

A-M ELECTRIC, INC

SAFETY PROGRAM

2023

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ADMINISTRATIVE PROCEDURES

A. PURPOSE AND SCOPE

The goal of this program is to provide information for this company to conduct their operations so that injuries to people, damage to property and/or the environment will be avoided. Every effort will be made to prevent accidents. The objective is to provide a clean, safe and healthy working environment for all employees. It is this company's intention to comply with all safety and health standards that are enforced by local, state or federal authorities.

The Administrative Procedures identified here more specifically address the requirements as identified in 1926.20(b) Accident prevention responsibilities to initiate and maintain such programs and 1926.21 Safety training and education to recognize, avoid and prevent unsafe conditions.

This company will provide engineering controls, administrative controls, personal protective equipment and training to abate hazards and to prevent injury and illness. This company has developed policies, rules and procedures which will contribute to the safety of all employees.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Monitor the implementation and enforcement of the policies and procedures established by this safety program as well as the requirements set forth by federal, state and local regulations.
 - Serve as the Chairman of the Safety Committee and ensure that the following actions are implemented:
 - Review the conditions of the workplace and jobsites.
 - Develop an effective plan to address the abatement of hazards.
 - Provide on-going safety training to workers, supervisors, safety committee members, and management.
 - Maintain of all records and documents associated with the safety program and generate all required reports.
 - Conduct accident and incident investigations and provide corresponding reports.
 - Maintain an effective system of communication between workers, supervisors and management relevant to the safety program and abatement of hazards.
 - Communicate company policies and procedures with other contractors, subcontractors and hosts, and ensure that all work is performed in a safe and compliant manner.
 - Conduct a periodic review of the safety program as a whole and make revisions as needed to address changing regulations or conditions.

Management

Management will:

- Provide the time, resources and authority needed to develop and execute the safety program.

- Monitor the progress of the safety program and take action to ensure its success. This will include the review of incident reports, accident reports, policies, procedures and written communication.
- Lead by example and follow the same policies, procedures and rules established for the workers.

Supervisors

Supervisors will:

- Ensure a "competent persons" is available as needed for each work area (jobsite). Competent persons will have the knowledge to recognize hazards and the authority to take appropriate action.
- Evaluate their assigned work areas. They will identify hazards and take action to abate the hazards in accordance with federal, state, and local regulations as well as the policies, procedures and rules established by this company.
- Inspect and monitor their assigned work areas. They will ensure that all work is performed safely and in accordance with federal, state, and local regulations as well as the policies, procedures and rules established by the company.
- Enforce the policies, procedures, and rules established in the safety program in accordance with the company disciplinary policy.
- Assist in the on-going training of workers by conducting periodic safety talks and activities. They will also bring any problems or concerns of the workers to the attention of management, the Safety Director and/or the Safety Committee.
- If requested, will serve on the Safety Committee and complete assigned tasks needed to execute the safety program.

Employees

All employees are:

- Required to work safely in accordance with state, federal and local regulations as well as the rules established by this company. This will include, but is not limited to, OSH Act 5(b) *"Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct."*
- Required to notify their supervisor immediately of any unsafe acts or conditions they observe.
- Encouraged to take an active role in the safety program and make recommendations to improve any and all parts of the program.

C. SAFETY RULES

All company safety policies and procedures must be followed.

Anyone known to be under the influence of alcohol and/or drugs shall not be allowed on company property. Persons with symptoms of alcohol and/or drug abuse are encouraged to discuss personal or work-related problems with the supervisor/or employer.

No one knowingly shall be permitted or required to work while his or her ability or alertness is impaired by fatigue, illness, or other causes that might expose the individual or others to injury.

Horseplay, scuffling and other acts which tend to endanger the safety or well being of employees are prohibited. Fighting or instigating fights will not be tolerated.

All injuries shall be reported promptly to the supervisor/employer so that arrangements can be made for medical and/or first aid treatment.

Work shall be well planned and supervised to prevent injuries when working with equipment and handling heavy materials. When lifting heavy objects; employees should bend their knees and use the muscles of the legs instead of the smaller muscles of the back.

Employees should be check to see that all guards and other protective devices are in place, and properly adjusted, and shall report deficiencies to management.

Employees shall not handle or tamper with any electrical equipment, machinery or air or water lines in a manner not within the scope of their duties unless they have received instructions from their supervisor/or employer. Only trained and authorized employees shall operate machinery, equipment, tools or company vehicles.

All tools and equipment must be inspected before and after each use. NEVER use damaged equipment. Destroy or tag defective tools and equipment out of service.

Observe all warning signs and tags. Ask your supervisor if you are not sure what they mean.

All power tools and sources of ignition that may be present shall be turned off or disconnected before working with solvent materials with a low flashpoint. Smoking is only allowed in designated areas.

Machinery shall not be repaired or adjusted while energized or in operation. All adjustments and repairs must be done in accordance with the Hazardous Energy Control Plan.

Employees shall cleanse thoroughly after handling hazardous substances, and follow special instructions from authorized sources.

Sturdy work shoes, preferably high top leather with nonskid soles, are recommended. Inappropriate footwear shall not be worn. Insulated shoes should be worn as needed. Only clothing that will not contribute to injury from electric arcing and burns shall be worn. Flame Resistant (FR) clothing may be needed per our Electrical Safety Program. Pants shall be long-legged. Hats and gloves must be worn when necessary. Loose or frayed clothing, dangling ties, finger rings, etc. must NOT be worn around moving machinery or other places where they can get caught.

Approved protective equipment shall be worn in specified work areas and in the execution of tasks that require their use.

In addition to the rules established here, employees are expected to follow all safety policies, procedures and instructions provided in training.

D. ACCIDENTS/INCIDENTS

Each company employee has the responsibility to immediately report all work-related accidents, incidents (near miss accidents) or illnesses to his/her supervisor.

Unsafe acts and conditions observed by any employee should immediately be brought to the attention of the supervisor.

Supervisory personnel are required to document all accidents, incidents, illnesses, unsafe acts and unsafe conditions reported by employees and submit a report to the Safety Director as soon as possible.

Supervisory personnel are required to immediately take the appropriate corrective action that will ensure the prevention of future accidents and/or incidents.

The Safety Director will ensure that a thorough investigation of the incident/accident is made and that additional corrective action, if required is taken.

In the case of a fatality or hospitalization of three or more employees the Safety Director will be notified as soon as possible. The Safety Director will notify the local OSHA Office or contact 1-800-321-OSHA to report the accident within 8 hours of receiving notice of it.

E. RECORDS

The Safety Director will ensure that all records and documents related to the safety program are properly maintained. This will include material safety data sheets, accident/incident reports, and the OSHA Log and Summary.

The Safety Director will ensure accidents are entered in the OSHA log within 6 days of knowledge of the accident.

Medical records, if required will be kept with the physician administering the service.

Requests for documents and records should be submitted to the Safety Director.

F. COMMUNICATION AND TRAINING

No employee will be allowed to perform a job or task unless they have received training on the hazards present and the precautions necessary to perform the job safely. The Safety Director will ensure the following training is provided:

Orientation Training

Each new and newly assigned worker will participate in a safety orientation training session. Participants will be instructed in all elements of the company safety program and will complete all safety training required by federal and local agencies.

Refresher Training

On-going safety training will be a primary component of the company safety program. This training may take the form of classroom or on-the-job instruction. The Safety Director and Safety Committee will establish a training agenda. This agenda will include all refresher training required by federal, state and local agencies. The training agenda will also be based on a recent hazard analysis and review of accident/incident reports.

Hazard Specific Training

Before beginning a new job a review of the hazards will be conducted by the supervisor. Training will be provided for any new hazards introduced to the workers. This may include the introduction of new substances, equipment, tools, processes or procedures.

Job Briefings

Job site supervisors will conduct a job briefing at the beginning of each shift. Briefings will be performed per the company protocols and the briefings checklist used. The job briefing will identify job assignments, procedures to be followed and the actions that will be taken to protect workers in the performance of their assigned tasks. Additional briefings will be conducted as tasks, assignments or conditions warrant.

Safety Talks/Meetings

The Safety Director will ensure that periodic safety talks, activities and meetings are conducted by supervisors on the job. They will provide refresher training to workers and introduce new policies, procedures, and hazard

controls to be applied. The meetings will also serve as a means for workers to bring safety concerns to the attention of management.

Management/Supervisor/Safety Committee Training

Special training will be provided to management, supervisors and safety committee members. This training will address the requirements of OSHA regulations and best safety practices used in our industry. Training will be provided on an on-going basis so that our safety program is kept current and effective.

G. SAFETY EVALUATIONS AND INSPECTIONS

Each employee will perform a safety check of the work area at the beginning of the shift. They will also check equipment, tools and personal protective equipment before each use.

The supervisor will evaluate their assigned work area for hazards and ensure that a plan is established to abate hazards. They will ensure that hazards are abated in accordance with federal, state, and local regulations as well as the policies, procedures and rules established by the company.

Supervisors will inspect the work area, equipment, tools and protective equipment at the beginning of each shift. Supervisors will continue to monitor activity throughout the shift so that incidents/accidents are prevented.

The Safety Director, Safety Committee or an assigned representative will perform periodic inspections. A report of the inspections will be generated and action taken to improve the safety and health of workers.

