencies, the location of safe exits, and evacuation routes to each employee.
 - Conducting drills to acquaint Employees with emergency procedures and to judge the effectiveness of the plan.
 - Training designated Employees in emergency response such as the use of fire extinguishers and the application of first aid.
 - Deciding which emergency response to initiate (evacuate or not).
 - Ensuring that equipment is placed and locked in storage rooms or desks for protection.
 - Maintaining records and property as necessary; and
 - Ensuring that our site meets all local fire codes, building codes, and regulations.
-

Ameresco's RSO is responsible for reviewing and updating the plan as necessary. Copies of this plan may be obtained from the RSO's office.

Key management personnel home telephone numbers are kept in a safe place, on office and work area bulletin boards, and in Ameresco vehicles, for immediate use in the event of an emergency. Key emergency phone numbers are to be entered in management and supervisory personnel telephones. These telephone numbers of key management personnel have been distributed all supervisors to be retained in their homes for use in communicating an emergency occurring during non-work hours:

If, after reading this plan, you find that improvements can be made, please contact the Ameresco's RSO. We encourage all suggestions because we are committed to the success of our Emergency Action Plan. We strive for clear understanding, safe behavior, and involvement in the program from every level of the Ameresco.

- **Alarms**

- Cellular phones will be the primary means of communications and notification and the cell phones will be tested in all area/facilities that will be visited to ensure adequate cellular provider service so that it can be trusted to be operational & be available for use in cases of emergency. Applicable Site emergency procedures (EOP/EAP) & communication knowledge & capabilities (such as training, safe refuge maps, PA system) will be conducted.
- All Employees are to be made aware of alarms and emergency notification systems that are used at the project location.
- Emergency telephone numbers are to be posted near stationary telephones, on emergency notice boards, and other conspicuous locations for use when telephones serve as a means of reporting emergencies.
- Emergency Reporting and Weather Monitoring Procedures
- When Employees detect an emergency that requires an evacuation, such as a fire or hazardous release, they should activate the fire alarm and exit the building or outside work area to the designated safe area for a headcount. The fire department will be notified via telephone.

- **Emergency Evacuation Procedures**

- Some emergencies require evacuation or escape procedures, while some require Employees to stay indoors, or in a safe area. Our emergency escape procedures are designed to respond to many potential emergencies, depending on the degree of seriousness. Nothing in these procedures precludes the plan administrator's authority in determining whether Employees should remain inside or evacuate.
 - The Ameresco operations manager must designate and train Employees to assist in a safe and orderly evacuation of other Employees.
 - Ameresco procedures for evacuation must include type of evacuation and exit route assignments. At this Ameresco, the following types of emergency evacuations exist:
 - Total and immediate evacuation
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- Partial evacuation
 - Our emergency escape procedures and assignments are designed to respond to many potential emergencies that require them, including fire, tornado, bomb threat, and chemical release.
 - Employees need to know what to do if they are alerted to a specific emergency. After an alert is sounded to evacuate, Employees should take the following steps:
 - Cease work immediately and proceed to the nearest available exit.
 - Go to your designated safe area for a headcount and further instructions.
 - **Procedures to Account for Employees**
 - Trained evacuation personnel assist in safe and orderly evacuation for all types of emergencies that require evacuation. Once evacuation is complete, they conduct head counts. The Employees selected are trained in the complete workplace layout and the various alternative escape routes from the workplace. All trained personnel are made aware of Employees with disabilities who may need extra assistance, such as using the buddy system, and of hazardous areas to be avoided during emergencies. Before leaving, these Employees check rooms and other enclosed spaces in the workplace for Employees who may be trapped or otherwise unable to evacuate the area.
 - Supervisors must be aware of the locations of those Employees working on a particular day when an emergency occurs and be aware of who is absent or otherwise away from the premises. Accounting for
 - Employees will aid local responding fire/rescue departments in determining whether rescue efforts are necessary without unwarranted risk of life or injury.
 - Once each evacuated group of Employees have reached their evacuation destinations, each trained evacuation employee:
 - Takes roll of his or her group,
 - Makes sure all persons are accounted for,
 - Reports into a central checkpoint managed by RSO, and
 - Assumes role of department contact to answer questions.
 - **Fire**
 - NO Employees should remain in the affected area(s). Head count results should be given to the Fire Chief or firefighter, if requested.
 - No Employees are to return to their work area until advised by the operation manager or designee (after determination has been made that such re-entry is safe).
 - Upon sounding the alarm, all personnel shall evacuate the work area by the most direct route. The routes are shown on the workplace maps posted on the bulletin boards.
 - Prior to exiting, turn off machine at your workstation or close the valves on gas operated equipment such as oxygen/acetylene carts. Do not try to retrieve items or tools.
 - As the circumstances allow, the work area supervisor, shall ensure that all equipment is secured, and all areas are checked to ensure that no employee remains in his area.
-