H. MULTI-EMPLOYER WORKSITE POLICY

The Safety Director will ensure that all safety procedures are reviewed with the Host Employer, General Contactor and Affected Contractors before a job begins. Specific written policies and procedures will be shared. This review will include materials safety data sheets, emergency action plans, and the interpretation of signs and tags. All relevant information will be communicated to supervisors and workers.

I. VISITORS

No visitors will be allowed on company property or jobsites unless they have received permission from a designated company representative and completed all necessary paperwork.

Visitors entering will be escorted by designated personnel and receive a briefing on appropriate safety precautions to be observed. Required protective equipment will be provided as needed.

J. DISCIPLINARY POLICY

This company strives to create a safe and healthy workplace for all employees. To achieve this objective will require the cooperation of everyone. Supervisors must enforce all company safety policies and procedures.

In the event that any employee deliberately fails to follow the prescribed safe work procedure or deliberately fails to use the prescribed safety equipment disciplinary action may be initiated.

Incidents that involve imminent danger or in the opinion of the supervisor show a complete disregard for safety shall be immediately referred to management for appropriate action.

K. SAFETY COMMITTEE

This organization has established a joint employee-management safety committee to protect the safety and health of its employees.

Role of the Safety Committee

The Safety Committee will:

- Perform an ongoing evaluation of the safety program.
- Review the conditions of the workplace and assist in developing plans to address the hazards and comply with OSHA regulations.
- Review all documents, records and reports associated with the safety program and recommend actions to improve performance and compliance with OSHA regulations.
- Review all communication between workers, supervisors and management relevant to the safety program and recommend actions to be taken.
- Accept and complete assigned tasks needed to execute the safety program.

Organization of the Safety Committee

The Safety Committee will be comprised of supervisors and selected workers who have taken an interest in safety. The Safety Director shall serve as a representative of management and act as Chairman of the Safety Committee.

Safety Committee Procedures

The safety committee will meet once a month. The Chairman will establish an agenda to be followed.

The Chairman will ensure that minutes of each meeting are taken. The Chairman will review the results of the meeting with management and take appropriate actions.

A report of the meeting will be posted or communicated to employees at monthly safety talks.

L. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Jobsite Hazard Assessment/ Analysis	Used to assess project or task specific hazards to determine controls needed (written programs, safety equipment, etc.) and associated costs	Filed with Project estimates	NECA eSafetyLine www.esafetyline.com/neca/manual
Safety Program Checklist	Used to perform an annual review of companywide and jobsite safety programs	Filed with company annual review files	NECA eSafetyLine www.esafetyline.com/neca/manual OSHA Tools for Safety & Health Program Assessment www.osha.gov/doc/outreachtraining/htmlfiles/evaltool.html
Jobsite Safety Checklist	Conducted weekly or as needed to evaluate and address jobsite hazards	Filed at jobsite with other periodic project review files	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.ezoshac.com/Jobsite%20Safety%20Inspection%20Checklist.pdf
Accident Investigation Forms	Used to collect data for investigation, entry into OSHA Logs and company database	Filed with company OSHA records	NECA eSafetyLine www.esafetyline.com/neca/manual
Job Briefings Protocol	Describes the procedures for and a checklist for performing Job Briefings	Filed with Jobsite safety records	NECA eSafetyLine www.esafetyline.com/neca/manual NFPA 70E Annex I Job Briefing and Planning Checklist www.nfpa.org
Safety Committee Meeting Forms	Used to maintain a record of Committee activities and recommendations	Filed with Safety Committee records	NECA eSafetyLine www.esafetyline.com/neca/manual
Electrical Construction Employee Safety Handbook	An employee pocket guide as a reference to basic safety rules and precautions	Provided to each employee upon hire	NECA Store http://necanet.org/publications/

BLOODBORNE PATHOGENS EXPOSURE CONTROL PROGRAM

A. PURPOSE AND SCOPE

The goal of the following Exposure Control Plan (ECP) is to eliminate or minimize occupational exposures to Bloodborne pathogens.

The basis of this Plan is the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030. Although this is a General Industry standard, it can be applied to construction activities where exposure may occur, such as protection for first-aid responders. As required by OSHA in 1926.50 Medical services and first aid and consistent with the direction in NFPA 70E Standard for Electrical Safety in the Workplace, first-aid responders will be available on all company jobsites. This program will therefore provide protection for these individuals against bloodborne pathogens.

B. EMPLOYEE EXPOSURE DETERMINATION

Occupational exposure to blood and body fluids is limited to our designated first-aid responders or employees engaged in special duties where that potential may exist. However, any employee who in the unlikely event has been exposed to blood or body fluids should immediately report it their supervisor to determine the appropriate action as it relates to possible exposure to bloodborne pathogens.

Our facility has decided to: (check appropriate line).

☐ Offer hepatitis B vaccination to the first-aid provider after an exposure has occurred.

☐ Offer pre-exposure vaccination.

C. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Provide a copy of the Plan to employees free of charge and within 15 days of the request
- Maintain reports of any exposure incident. The report will include the first-aider's name, the date, time and description of the exposure incident.
- Train first-aid providers on the Bloodborne Pathogen requirements including the specifics required for reporting procedures.
- Ensure that any first-aider requesting the Hepatitis B vaccine series after an exposure incident receives it as soon as possible, but no later than 24 hours after the incident.
- Review and update the ECP annually, or as needed, to include any new or modified tasks and procedures that affect occupational exposure. The update will include any new or revised employee positions with occupational exposure.

First-Aid Responders

First-Aid Responders will:

- Be trained on the Bloodborne Pathogen requirements by or under the direction of the Safety Director.
- Report all first aid incidents where blood or potentially infectious materials are present to the Safety Director before the end of the work shift.
- Use appropriate Personal Protective Equipment (PPE) when attending to an exposure incident.

Health Care Provider

The Health Care Provider (HCP) will:

- Conduct post exposure examinations and administer vaccinations as needed.

Employees

All employees will:

- Abide by all engineering controls and safe work practices in place to minimize potential exposure. This includes, but is not limited to, hand washing and use of the appropriate PPE.

D. ENGINEERING CONTROLS AND WORK PRACTICES

Engineering controls and work practice controls will be used to prevent or minimize exposure. Hand washing facilities are available at all jobsites. Employees will wash after administering first-aid. All equipment will be decontaminated or discarded in appropriate containers.

E. PERSONAL PROTECTIVE EQUIPMENT

First-aid responders will use PPE appropriate for administering the first-aid required. All jobsite first-aid kits will contain:

- Gloves
- Eye protection
- Resuscitation bags and mouthpieces
- Face shield or masks

F. HOUSEKEEPING

In the event of a first-aid incident or other exposure covered by this Plan, the first-aid responders exposed will take precautions to decontaminate work surfaces, tools and equipment. PPE will be used during cleanup.

Mechanical means such as tongs, forceps or a brush and a dust pan will be used to pick up contaminated broken glassware. The waste will be treated as regulated waste and disposed of in sealed and labeled or color-coded containers. When storing, handling, transporting or shipping regulated waste, it will be in containers that are constructed to prevent leakage. The waste will be discarded according to federal, state, and local regulations.

In the event of a first-aid incident in which the first-aid responder's clothes become contaminated, the following actions will be taken:

- Contaminated laundry will be handled as little as possible and with a minimum of agitation.
- Appropriate PPE will be worn when handling contaminated laundry.

- Contaminated laundry will be placed in color-coded bags at its location of use, and taken by a commercial launderer. The launderer will be given the appropriate warnings.

Labeling

Biohazard warning labels will be placed on all containers for wastes which may be contaminated with blood or body fluids, or red bags will be used as required.

G. TRAINING

All designated first-aid responders or other employees covered by this Plan will receive training conducted by or under the direction of the Safety Director. The training program will cover, at a minimum, the following elements:

- A copy and explanation of the standard
- Causes, control and symptoms of Bloodborne pathogens
- Modes of transmission of Bloodborne pathogens
- The ECP and a way to obtain a copy
- Methods to recognize tasks that risk exposure and other activities that may involve exposure to blood
- Use and limitations of Engineering Controls, Work Practices, and PPE
- PPE types, use, location, removal, handling, decontamination, disposal and basis for selection.
- Availability procedures for the Hepatitis B Vaccine and the availability at no cost. (Training will be given prior to vaccination on its safety, effectiveness, benefits, and method of administration.)
- Emergency procedures for blood and other potentially infectious materials
- Exposure incident procedures
- Post-exposure evaluation and follow-up
- Signs, labels and/or color coding
- Question and answer session

H. POST EXPOSURE EVALUATION AND FOLLOW-UP

The Safety Director is to be contacted immediately following an exposure incident. A confidential medical evaluation and follow-up will be conducted by *Medical Professionals*

The follow-up will include:

- Documentation of the routes of exposure and how exposure occurred.
- Identification and documentation of the source employee, unless infeasible or prohibited by State or local law.

- Obtaining consent from the source employee and testing the blood, documenting these blood test results.
- If the source employee is known to be infected, testing need not be repeated.
- Providing the exposed employee with the source individual's test results, and information about applicable disclosure laws and regulations concerning the source individual's identity and infectious status.
- Obtaining consent from the exposed employee, collecting blood as soon as is feasible after the exposure incident and test blood for HBV and HIV serological status.
- If the employee does not give consent for HIV serological testing during the collection of blood for baseline testing, the baseline blood sample will be preserved for at least 90 days.

The circumstances of exposure incidents will be reviewed to determine if procedures, protocols and/or training need to be revised.

I. HEALTH CARE PROFESSIONALS

Health care professionals (HCPs) responsible for employee's HB vaccination, post-exposure evaluation and follow-up will be given a copy of the OSHA Bloodborne Standard. The health care professional evaluating an employee after an exposure incident will also receive:

- A description of the exposed employee's job duties relevant to the exposure incident
- Routes and circumstances of exposure
- Results of the source employee's blood test, if available
- Relevant employee medical records, including vaccination status.

J. HEALTH CARE PROFESSIONAL'S WRITTEN OPINION

The designated Health Care Professional will provide the exposed employee with a copy of the evaluating Health Care Professional's written opinion within 15 days after completion of the evaluation.

The written opinion for post-exposure evaluation and follow-up will be limited to whether or not the exposed employee has been informed of the results of the medical evaluation and any medical conditions which may require further evaluation and treatment. For HB vaccinations, the opinion will be limited to whether the employee required or received the vaccine. All other diagnoses must remain confidential and not be included in the written report to the employer.

K. RECORDKEEPING

Medical Records

Medical records are maintained for each employee with exposure in accordance with 29 CFR 1926.33 or 1910.20. In addition to the requirements of this standard, the medical records will include:

- The name and social security number of the exposed employee
- A copy of the exposed employee's Hepatitis B vaccination records and any medical records relative to the employee's ability to receive vaccinations
- A copy of all results of examinations, medical testing, and follow-up procedures as required

- A copy of all HCP's written opinion(s) as required by the standard

Employee medical records will be kept confidential and will not be disclosed or reported without the employee's express written consent except as required by the standard or by law.

Employee medical records shall be maintained for at least the duration of employment plus 30 yrs.

Employee medical records shall be provided (within 15 working days) upon request of the employee or to anyone having written consent of the employee.

Training Records

Bloodborne pathogen training records will be maintained by the Safety Director at a designated location.

Transfer of Records

If the company ceases to do business and there is not a successive employer, the employer shall notify the Director of the National Institute for Occupational Safety and Health (NIOSH) at least 3 months prior to a scheduled records disposal, and prepare to transmit them to the Director of NIOSH.

L. CREDENTIAL INFORMATION

Designated First-Aid Providers:

Mr. Chris Barry / Foreman

Medical Evaluations Performed By:

Mr. Chris Barry

Designated Health Care Professional:

Up State Medical

M. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to host employer/general contractor/construction manager upon request.

Credential Information	Used to compile the names of all those responsible in case of an exposure incident	Filed with the ECP	NECA eSafetyLine www.esafetyline.com/neca/manual
Bloodborne Pathogen Checklist	Used to ensure that appropriate PPE is provided.	Filed with company Safety Records	NECA eSafetyLine www.esafetyline.com/neca/manual
Medical Records	Documents used to maintain information on employees' medical status, vaccination status, and work readiness.	Filed with company Safety Records	NECA eSafetyLine www.esafetyline.com/neca/manual Various sources including HCP
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual
Hepatitis B Vaccination Declination	Allows company to track employees that refuse vaccination	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual Washington State Department of Labor and Industries http://www.lni.wa.gov/wisha/Rules/bbpat/hogens/HTML/HT5.htm

CONFINED SPACE ENTRY PROGRAM

A. PURPOSE AND SCOPE

It is the policy of the company that the first consideration in the performance of work shall be the protection of the safety and health of all employees. The company has developed this Confined Space Entry Program to ensure that all employees receive adequate training and information relevant to the possible hazards that may be involved when entering and working in enclosed or confined spaces. The following program outlines how we will accomplish this objective.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Monitor this Confined Space program. Questions regarding this program and any information associated with it should be directed to the Safety Director.

Employees

Affected employees will:

- Follow all safety procedures described in this program. All questions should be referred to the Safety Director or Supervisor.

C. DEFINITIONS

1. CONFINED SPACE:

A working space meeting all of the criteria listed below:

- Large enough for someone to enter and work
- Limited or restricted means for entry or exit
- Not designed for continuous occupancy.

Examples of possible confined spaces: tanks, transformers, circuit breakers, ventilation or exhaust ducts, tunnels, and pipelines.

2. ENCLOSED SPACE:

A working space meeting all of the criteria listed below:

- Large enough for someone to enter and work
- Limited or restricted means for entry or exit
- Is designed for periodic employee entry under normal operating conditions.

Note: This space under normal conditions does not contain a hazardous atmosphere, but may under abnormal conditions.

Examples of enclosed spaces are: a manhole, vault, switching cubicle, tunnel, or shaft.

3. HAZARDOUS ATMOSPHERE:

An environment that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from an enclosed space), injury, or acute illness from one or more of the following causes:

- Atmospheric oxygen concentration below 19.5% or above 23.5%
- Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit
- Any other atmospheric condition that is immediately dangerous to life or health.

4. PERMIT-REQUIRED CONFINED SPACE:

A confined space that has one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere
- Contains material which has the potential for engulfing an entrant
- Has an internal configuration where an entrant may become entrapped or asphyxiated by inwardly converging walls or by a floor sloping downward and tapering to a smaller cross-section
- Contains any other recognized serious safety or health hazard (i.e., a safety hazard that exposes entrants to the risk of death, incapacitation, impairment of ability to self-rescue, injury.)

5. VENTED VAULT:

A vault that has provisions for air changes using exhaust stacks and low level air intakes operating at differentials of pressure and temperature providing for air flow which precludes the development of a hazardous atmosphere.

D. HAZARD DETERMINATION

This company does not intend to perform the initial evaluation of any confined space. It has chosen to rely upon the evaluation performed by the host employer or its designee to satisfy the requirements for safe entry into the confined space. The Company's employees are not trained to enter and/or work in confined spaces that require the use of a "full permit" for entry. Our employees are trained to work in enclosed spaces or confined spaces that can utilize "Alternative Procedures" for entry and work, or one that does not require a permit (i.e. a Non Permit Required confined space.) As these spaces will be treated in the same manner to ensure safe entry the terms confined space and enclosed spaces will used interchangeably in this program.

The entering of any confined space can be very hazardous unless proper safety precautions are taken. For example, a person might work in a small area under several adverse conditions, such as poor lighting, slippery work surfaces, excessive noise levels, toxic and flammable gases, and oxygen deficient atmosphere.

Proper safety precautions shall be taken to ensure these conditions are controlled such that employees who are required to work in confined spaces are provided a safe and healthful work environment.

E. CONFINED SPACE ENTRY: NON-PERMIT

Confined spaces may be classified as non-permit spaces if all atmospheric and/or other safety hazards are eliminated. A reclassification worksheet will be used to ensure that steps are taken to identify that the hazards have been removed.

When changes occur within or to a non-permit space that may create an atmospheric hazard the following actions will be taken:

1. Evacuate the space immediately.
2. Evaluate how the hazardous atmosphere developed.
3. Eliminate condition(s) that created the problem, if possible.
4. Reentry using "alternate procedures" may be necessary.

F. CONFINED SPACE ENTRY: ALTERNATIVE PROCEDURES

1. Confined spaces that have been reclassified as non-permit spaces by removal of potentially hazardous atmospheres through the use of ventilation can be entered in the same manner as an enclosed space.
2. Safe work practices must be used during entry into and work within confined spaces, and for rescue of workers from such spaces. Be sure that employees are trained in safety-related work practices and procedures, and other safety requirements related to job assignments (e.g., general safety and welding, cutting, and electrical work safety requirements.)
3. Employees who enter confined spaces must be trained in the following:
 - Hazards of confined space entry

- Confined space entry procedures
 - Confined space rescue procedures.
4. Appropriate rescue equipment must be available to ensure the prompt and safe rescue of employees from the confined space.
 5. Before removing the entrance cover to any confined space, identify and remove all hazards:
 - Check for the presence of atmospheric pressure or temperature differences
 - Evaluate the possibility of a hazardous atmosphere; e.g., oxygen deficiency, flammable gases, Carbon Monoxide (CO), or Hydrogen Sulfide (H₂S) in the space by checking for expected conditions within the space
 6. As mentioned above, employees are prohibited from entering any "permit required" confined space because they have not been trained to do so.
 7. Test instruments used to monitor atmospheres in a confined space must be kept in calibration according to manufacturer's recommendations.
 8. Before an employee enters a confined space, the internal atmosphere must be tested from outside the space for oxygen deficiency (and flammable gases and vapors, as appropriate) with a direct-reading meter or similar instrument capable of collection and immediate analysis of data samples without the need for off-site evaluation.