- All Employees shall go directly upon sounding the alarm to the assembly area. At no time will anyone leave this area unless directed by management or supervision. Do not try to re-enter the work area to obtain personal items or tools. Supervisors will report to the RSO or his or representative with the names of all Employees counted and any unaccounted-for personnel as soon as the head count is completed.
 - Any firefighting, rescue or medical duties will be performed by the fire department, police department, or hospital medical personnel. At no time will our personnel attempt on their own initiative, a rescue or fire suppression, after departing the area. The only firefighting attempted by our personnel will be in the incipient stage of the fire.
 - Should an employee discover a fire, he or she will notify the Supervisor in that area who will advise the RSO or his or her representative. At the same time the Supervisor will direct the use of fire extinguishers against the fire and evacuate when he or she deems it necessary.
 - The RSO will be responsible for furnishing any further information to the Employees concerning this plan.
- **Weather Monitoring Procedures**
 - The RSO will monitor for potential of severe weather by internet and radio Employees will aid local responding fire/rescue departments in determining whether rescue efforts are necessary without unwarranted risk of life or injury.
 - Once each evacuated group of Employees have reached their evacuation destinations, each trained evacuation employee:
 - Takes roll of his or her group,
 - Makes sure all persons are accounted for,
 - Reports into a central checkpoint managed by, and
 - Assumes role of department contact to answer questions.
 - NO Employees should remain in the affected area(s). Head count results should be given to the Fire Chief or firefighter, if requested.
 - No Employees are to return to their work area until advised by the operations manager or designee (after determination has been made that such re-entry is safe).
 - **Weather Monitoring Procedures**
 - The operations manager and the RSO will monitor for potential of severe weather by internet and radio.
 - **Hurricane and Storm Plan**
 - Ameresco has developed specific practices for potential severe weather for sustained winds over 35 mph or gusts over 58 mph, and for potential storm surges. The checklist to execute these practices can be found as Appendix A.
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- **Tornado**

- Upon being advised of the distinct possibility that a tornado may strike the area the operation manager or his representative shall sound the alarm. All personnel shall seek shelter immediately by either crawling under sturdy work desk, equipment, inside rooms or basements within the shop after shutting off power to machines.
- Upon sounding all clear signal which will be a voice signal and providing the tornado missed the shop, all personnel shall resume normal production duties.
- If the tornado strikes and all clear is sounded by the U.S. Weather Bureau, it may still be necessary to evacuate part of the work area.
- Personnel in the building will be advised by voice communication by the operation manager or his representative as to what action is necessary. If evacuation is deemed necessary, those personnel to be evacuated will proceed directly to their designated assembly area. Do not try to retrieve personal items or tools. Head counting procedures will be the same as for fires. At no time will you leave this area unless directed by management or supervisory personnel.

All firefighting, rescue and medical duties will be performed by fire department, police department, and hospital medical personnel. At no time will our personnel attempt on his/her own initiative a rescue after departing the work area.

The operation manager will be responsible for furnishing any further information to the Employees.