NOTES:

- If oxygen levels are below "normal" the flammability test will not be accurate.
 - If it is not anticipated that a "hazardous atmosphere" could develop, the atmosphere within the confined space must be periodically or continuously monitored (e.g., area monitors, personal monitors, etc.), to ensure that the accumulation of a hazardous atmosphere does not occur.
 - If it is reasonably anticipated that a "hazardous atmosphere" could develop, continuous forced-air ventilation shall be used, and the atmosphere within the confined space shall be continuously monitored (e.g., area monitors, personal monitors, etc.), to ensure that the continuous forced-air ventilation is preventing the accumulation of a hazardous atmosphere.
 - Be sure a hazardous atmosphere (Immediate Danger to Life and Health or IDLH) does not exist within the confined space when an individual is inside.
9. When it has been determined that the space is safe for entry, a written certification will be made available to each employee entering the confined space. The "Confined Space Checklist" at the end of this program can be used for this purpose.
 10. If a hazardous atmosphere is detected upon entry or while working the following actions will be taken:
 - Evaluate the confined space entry immediately
 - Evaluate how the hazardous atmosphere developed
 - Take actions to ensure the hazardous atmosphere is controlled or perform pre-entry testing just prior to re-entry to ensure the atmosphere is safe for re-entry.
 11. If flammable gases or vapors are detected, or an oxygen deficiency is found, forced air ventilation will be used to maintain oxygen at a safe level and to prevent a hazardous concentration of gases or vapors from accumulating. It is permissible to use a continuous monitoring program in place of ventilation to ensure that there is no increase in flammable gas or vapors, once safe levels of these substances have been detected.
 12. If continuous forced air ventilation is used, it will begin before any entry occurs into the confined space or enclosed space, and must be maintained until a safe atmosphere is confirmed, before employees are allowed to enter the work area. The ventilation will be directed so that it ventilates the immediate area where employees are present within the confined space. Forced ventilation will continue until all employees have left the space unless continuous monitoring is used.

CONFINED SPACE ENTRY: CHECK- LIST

LOCATION: _____

TYPE OF WORK: _____

(1)	<u>ATMOSPHERIC TEST</u> OXYGEN _____ % COMBUSTIBLES: _____ CARBON MONOXIDE _____ HYDROGEN SULFIDE _____	<u>ACCEPTANCE LIMITS</u> BETWEEN: 19.5% - 23.5% LEL: LESS THAN 10% UNDER 35 PPM UNDER 10 PPM
-----	---	--

YES

NO

(2) VENTILATING SPACE _____

(3) GUARD RAIL AROUND OPENING _____

(4) ATMOSPHERE MONITORED
INITIAL (must be done) _____
CONTINUOUS _____ PERIODIC _____

(5) DOES THIS JOB REQUIRE AN OPEN FLAME? _____

(6) LIST ANY SPECIAL EQUIPMENT THAT IS REQUIRED FOR THIS JOB:

(7) DESCRIBE ANY SPECIAL PRECAUTIONS THAT MUST BE FOLLOWED DURING THIS ENTRY:

CHECK LIST COMPLETED AND IS SAFE FOR ENTRY

SIGN: _____ DATE: _____

Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual
Disciplinary Actions	Used to identify actions taken	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

4. ELECTRICAL SAFETY PROGRAM

4.0 ELECTRICAL SAFETY

A. PURPOSE AND SCOPE

A universal safety concept is to control all forms of hazardous energy. This applies to all forms of energy including, mechanical, pneumatic, hydraulic and electric. This Electrical Safety Program will focus on safely working with electrical hazardous energy.

This company normally does work covered by OSHA's 29 CFR 1910.147, Subpart S Electrical of the General Industry Standards & Subpart K Electrical of the Construction Industry Standards and the National Electrical Code (NEC). In some instances work is done that is covered by OSHA's 29 CFR 1910.269 & 1926 Subpart V and the National Electrical Safety Code (NESC). It also recognizes that NFPA 70E the Standard for Electrical Safety in the Workplace offers guidance on certain electrical safety procedures.

OSHA and the NFPA 70E:

OSHA requirements are not recommendations. There are a number of OSHA requirements that address the hazards of working on or near exposed energized parts for construction and maintenance work. These requirements are often written in performance language, requiring compliance without necessarily stating how to comply.

The NFPA 70E, Standard for Electrical Safety in the Workplace, is written in prescriptive language and is an important national consensus standard that defines the requirements for an overall electrical safety program.

As such, the procedures found within this policy are taken directly from the NFPA 70E - 2009 edition and will cover the majority of the work locations and tasks our electricians and contractors face. It is NOT all encompassing.

Certain tasks performed on very high hazard electrical systems and equipment, those with high level available fault currents and / or long fault clearing times, or exposures exceeding 600 volts, will require the direct use of the NFPA 70E standard to determine proper PPE and work procedures.

B. RESPONSIBILITIES

General Contractor/Host

The General Contractor/Host will:

- Review the letter provided by our company on Customer or General Contractor electrical related hazards and responsibilities.
- inform our Safety Director of known hazards associated with electrical installation, maintenance or repair that is related to the work our company will be performing and might not be recognized by our employees
- inform our Safety Director about the installation that the contract employer needs to make the assessments
- report any safety violations by our employees that are observed to our Safety Director

Safety Director

The Safety Director will:

- Monitor this Electrical Safety Program. Questions regarding this program and any information associated with it should be directed to the Safety Director.
- Ensure that all employees are properly trained for the tasks they will perform. Only persons specifically approved by the Safety Director may install, modify, repair, or work on electrical conductors and equipment.
- Participate in the approval of all energized work and preparation of the Energized Electrical Work Permit required for work to begin.
- With the assistance of the supervisor and/or their designees, perform periodic assessments of employees to ensure their abilities are appropriate for the tasks performed.
- Perform an audit annual of the electrical safety principles identified in this program.

Supervisors

Supervisors will:

- Ensure that safe work methods and procedures are being utilized.
- Ensure that the right tools are available and used for the jobs performed.
- Ensure required inspections, testing and maintenance are performed. Where tools or equipment are found to be defective, they shall be tagged, removed from service, and reported to Safety Director as soon as possible.

Employees

All employees:

- Must continuously remain alert to his or her surroundings and the work activities being performed.
- Will follow all safety procedures described in this program.
- Will perform inspections on all equipment and tools before each use. Where tools or equipment are found to be defective, they shall be tagged, removed from service, and reported to supervision as soon as possible.
- Shall report any conditions or activities which pose a risk to themselves or others. Remember, when you see that a safety rule is being violated, that **silence is consent!**
- Will refer all questions to the Safety Director or Supervisor

C. ELECTRICAL SAFETY PRINCIPLES AND CONTROLS

The following basic principles are the foundation upon which this electrical safety program has been established. All company employees including management, the Safety Director, Supervisors and employees shall apply these principles to the all tasks.

- The inspection and evaluation of electrical equipment shall be part of all procedures.
- All electrical conductors and circuit parts shall be considered energized until tested and proven otherwise.

- The integrity of equipment enclosures and insulation shall be maintained unless exposure is absolutely necessary and actions have been taken to provide the appropriate protection (e.g. work cannot be performed with the enclosure in place and equipment and conductors have been placed in an electrically safe work condition or an Energized Electrical Work Permit has been completed in accordance with this program.)
- Work will not begin on a job unless a written plan is in place identifying the procedures to be used. Jobs which have not been performed and for which no plan exists will require the development of a new plan.
- The primary method for ensuring safety shall be to deenergize (create an electrically safe work condition) in accordance with the company Lockout/Tagout (LOTO) program in section 4.1.
- Work that must be performed energized shall be justified as follows and requires completion and approval of an Energized Electrical Work Permit
 - Energized work shall only be justified when it can be demonstrated that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Energized parts that operate at less than 50 volts to ground shall not be required to be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.
 - *Examples of increased or additional hazards include, but are not limited to, interruption of life support equipment, deactivation of emergency alarm systems, and shutdown of hazardous location ventilation equipment.*
 - *Examples of work that might be performed on or near exposed energized electrical conductors or circuit parts because of infeasibility due to equipment design or operational limitations include performing diagnostics and testing (e.g., start-up or troubleshooting) of electric circuits that can only be performed with the circuit energized and work on circuits that form an integral part of a continuous process that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.*
- In preparing for a job, an effort will be made to anticipate unexpected events through a hazard/risk evaluation, completion of a planning checklist, and job briefing.
- Based on the hazard/risk evaluation, actions will be taken to minimize or eliminate hazards and protect employees from shock, burn, blast, and other hazards due to the working environment.
- Employees shall not knowingly be permitted to work on electrical circuits, parts or equipment:
 - When their alertness is recognizably impaired due to illness, fatigue, or other reasons.
 - Where obstructions or the lack of illumination prevent a clear view of the work to be performed.

D. EMPLOYEE INFORMATION AND TRAINING

All employees are trained in and familiar with:

- Safety related work practices
- Safety related work procedures
- Safety related protective equipment
- Safety related personal protective equipment.

Qualified employees are knowledgeable, trained and have demonstrated proficiency in:

- Skills and techniques necessary to distinguish exposed live parts from other parts

- Skills and techniques to determine nominal voltage of exposed live parts
- Minimum approach distances corresponding to those that the employee may be exposed,
- The proper use of special precautionary techniques, personal protective equipment (PPE), insulating and shielding materials, and insulated tools as required to perform the assigned work.

Refresher training will be conducted prior to performing those tasks which have not been performed within the past year, or when observation of the employee's work performance demonstrates the need for refresher training.

A Job Briefing shall be conducted as described in the Administrative section of this manual.

E. RESOURCES AND REFERENCES

To effectively execute this program and procedures identified in this section of our safety manual here the following documents may be used. The documents will be filed with company records as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/ construction manager upon request.

DOCUMENT	DESCRIPTION	LOCATION	SOURCE
Electrical Safety Checklist	Used to identify common workplace electrical hazards	Filed with jobsite inspection records	NECA eSafetyLine www.esafetyline.com/neca/manual
Assured Equipment Grounding Program	Used to ensure the safety of electrical cords (i.e. tool power cords and extension cords) when GFCI protection is not used	Filed with company jobsite records	NECA eSafetyLine www.esafetyline.com/neca/manual
Recognizing Live Parts and Voltage	Guide used to recognize live parts and voltage at a jobsite	Filed with jobsite inspection records	NECA eSafetyLine www.esafetyline.com/neca/manual
Training Attendance Rosters	Used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

ELECTRICAL SAFETY PROGRAM

LOCKOUT/TAGOUT (LOTO) PROGRAM

A. PURPOSE AND SCOPE

This procedure shall be used to prevent employee exposure to hazardous electrical energy. It establishes the minimum requirements for lockout (tagout) of electrical energy sources. It provides procedures for ensuring conductors and circuit parts are disconnected from electrical energy sources and that stored energy sources are controlled. Control includes release of the stored energy as well as the prevention of re-accumulation of energy.

An individual employee control procedure will be used and no lockout tagout will be required under the following circumstances:

- Equipment with exposed conductors and circuit parts are deenergized for minor maintenance, servicing, adjusting, cleaning, inspection, or similar operation
- Disconnecting means are adjacent to the conductor, circuit parts, and equipment on which the work is performed,
- The disconnecting means is clearly visible to all employees involved in the work,
- The work does not extend beyond the work shift.

However, all steps in Section C shall be completed to ensure individual employee control is appropriate and all energy sources are identified and controlled.

B. TRAINING AND RESPONSIBILITIES

All employees shall receive training as prescribed in Section B(2) of this program. All new or transferred employees and all other persons whose work operations are or might be in the area shall be instructed in the purpose and use of this procedure. A list of these employees (or job titles of employees with responsibility) is attached here. Where needed a separate list will be included in the procedures for a given operation where LOTO is used. All persons installing a LOTO device shall sign their names and the date on the tag. For a complex LOTO the name of the individual or person in charge will be identified in the plan along with procedures for maintaining contact with that individual.

Training

All employees engaged in LOTO shall receive the following training:

- The importance of LOTO and its impact on safety
- The purpose and procedures set forth in this program as well as any individual LOTO plans developed for a specific operation
- Recognizing LOTO devices
- Installing LOTO devices
- Duty of employer in writing procedures
- Duty of employee in executing procedures
- Duty of person-in-charge
- Authorized and unauthorized removal of locks/tags
- Enforcing execution of LOTO procedures

- Individual employee control of energy
- Simple LOTO
- Complex LOTO
- Using single line and diagrammatic drawings to identify sources of energy
- Use of tags and warning signs
- Release of stored energy
- Personnel accounting methods
- Grounding needs/requirements
- Safe use of voltage detecting instruments
- Additional training as needed to address specific hazards associated with a given operation

C. PREPARATION FOR LOCKOUT (TAGOUT)

All disconnecting means shall be identified and located to ensure that energy is interrupted by a physical break and not deenergized by a circuit interlock. This shall be accomplished by reviewing current diagrammatic drawings or other means, tags, labels, and signs. A list of disconnecting means to be locked (tagged) will be developed and attached to the plan for each LOTO operation.

Each disconnecting means shall be evaluated to determine adequacy of their interrupting ability. Based on the evaluation, it will be determined if verification of a visible open point is possible, or if other precautions are needed.

Work activity where any personnel might be exposed to sources of electrical energy hazards will be identified. It will be determined if there are any other energy sources in the area where employees may be exposed to other types of energy. Energy control methods will be established for all hazardous energy sources.

A voltage detector rated for voltage to which employees may be exposed will be selected for the operation. A procedure will be established for each operation to determine that the voltage detector is operating properly.

The possibility of induced voltages or stored electrical energy will be identified. Grounds will be applied as needed before touching conductors or circuit parts.

D. LOCKOUT (TAGOUT) STEPS

The following identifies the basic steps for LOTO. In addition to these steps, it shall be determined whether a Simple or Complex LOTO can be performed. The Complex LOTO plan shall address any additional steps required. A Complex LOTO will be performed when any of the following exist:

- Multiple energy sources (more than one)
- Multiple crews
- Multiple crafts
- Multiple locations
- Multiple employers
- Unique disconnecting means
- Complex or particular switching sequences
- Continues for more than one shift, that is, new workers

1. Notify employees a lockout (tagout) is going to be implemented and the reason. A qualified employee knowledgeable of hazards associated with electrical energy shall implement the lockout (tagout). He/She shall know the location of disconnecting means for all sources of electrical energy and stored energy.
2. The qualified person shall deenergize and disconnect the electric supply and relieve all stored energy.
3. All disconnecting means will be locked/ tagged out with lockout (tagout) devices. Refer to Section H for appropriate devices.

Where only a tag is used, one of the following additional safety measures will be used to prevent reenergization

- ☒ Opening the circuit at Electrical Panel
- ☒ Blocking the circuit at Electrical Panel
- ☐ Removal of the following circuit element _____

4. To determine that operation is prohibited, the person applying the LOTO shall attempt to operate the disconnecting means.
5. A voltage-detecting instrument shall be used. Refer to Section H for appropriate devices. Inspect the device and do not proceed if it is damaged. Secure an undamaged device and proceed.
6. Verify proper operation of the device and test for absence of voltage.
7. Repeat verification of device after testing for absence of voltage.
8. Where needed, install grounds on the phase conductors or circuit parts, to eliminate induced voltage or stored energy. Where it has been determined that contact with other exposed energized conductors or circuit parts is possible, apply ground connecting devices rated for the available fault duty.
9. LOTO Complete

E. REMOVAL OF LOTO

1. Visually verifies work is complete.
2. Clean up and remove all tools, equipment, and unused materials.
3. Remove all grounds.
4. Notify all personnel involved that the lockout (tagout) is complete, electrical energy will be restored, and to remain clear of equipment and electrical energy.
5. Perform quality control checks.
6. Remove lockout (tagout) devices (This must be done by the person(s) who installed them).
7. Notify the owner that the equipment and/or electrical supply is ready to be returned to normal operation.
8. Return the disconnecting means to their normal condition.

F. SPECIAL PROCEDURES

Each person shall install his/her own personal lockout (tagout) device for all simple LOTO operations where more than one person is involved.

When the lockout (tagout) extends for more than one day, the lockout (tagout) shall be verified to be still in place at the beginning of the next day. Where the lockout (tagout) is continued on successive shifts, the lockout (tagout) is considered to be a complex lockout (tagout).

G. DISCIPLINE

Any violation of the procedures in this program will result in:

A Warning

Anyone who knowingly operates a disconnecting means that has been locked out or tagged out device will be:

Dismissed from the Job

H. EQUIPMENT

Only the following type of locks shall be used for LOTO:

- Type: Breaker Type
- Model: Ideal

Only the following type of tags shall be used for LOTO:

- Type: Breaker Type
- Model: Ideal

3 The following voltage detecting device(s) shall be used depending on the applicable voltage

- Voltage Range: 600V Meter
- Type: Fluke / Ideal
- Model: T+ Pro
- Voltage Range: 480V / 600V
- Type: Fluke / Ideal
- Model: T+ Pro

I. AUDIT

An audit of this program and procedures shall be conducted annually. The annual audit shall be dated and filed at December 31

J. RESOURCES AND REFERENCES

To effectively execute this program and procedures identified in this section of our safety manual here the following documents may be used. The documents will be filed with company records as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/ construction manager upon request.

Complex LOTO Program	Written Program needed for LOTO involving multiple crews, circuits; etc.	Added to Jobsite Safety Program where needed	NECA eSafetyLine www.esafetyline.com/neca/manual Lockout/Tagout Guide and the NECA PPE Selector for required precautions when working live circuits.
List of Employees Responsible for Electrical Tasks	Used to identify those individuals trained in and responsible for electrical tasks	Filed with jobsite records	NECA eSafetyLine www.esafetyline.com/neca/manual
Training Guide and Attendance Rosters	Safety Talks, Activities, Tests, and Attendance Rosters used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

NEEDS AND BENEFITS OF ENERGIZED ELECTRICAL SAFETY PROGRAM

THE NEED

PROTECTION OF ELECTRICIANS

Working around electricity has always been dangerous. There is a need to protect you, the worker, from these hazards:

1. **Electrical Shock** - The risk of electrical shock is a well-recognized hazard. Insulated gloves have long been recognized as the Personal Protective Equipment for this hazard.
2. **Arc Flash & Arc Blast** - The Arc hazard is now greater due primarily to utilities increasing their distribution system capacities to keep up with growth. This has caused available fault currents to increase, creating a work environment for the electrician where exposure to arc flash and blast forces are greater than ever before.

PROTECTION OF PROPERTY

We must also recognize the need for protection of electrical equipment and property. In every case of arc flash and arc blast there is damage to property. If an electrical accident involving energized electrical equipment results in a fire, there will be significant additional damage to the facility.

PROTECTION OF BUSINESS PROCESSES

We are providing services to an ever-changing business world. The business world operates at a pace where lost time is lost money – more than ever before. We, as professional electricians, need to provide services in a way that does not interrupt our customer's business functions. The goal of this policy is **NO ACCIDENTS**.

- NEEDS AND BENEFITS OF THIS POLICY -

THE BENEFIT

FOR ELECTRICIANS

We all want and EXPECT to go home at the end of the day without injury. Electricians should not have to be exposed to unreasonable risk to make a living. Your families and loved ones want and need you to come home whole at the end of the workday. This policy helps you do just that. Implementation of this policy will significantly reduce your exposure to serious electrical accidents and risk of death. You must have the self-discipline to adjust your work habits to reflect these practices to maximize your safety and wellbeing.