- **Earthquake**

- Upon realization that an earthquake is occurring, Employees are to get into an open area or under the nearest equipment that will provide you overhead protection from falling objects. Try to stay away from electrical lines and overhead storage racks containing heavy objects.
 - Upon sounding the alarm, all personnel shall evacuate the area by the most direct exit. The routes are shown on the workplace maps posted on bulletin boards.
 - Do not try and retrieve personal items or company property.
 - The work area supervisor prior to exiting the work area shall ensure no employee remains in the office.
 - Upon sounding of an alert, all Employees shall go directly to the assembly area and remain there for a head count by your supervisor. At no time will you leave the area unless directed by management or supervisory personnel. Do not try to re-enter the work area to obtain personal items or company property. Supervisors report to the operation manager or his or her representative the names of personnel counted and any unaccounted personnel as soon as the head count is completed.
-

- Any rescue or medical duties will be performed by fire departments, police departments, or hospital medical personnel. At no time will our personnel attempt to initiate a rescue or fire suppression after departing the work area. Any reentry is upon the instruction of emergency or top site management personnel.
 - **Medical Emergencies**
 - After a medical emergency has been identified, the operations manager has the responsibility to assure that the RSO or Senior Management Team Member has been notified.
 - The severity of the medical emergency, the number of individuals that are involved, and level of action required will be determined.
 - All Medical Emergency Care Providers will use the proper PPEs as outlined in the control of blood borne pathogens and will follow the proper standards of care.
 - All injured or ill Employees requiring emergency medical care for life/death medical emergencies will be transported by local Emergency Medical Services (EMS) to the nearest local hospital or other center capable of providing treatment.
 - **Rescue or Medical Duties**
 - Ameresco Employees are prohibited from engaging in rescue and/or medical duties, unless specifically advised by the operations manager or the RSO. Local Emergency Medical Services (EMS) and Fire Departments are to be contacted to handle such emergencies.
 - Physical Threats and Security Breaches
 - The operations manager will notify the necessary law enforcement personnel, of any threats of harm to site personnel or property.
-

EXHIBIT D

EMERGENCY ACTION PLAN

FIRST AID GUIDES

**(CPR, AED, Shock, Heart Attack, Serious and Minor Wounds, Burns ,
electric shock, broken bones, spinal injury, eye injury and heat Illnesses)**

HEART ATTACK

1. CALL 911:
 2. MAKE PATIENT AS COMFORTABLE AS POSSIBLE IN A SITTING POSITION.
 3. DO NOT ALLOW PATIENT TO MOVE. ASSIST PATIENT IF MOVEMENT IS NEEDED.
 4. IF PATIENT LOSES CONSCIOUSNESS, MONITOR FOR BREATHING AND CIRCULATION AND ADMINISTER CPR IF NEEDED.
 5. SEE THE CPR PROCEDURE
 6. SEE THE AED PROCEDURE
 7. HAVE SOMEONE WAIT FOR MEDICAL HELP TO DIRECT THEM TO CORRECT LOCATION.
-

CPR

ONE MAN CPR

1. ESTABLISH UNRESPONSIVENESS.
 2. CALL 911
 3. OPEN AIRWAY
 4. CHECK BREATHING
 5. GIVE 2 SLOW BREATHS AND WATCH CHEST RISE AND FALL.
 6. AFTER TWO BREATHS, IF NO SIGN OF BREATHING OR CHEST MOVEMENT, BEGIN CHEST COMPRESSIONS
 7. PLACE BOTH HANDS ONE ON TOP OF THE OTHER IN THE CENTER OF THE CHEST RIGHT BETWEEN THE NIPPLES AND PRESS STRAIGHT DOWN 1 ½ TO 2 INCHES AT A RATE OF 100 TIMES PER MINUTE.
 8. AFTER 30 COMPRESSIONS GIVE 2 SLOW BREATHS.
 9. USE AN AED AND FOLLOW THE AED PROCEDURE IF AVAILABLE (PAGE 8), IF NOT GO TO STEP 10
 10. CONTINUE UNTIL PATIENT RECOVERS OR SOMEONE RELIEVES YOU.
-

CPR

TWO MAN CPR

1. ESTABLISH UNRESPONSIVENESS.
 2. CALL 911
 3. FIRST RESCUER:
 - OPEN AIR WAY AND CHECK BREATHING, WATCHING CHEST RISE AND FALL.
 - CHECK CAROTID PULSE.
 4. SECOND RESCUER:
 5. IF NO PULSE, GIVE 5 CHEST COMPRESSIONS FOLLOWED BY 1 SLOW BEATH BY FIRST RESCUER.
 6. AFTER ONE MINUTE OF RESCUE SUPPORT, CHECK PULSE.
 7. USE AN AED AND FOLLOW THE AED PROCEDURE IF AVAILABLE (PAGE 8), IF GO TO STEP 8.
 8. IF NO PULSE, CONTINUE 5:1 CYCLE.
 9. CONTINUE UNTIL PATIENT RECOVERS OR RELIEVED BY MEDICAL HELP.
-