FOR CONTRACTORS

Accidents and injuries impair any contractor's ability to compete in the marketplace. Accidents are not only costly when they occur but also in the future in the form of higher costs of insurance and bonding. Contractors that hire IBEW electricians that practice this policy will have significantly fewer accidents and less costly ones. This policy insures that contractors are complying with OSHA safety requirements.

FOR CUSTOMERS

Our customers do not accept unnecessary risk of accidents, equipment damage, or interrupted business process when our electricians follow this policy. Customers recognize that when electrical outages are scheduled in order to safely perform electrical work, they will know the time and duration of the electrical outage rather than try to recover from an outage due to an accident.

CONCLUSION

It is in the best long-term interest of ALL parties involved to practice DE-energized electrical work and follow this Energized Electrical Work (EEW) policy. These work procedures are based on information found within the NFPA 70E standard. This "standard for electrical safety in the workplace" provides best-method practices and guidelines to provide protection for our electrical workers, customers and electrical contractors.

ELECTRICAL SAFETY PROGRAM

ENERGIZED ELECTRICAL WORK

A. PURPOSE AND SCOPE

This program has been established to keep our electrical workers safe from hazards associated with energized electrical work tasks. Using this policy will help keep our NECA and IBEW electrical contractors compliant with state and federal requirements for employee safety in the workplace.

OSHA and NFPA 70E standards require that all energized circuit parts and equipment be DE-ENERGIZED before any employee works on or near them. De-energizing must be used as the primary method of worker protection from electrical hazards.

Exemptions to Work Permit. There are very few exceptions to this rule. *Work performed on or near live parts by qualified persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment in accordance with this procedure are provided and used.*

B. DEFINITIONS

1. ARC FLASH HAZARD ANALYSIS:

A study investigating a worker's potential exposure to arc-flash energy, conducted for the purpose of injury prevention and the determination of safe work practices, arc flash protection boundary, and the appropriate levels of PPE.

2. ARC FLASH PROTECTION BOUNDARY:

An approach limit at a distance from exposed live parts within which a person could receive a second-degree burn if an electrical arc flash were to occur. Refer to NFPA 70E Article 130.3 (A) (1)

3. ARC RATING:

The maximum incident energy resistance demonstrated by a material (or a layered system of materials) prior to breakopen or at the onset of a second-degree skin burn. Arc rating is normally expressed in calories per centimeter squared.

4. CALORIE PER CENTIMETER SQUARED (cal/cm^2):

The unit of measurement used to express the amount of thermal energy released during an arc flash event.

5. ELECTRICAL HAZARD:

A dangerous condition such that contact or equipment failure can result in electrical shock, arc flash burn, thermal burn, or blast.

6. ELECTRICAL HAZARD ANALYSIS:

Appropriate safety-related work practices shall be determined before any person is exposed to the electrical hazards involved by using both shock hazard analysis and arc flash hazard analysis. NFPA 70E (110.8 (B) 1)

7. ELECTRICALLY SAFE WORK CONDITION:

A state in which an electrical conductor or circuit part has been disconnected from energized parts, locked and tagged in accordance with established standards, tested to ensure the absence of voltage and grounded if determined necessary.

8. EMERGENCY PROCEDURES:

Employees exposed to shock hazards shall be trained and regularly instructed in methods of release and resuscitation of victims from contact with exposed energized electrical conductors or circuit parts.

9. ENERGIZED ELECTRICAL WORK:

Working on or near exposed energized parts 50 volts or greater and / or within the flash protection boundary.

10. ENERGIZED ELECTRICAL WORK PERMIT:

If live parts are not placed in an electrically safe work condition, work by a qualified person shall be performed by written permit only.

Exception: Diagnostics, testing, troubleshooting, voltage measuring shall be permitted to be performed without an EEW permit, provided appropriate safe work practices PPE is provided and used.

11. EQUIPMENT LABELING:

Equipment shall be field marked with a label containing the available incident energy or required level of PPE.

12. EXPOSED:

(As applied to energized electrical conductors or circuit parts) Capable of being inadvertently touched or approached nearer than a safe distance by a person. It applies to energized parts that are not suitably guarded, isolated or insulated.

13. FLAME-RESISTANT (FR):

The property of a material whereby combustion is prevented, terminated, or inhibited following the application of a flaming or non-flaming source of ignition. FR Personal Protective Equipment is rated in cal / cm².

14. HAZARD/RISK EVALUATION PROCEDURE:

An electrical safety program shall identify a hazard/risk evaluation procedure to be used before work is started within the Limited Approach Boundary of energized electrical conductors and circuit parts operating at 50 volts or more or where any electrical hazards exists.

15. HOST AND CONTRACT EMPLOYER RESPONSIBILITIES:

The host employer (general contractor, customer or owner) and the contract employer(s) shall inform each other of existing hazards, personal protective equipment, FR clothing requirements, safe work practice procedures, and emergency & evacuation procedures applicable to the work to be performed. NFPA 70E (110.5 A & B)

16. INCIDENT ENERGY:

The amount of energy impressed on a surface, a certain distance from the source, generated during an electrical arc event. One of the units used to measure incident energy is cal / cm².

17. JOB BRIEFING:

Before starting each job, the employee in charge shall conduct a job briefing with the employees involved. The briefing shall cover subjects identified on the Energized Electrical Work Permit such as hazards associated with the job, work procedures involved, special precautions, energy source controls, and PPE requirements.

18. LESS THAN 50 VOLTS:

For voltages of less than 50 volts, the decision to de-energize should include consideration of the capacity of the source and any overcurrent protection between the energy source and the worker.

19. PERSONAL PROTECTIVE EQUIPMENT (PPE):

Employees working in areas where electrical hazards are present shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body and for the work to be performed. The equipment shall be maintained in a safe, reliable condition and shall be visually inspected before each use.

20. QUALIFIED PERSON:

A person who is trained and knowledgeable of the construction and operation of equipment or a specific work method and is trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method.

Such persons shall also be familiar with the proper use of special precautionary techniques, personal protective equipment, including arc-flash, insulating and shielding materials, and insulated tools and test equipment. A person can be considered qualified with respect to certain equipment and methods, but still be unqualified for others.

21. RATING:

Test instruments, equipment, and their accessories shall be rated for circuits and equipment to which they will be connected. They shall be inspected and correct operation verified before and after an absence of voltage test is performed.

22. SAFETY TRAINING:

Employees shall be trained in safety-related work practices and procedural requirements as necessary to provide protection from the electrical hazards associated with their respective job or task assignments. NFPA 70E (110.6 A & B) (110.6 D & E)

23. SHOCK HAZARD ANALYSIS:

A shock hazard analysis shall determine the voltage to which personnel will be exposed, boundary requirements, and the PPE necessary in order to minimize the possibility of electric shock to personnel.

24. SHOCK HAZARD BOUNDARIES:

The shock protection boundaries, identified as Limited, Restricted, and Prohibited approach boundaries, are applicable to the situation in which approaching personnel are exposed to energized electrical conductors and circuit parts.

Limited – An approach limit at a distance from an exposed energized electrical conductor or circuit part within which a shock hazard exists. For the purpose of this document (< 600V) the Limited Approach Boundary is 42 inches.

Restricted – An approach limit at a distance from an exposed energized electrical conductor or circuit part within which there is an increased risk of shock, due to electrical arc over combined with inadvertent movement, for personnel working in close proximity to an energized electrical conductor or circuit part. For the purpose of this document (< 600V) the Limited Approach Boundary is 12 inches.

Prohibited – An approach limit at a distance from an exposed energized electrical conductor or circuit part within which work is considered the same as making contact with the electrical conductor or circuit part. For the purpose of this document (< 600V) the Limited Approach Boundary is 1 inch.

25. WORK DE-ENERGIZED:

Live parts shall be put into an electrically safe work condition (by de-energizing and using lockout/tagout) before an employee is exposed to electrical hazards. (See Lockout / Tagout Procedures)

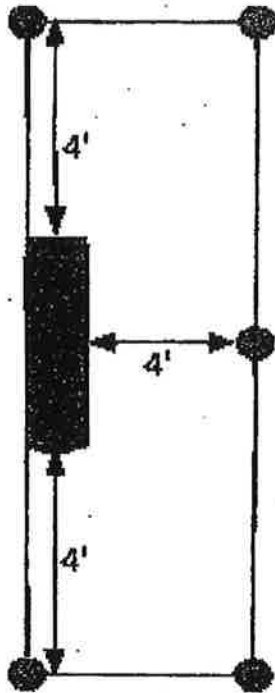
When the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operation limitations, energized work may be allowed.

Examples of increased or additional hazards:

- Interruption of life support equipment,
- Deactivation of emergency alarm systems.
- Shutdown of hazardous location ventilation equipment.

Examples of infeasibility due to equipment design or operational limitations:

- Diagnostics and testing/troubleshooting.
- Circuits that form an integral part of a continuous process that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.



PERFORM SHOCK & ARC FLASH HAZARD ANALYSIS TO DETERMINE ARC FLASH PROTECTION AND SHOCK PROTECTION BOUNDARIES, PREDICT POTENTIAL INCIDENT ENERGIES AND SELECT APPROPRIATE PPE.

Keep in mind that Arc Flash Protection Boundary distances vary based on the amount of available fault current and the clearing times of overcurrent protection devices. Shock Protection Boundaries vary based on the nominal voltage and fixed electrical parts (buss) vs. moveable conductors (overhead lines = 10" clearance).

DEFAULT DISTANCES FOR THIS DOCUMENT ARE:

Shock - exposed fixed parts = 42" minimum

Arc Flash = 4' minimum *

*for systems not exceeding maximum 100KA cycles
(product of clearing time multiplied by available fault current)



Shock Boundaries.

Prohibited Approach = 1"

Restricted Approach = 12"

Limited Approach = 42"

Arc Flash Boundary = 48"

Once boundaries have been established, determine the level of potential arc flash hazard from the Table 130.7 (C)(9) located in NFPA 70E or use the NECA PPE Selector Guide.

When using Table 130.7 (C)(9) of NFPA 70E:

Locate the specific electrical task and equipment to be worked upon, select the HAZARD RISK CATEGORY # from the task matrix. This number will identify what PPE is required for arc flash related hazards.

For protection from shock, locate the 2 columns that specify if voltage rated tools or insulating gloves are required. (Yes or No)

Document selections on your Energized Electrical Work Permit.

Remember! energized electrical work must be justified and only then shall qualified and protected persons be allowed to cross these boundaries.

C. RESPONSIBILITIES

Safety Director

The Safety Director:

- Will receive all requests to work energized.
- Will coordinate the completion and approval of the Energized Electrical Work Permit and Hazard/Risk Assessment.
- Or designee shall ensure that all employees are qualified and have receive specific training needed to work energized on the project.
- Shall compile and maintain a list of authorized individuals who have received training that qualifies them to perform specific tasks energized.

Supervisor

The Supervisor will:

- Ensure that an Energized Electrical Work Permit is revised before allowing work to begin on an energized circuit.
- Confirm the individuals assigned to work energized on the jobsite are authorized.
- Ensure PPE is provided and worn in accordance with the Hazard Assessment and Energized Electrical Work Permit.
- Ensure all boundaries are maintained

Employee

Employees will:

- Not perform any energized work for which they have not been authorized.
- Comply with the Energized Electrical Work Permit and all company safety principles including the electrical safety principles.

D. ACTIONS

Where planning has determined a phase of a project requires work to be performed energized those involved will consult with the Safety Director.

Any employee assigned to a task that feels that it must be performed energized will submit a request to the Safety Director.

An Electrical Hazard Analysis will be performed. This involves conducting both a shock hazard and arc flash hazard analysis. The Host Company shall be consulted for any information needed to complete the analysis.

The following will be documented on the company Hazard/Risk Assessment Sheet for that project:

- Shock Hazard Analysis Results
Limited, Restricted, and Prohibited Approach Boundary requirements
- Flash Hazard Analysis
Flash Protection Boundary (FPB)
PPE when inside the FPB.

The Energized Electrical Work Permit shall be completed and approved for each task before work can begin. The Permit must include:

- A description of the circuit and equipment to be worked on and the location
- Justification for why the work must be performed in an energized condition
- A description of the safe work practices to be employed
- Results of the shock hazard analysis
- Determination of shock protection boundaries
- Results of the flash hazard analysis
- The Flash Protection Boundary
- The necessary PPE to safely perform the assigned task
- Means employed to restrict access of unqualified persons from the work area
- Evidence of completion of a job briefing, including a discussion of any job-specific hazards
- Energized work approval signatures

Exemptions to Work Permit.

1. *Work performed on or near live parts by qualified persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment in accordance with this procedure are provided and used.*
2. *A single Energized Electrical Work Permit may be allowed for work that is routine and/or repetitive in nature, such as trouble shooting on a construction project. This permit must be on file with the Safety Director and a list of the specific tasks to which it applies identified. Employees must notify the Safety Director of any conditions that change or if new hazards are introduced and a new permit is created.*

The Energized Electrical Work Permit shall be reviewed by each employee performing the work and will be maintained in the immediate work area.

Employees working in areas where electrical hazards are present shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body to be protected and for the work to be performed. Clothing and equipment shall comply with the specification set forth by NFPA 70E for the task to be performed and the incident energy level to which they may be exposed.

No employees shall be allowed to work within the FPB where the incident energy level exceeds 167.36 J/cm² (40 cal/cm²).

Protective equipment shall be maintained in a safe, reliable condition. The protective equipment shall be visually inspected before each use. The requirements for periodic testing of electrical protective equipment found in the ANSI and ASTM standards referenced in sections 130.7(C)(8) and 130.7(F) of NFPA 70E shall be used for this purpose.

Protective clothing (i.e. FR apparel) shall be inspected before each use. The garment manufacturer's instructions for care and maintenance of FR apparel shall be followed.

Clothing shall cover potentially exposed areas as completely as possible. Shirt sleeves shall be fastened at the wrists, and shirts and jackets shall be closed at the neck.

Work clothing or flash suits that are contaminated, or damaged to the extent their protective qualities are impaired, shall not be used. Protective items that become contaminated with grease, oil, or flammable liquids or combustible materials shall not be used.

Conductive articles of jewelry and clothing (such as watchbands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, metal headgear, or metal frame glasses) shall not be worn where they present an electrical contact hazard with exposed live parts.

Employees shall use insulated tools and/or handling equipment when working inside the Limited Approach Boundary of exposed live parts where tools or handling equipment might make accidental contact. Insulated tools shall be protected from damage to the insulating material.

Insulated tools shall be rated for the voltages on which they are used.

Insulated tools shall be designed and constructed for the environment to which they are exposed and the manner in which they are used.

Fuse or fuse holder handling equipment, insulated for the circuit voltage, shall be used to remove or install a fuse if the fuse terminals are energized.

Ropes and handlines used shall be nonconductive.

Fiberglass reinforced plastic rod and tube used for live line tools shall meet the requirements of ASTM F 711, *Standard Specification for Fiberglass-Reinforced Plastic (FRP) Rod and Tube Used; in Live Line Tools*, 1989 (R1997).

Portable Nonconductive ladders shall meet the requirements of ANSI standards for ladders listed in NFPA 70E, Table 130.7(F).

Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near live parts that might be accidentally contacted or where dangerous electric heating or arcing might occur.

Normally enclosed live parts that are exposed for maintenance or repair shall be guarded to protect unqualified persons from contact with the live parts.

Rubber insulating equipment used for protection from accidental contact with live parts shall meet the requirements of the ASTM standards listed in NFPA 70E, Table 130.7(F).

Plastic guard equipment for protection of employees from accidental contact with live parts, or for protection of employees or energized equipment or material from contact with ground, shall meet the requirements of the ASTM standards listed in NFPA 70E, Table 130.7(F).

Conductive materials, tools, and equipment that are in contact with any part of an employee's body shall be handled in a manner that prevents accidental contact with live parts. Such materials and equipment include, but are not limited to, long conductive objects, such as ducts, pipes and tubes, conductive hose and rope, metal-lined rules and scales, steel tapes, pulling lines, metal scaffold parts, structural members, bull floats, and chains.

When an employee works in a confined or enclosed space (such as a manhole or vault) protective shields, protective barriers, or insulating materials shall be used as needed to prevent inadvertent contact with these parts. Doors, hinged panels, and the like shall be secured to prevent their swinging into an employee and causing the employee to contact exposed live parts.

Employees shall not perform housekeeping duties inside the Limited Approach Boundary where there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided to prevent contact.

Barricades, signs and warning tape shall be used to identify and maintain boundaries as determined by the Electrical Hazard Analysis.

E. EMPLOYEE INFORMATION AND TRAINING

Qualified Personnel (i.e. authorized to work energized) shall be trained in:

- The applicable procedures associated with securing and implementing an Energized Electrical Work Permit
- NFPA 70E
- OSHA Electrical Safety Work Practices
- Electrical safety work practices as need for the tasks to be performed.

Non-Qualified Personnel (workers who will assist, such as an electrical apprentice) shall be trained in:

- The applicable procedures associated with securing and implementing an Energized Electrical Work Permit
- NFPA 70E
- OSHA Electrical Safety Work Practices

Qualified and Non-Qualified personnel shall

- Receive re-training as needed.
- Participate in the job debriefing and understand all safety precautions determined by the applicable Energized Electrical Work Permit

F. RESOURCES AND REFERENCES

To effectively execute this program and procedures identified in this section of our safety manual here the following documents may be used. The documents will be filed with company records as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/ construction manager upon request.