AED OPERATION

TO PREPARE FOR ECG ANALYSIS AND DEFIBRILLATION

1. VERIFY THAT THE PATIENT IS IN CARDIAC ARREST. (Unconscious, not breathing normally and no signs of circulation. No coughing, no pulse and no movement).
 2. PRESS ON/OFF TO TURN ON THE AED
 3. PREPARE THE PATIENT FOR ELECTRODE PLACEMENT:
 - PLACE THE PATIENT ON A HARD SURFACE AWAY FROM STANDING WATER AND CONDUCTIVE MATERIAL
 - REMOVE CLOTHING FROM PATIENTS TORSO
 - REMOVE EXCESSIVE HAIR FROM THE ELECTRODE SITES (SHAVE IF NECESSARY, AVOID CUTTING SKIN)
 - CLEAN THE SKIN AND DRY IT BRISKLY WITH A TOWEL
 - DO NOT APPLY ALCOHOL OR ANTIPERSPIRANT TO THE SKIN
 1. APPLY THE ELECTRODE TO THE PATIENTS CHEST
 - PLACE THE + ELECTRODE LATERAL TO THE PATIENTS LEFT NIPPLE WITH THE CENTER OF THE ELECTRODE IN THE MIDAXILLARY LINE, IF POSSIBLE.
 - PLACE THE OTHER ELECTRODE ON THE PATIENTS UPPER RIGHT TORSO, LATERAL TO THE STERNUM AND BELOW THE CLAVICLE
 - STARTING FROM ONE END. PRESS THE ELECTRODES FIRMLY INTO PATIENTS SKIN
 2. CONNECT THE ELECTRODE CONNECTOR TO THE AED.
 3. FOLLOW THE SCREEN MESSAGES AND VOICE PROMPTS PROVIDED BY THE AED.
 4. IF THE PATIENT RECOVERS CONSCIOUSNESS AND / OR SIGNS OF CIRCULATION AND BREATHING RETURNS, PLACE THE PATIENT IN THE RECOVERY POSITION AND LEAVE THE AED ATTACHED.
-

SHOCK

1. CALL 911:
 2. LIE PATIENT FLAT ON THEIR BACK WITH FEET ELEVATED 12 TO 18 INCHES.
IF PATIENT HAS HEAD INJURY DO NOT ELEVATE FEET.
 3. MAINTAIN AIRWAY, BREATHING, AND CIRCULATION (ABC's).
 4. TREAT CAUSE OF SHOCK, IF POSSIBLE.
 5. MAINTAIN PATIENT'S BODY TEMPERATURE.
 6. DO NOT ALLOW PATIENT TO EAT OR DRINK.
 7. HAVE SOMEONE TO MEET MEDICAL HELP TO DIRECT THEM TO CORRECT LOCATION.
-

WOUNDS

SERIOUS WOUNDS

1. CALL 911:
2. CONTROL BLEEDING BY DIRECT PRESSURE WITH DRY STERILE DRESSING.

**NOTE: PROTECT YOURSELF WITH PROPER BLOODBORNE
PATHOGEN EQUIPMENT**

3. ELEVATE IF WOUND IS ON EXTREMITY.
4. USE PRESSURE POINTS IF STILL UNABLE TO CONTROL BLEEDING.
5. TREAT FOR SHOCK
6. HAVE SOMEONE TO MEET MEDICAL HELP TO DIRECT THEM TO CORRECT LOCATION.

MINOR WOUNDS

1. PERFORM FIRST AID TO COVER WOUND AND STOP BLEEDING.

**NOTE: PROTECT YOURSELF WITH PROPER BLOODBORNE
PATHOGEN EQUIPMENT**

2. TAKE PATIENT TO MEDICAL FACILITY FOR TREATMENT PLANT
SUPERVISOR OR PLANT MANAGER SHOULD ACCOMPANY THEM.
-

BURNS

FIRST DEGREE BURNS

1. COOL THE BURN WITH COOL WATER OR WET TOWELS.
2. COVER BURN AREA WITH DRY STERILE DRESSING.
3. HAVE THE BURN TREATED BY MEDICAL FACILITY IF SERIOUS.
4. IF FIRST DEGREE BURNS ARE OVER LARGE AREA, THEN TREAT FOR SHOCK AND CALL 911.

SECOND AND THIRD DEGREE BURNS

1. CALL 911:
 2. TREAT FOR SHOCK.
 3. COOL BURN AREA BY COOL WATER OR DAMP TOWELS.
 4. COVER AREA WITH DRY STERILE DRESSING.
 5. HAVE SOMEONE TO MEET MEDICAL HELP TO DIRECT TO CORRECT LOCATION.
-

ELECTRIC SHOCK

1. CALL 911:
 2. DE-ENERGIZE THE SOURCE OF THE ELECTRIC SHOCK.
 3. ASSESS THE AIRWAY, BREATHING AND CIRCULATION (ABC's) AND PERFORM CPR IF NEEDED.
 4. TREAT FOR SHOCK.
 5. TREAT EXTERNAL BURNS BY COOLING THE BURN AREA.
 6. COVER BURN AREA WITH DRY STERILE DRESSING.
 7. HAVE SOMEONE TO MEET MEDICAL HELP TO DIRECT THEM TO CORRECT LOCATION.
-

BROKEN BONES

1. CALL 911:
 2. TREAT PATIENT FOR SHOCK.
 3. DETERMINE LOCATION OF FRACTURE IF NOT READILY NOTICEABLE.
 4. STOP ANY BLEEDING AND COVER WITH STERILE DRESSING.
 5. IMMOBILIZE FRACTURE BY SPLINTING EXTREMITY TO PREVENT ANY MOVEMENT.
 6. HAVE SOMEONE TO MEET MEDICAL HELP TO DIRECT THEM TO CORRECT LOCATION.
-

HEAD AND SPINAL INJURY

1. CALL 911:
 2. IMMOBILIZE THE HEAD AND NECK IN A NEUTRAL POSITION.
 3. MAINTAIN OPEN AIRWAY.
 4. SUPPORT PATIENT'S BREATHING.
 5. MONITOR CIRCULATION AND GIVE CPR IF NEEDED.
 6. EXAMINE AND TREAT OTHER SERIOUS INJURIES.
 7. DO NOT MOVE PATIENT UNLESS NECESSARY TO PERFORM CPR OR REMOVE FROM DANGEROUS ENVIRONMENT.
 8. HAVE SOMEONE MEET MEDICAL HELP TO DIRECT TO CORRECT LOCATION.
-

EYE INJURY

1. CALL 911:
 2. PLACE PATIENT ON THEIR BACK.
 3. COVER EYE WITH DRY STERILE DRESSING.
 4. IF OBJECT IS IMPALED IN THE EYE, PLACE PAPER CUP OVER OBJECT.
 5. BANDAGE BOTH EYES TO KEEP PATIENT FROM MOVING EYES.
 6. TREAT FOR SHOCK.
 7. HAVE SOMEONE MEET MEDICAL HELP TO DIRECT TO CORRECT LOCATION.
-

HEAT ILLNESS

HEAT EXHAUSTION

1. SYMPTOMS ARE HEAVY SWEATING, DIZZINESS, NAUSEA, AND WEAK PULSE.
2. PATIENT WILL BE IN MILD SHOCK DUE TO FLUID LOSS.
3. CALL 911:
4. TREAT PATIENT FOR SHOCK AND IF CONSCIOUS, GIVE FLUIDS.
5. MOVE PATIENT TO COOLER ENVIRONMENT.
6. MONITOR THE PATIENT'S AIRWAY, BREATHING AND CIRCULATION (ABC's)

HEATSTROKE

1. SYMPTOMS ARE HOT FLUSHED DRY SKIN.
 2. CALL 911:
 3. MOVE PATIENT TO COOLER ENVIRONMENT.
 4. COOL PATIENT'S BODY WITH COOL WATER.
 5. ADMINISTER THE PATIENT A DRINK OF COLD WATER IF CONSCIOUS..
 6. MONITOR THE PATIENT'S AIRWAY, BREATHING AND CIRCULATION (ABC's).
-