FILE	PURPOSE	MAINTENANCE	SOURCE
Energized Electrical Work Permit	Completed for approval to work on energized parts and circuits	Filed with jobsite records as needed Tip – Complete a basic form for routine tasks that can be used on most jobs, review, edit and issue.	NECA eSafetyLine www.esafetyline.com/neca/manual (provided by Oregon Pacific-Cascade Chapter NECA) NFPA 70E Annex J Energized Electrical Work Permit www.nfpa.org
Needs and Benefits of Energized Electrical Safety Program	Used to reinforce the basis of the program with employees and customers	Copies provided on request or as needed to fulfill the purpose of the document	NECA eSafetyLine www.esafetyline.com/neca/manual (provided by Oregon Pacific-Cascade Chapter NECA)
Letter Informing Customer or GC of Electrical Related Hazards and Responsibilities	Provided to customer or GC to inform them of responsibilities	Mailed or handed to Customer / GC in pre-job meeting and filed with project files	NECA eSafetyLine www.esafetyline.com/neca/manual (provided by Oregon Pacific-Cascade Chapter NECA)

Hazard/Risk Assessment	Completed to determine hazard controls including the appropriate PPE and clothing needed.	Filed with jobsite records as needed	NECA eSafetyLine www.esafetyline.com/neca/manual NEPA/0E Annex F Hazard/Risk Evaluation Procedure
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EMERGENCY ACTION PLAN

A. PURPOSE AND SCOPE

The potential exists at every workplace that natural or manmade disasters can threaten the safety of individuals working at or occupying a facility or jobsite. The goal of this program is to provide an Emergency Action Plan to effectively respond to any threat and provide protection in the event of an incident. This plan describes the basic management procedures that are to be followed during emergencies. It also addresses the requirements for Emergency action plans as identified in General Industry 1910.38 and Construction 1926.35 as well as offers specific actions that are to be taken in response to various emergencies.

B. RESPONSIBILITIES

The response to an incident is both event and location specific. The responsibilities that follow are fundamental to the success of any Emergency Response Plan. Our company may have several representative individuals for each of the following titles are for a location. Depending on the size of the jobsite or location multiple individuals for each title may share responsibility. These individuals will be identified to the host and/or general contractor at the pre-job meeting and to employees before the job begins.

Safety Director

The Safety Director will:

- Contact Emergency Medical Services (EMS), internal and/or external Emergency Response Units, and/or law enforcement agencies, as needed and if they have not already been contacted.
- Provide communication between the Company, Host Employer General Contractor or Construction Manager and EMS, internal or external Emergency Response Units, and/or law enforcement agencies, as needed.
- Notify the Management of the emergency, and of any actions taken.
- Respond to an incident as instructed by Management
- Provide information to others affected by the emergency (property owners, contractors, etc.) regarding emergency and evacuation procedures, evacuation routes, and assembly area(s).
- Interface with all contractors to ensure coordination of their emergency response procedures with this Emergency Response Plan.

Management

The Management will:

- Authorize the Safety Director to serve as the Emergency Response Coordinator. Provide a list of back-up coordinators if the emergency will impact evening and night operations.
- Assess the situation(s) and determine the level(s) of response necessary.
- Consult with the Safety Director and site supervisor, as needed, to assist in the assessment.
- Evaluate the data provided by the Safety Director regarding the situation.
- Provide authorization to respond, including, but not limited to, evacuation of additional areas, buildings, etc. in the vicinity, as needed.
- Establish an Emergency Operations Center (EOC) or determine if one has been established for

the jobsite.

- Appoint an Incident Commander to manage the EOC or assign a company representative to the EOC if it has been established by others.
- Designate a Public Relations Officer or spokesperson for the company and inform him/her of the emergency and any of actions taken.

Public Relations (or Designated Spokesperson)

The Public Relations Spokesperson will:

- Serves as the contact and provide communication to the media and other public agencies regarding the emergency.

Supervisor

The Supervisor will:

- Provide instructions to employees on actions to take when an emergency occurs, notification to emergency responders, evacuation procedures and routes, and assembly area(s).
- Coordinate emergency and evacuation procedures, evacuation routes, and assembly area(s) with others on site.
- Make sure employees and visitors exit the site/building, and meet at the prearranged assembly area(s) during an evacuation
- Be responsible for conducting head-counts to account for all employees, contractors, and visitors.
- Assist Management, the Safety Director and Public Relations with communications, as requested.
- Provide technical support on site based on the emergency to handle jobsite or building systems' controls, as necessary.
- Assist with crowd control during evacuation.

Employees (As designated by the Safety Director)

Designated employees will:

- Assist in the evacuation of buildings (i.e., assist the handicapped, check rooms to ensure all have exited as long as it is safe to do so.)
- In the event of a bomb threat, assist in conducting a sweep of the jobsite, building areas or buildings, as directed by the Safety Director and response teams. **Note:** Employees familiar with the search area may often provide the best assistance to Safety Director and/or search teams in identifying unusual objects that do not belong in the search area.

Visitors/Contractors

In an emergency, individual employees are responsible for the safety of their visitors. If an individual is visiting you, you are to provide assistance to the visitor regarding emergency procedures and evacuation routes. The Safety Director will work with all contractors to ensure coordination of their emergency procedures with this Emergency Action Plan.

C. EMERGENCY REPORTING AND NOTIFICATION PROCEDURES

Emergency (life safety, fire, and other disasters) reporting for all jobsites shall be the 911 system unless other

emergency services have been designated for your specific location, as indicated below. When using 911, details of the incident will be provided to the dispatcher. They will ensure appropriate services such as Emergency Medical Services, Fire and Police, respond. Each location/jobsite will have an emergency notification system to make all employees aware of any incidents. At some locations a public address (PA) system is installed to provide information and emergency broadcast announcements.

Location Specific Reporting Instructions

Safety Coordinator: Mr. Chris Barry / Mr. Lynn Herbert
Phone Number: 911 or 315-243-5096 / 315-952-7818
Employee Emergency Notification Procedures: Always Call 911 first then Call
Other: The Office

Individuals calling in an emergency will:

- State the location (e.g., jobsite address or descriptors, building and floor and location on the jobsite, floor and/or room.)
- Identify the type of situation requiring emergency assistance.

Employees are directed to address personal safety first. Calls should be made only when it is safe to do so. Procedures for specific threats are contained in this program.

Emergency Alarm/Employee Notification

The following system(s) are available at the jobsite/workplace to notify personnel of an emergency situation:

- Alarm Bell/Siren
- Voice Broadcast/Bullhorn
- Other: Bullhorn

D. ESCAPE ROUTES

When evacuation is necessary individuals will leave by means of the nearest exit using escape routes as designated by the supervisor and assemble at the pre-designated meeting areas.

E. SHELTER-IN-PLACE

Depending on the emergency (tornado, biological or chemical attack, or civil disturbance), evacuation or in-place sheltering may be necessary. The supervisor shall identify "shelter in place" locations for employees to respond accordingly to alarms/emergency notifications based on the emergency procedures in this plan.

F. TRAINING

General

The Safety Director reviews the Emergency Response Plan with management. Supervisors train their employees to ensure they have a thorough understanding of the Emergency Response Plan. New employees receive training during their first day of employment.

Special

Personnel assigned to special tasks associated with a given emergency receive training regarding the hazards, control measures, and their responsibilities in emergency response. Only employees who are trained in the use of fire extinguishers are directed to use them. All other personnel must evacuate buildings or follow the instructions of emergency response personnel.

Practice

The Safety Director will coordinate with appropriate outside emergency services, and the local Fire Department to schedule evacuation exercises and fire drills.

G. MEDICAL EMERGENCY

If someone requires emergency medical attention, EMS is contacted per the Emergency Reporting and Notification Procedures. The Safety Director is notified as soon as possible once the immediate needs of the victim are managed. Training on the availability and location of defibrillators as well trained operators is provided as part of the emergency response plan training. Individuals will not attempt to move an individual in need unless trained in First Aid/CPR training and/or the victim is in greater danger if not moved.

H. ELEVATOR ENTRAPMENT

Various types of elevators may be found on any jobsite. The following provides our company procedures in the event employees are trapped in one.

- Where available a button next to the telephone symbol/icon located on the call plate may be used to automatically call building operations or security personnel.
- Where available a telephone receiver, or a panel marked with a telephone will providing access to a receiver, may be used to automatically call building operations or security personnel.

Callers will provide the responder with the elevator and floor it has stopped. Callers will stay on the phone and await further instructions. Procedures for elevators that do not have a communication devices are as follows; remain calm and be patient for someone to notice the elevator is malfunctioning, call aloud for help in a loud voice to alert passers-by and/or responders. In all cases qualified persons shall respond and assist. Trapped individuals should remain in the elevator **unless specifically directed to attempt escape.**

I. FLOODING

The Safety Directed shall be notified of any flooding on the jobsite. The Safety Director will arrange to have the water supply shut off and to send qualified personnel to respond and provide assistance.

If possible, and if it can be done safely, disconnect all electrical equipment. If the source of water is overhead and time will allow, the affected area will be cleared to minimize water damage.

J. POWER OUTAGE

Where work is performed in areas where power is normally provided and a power outage occurs, the Safety Director shall be notified due to the threat of fire. A visual inspection of the area will be conducted to rule out fire (electrical or otherwise) as the cause of the outage. Where emergency lighting allows and/or flashlights are available an evacuation of the building or area shall occur.

K. FIRE & EXPLOSION

On jobsites where a fire alarms stem is in place notification of a fire shall be provided through activation of the system by smoke, fire or a pulled alarm.

The Safety Director shall be notified immediately of any bomb threats. The person who received the call, he/she shall remain available until the Safety Director arrives. In some instances, the individual who received the call may be asked to meet with Safety Director at another location. Evacuation of the area shall be determined by the Safety Director or law enforcement.

Written Threats

Employees shall respond to written bomb threats as follows:

- Immediately notify Safety Director upon receipt of a threat.
- Promptly write down everything about the threat (i.e., location, room, area, wall, floor, etc.)
- Remain calm and do not discuss the threat with others.
- Save all materials, including envelopes or containers. Once the message is recognized as a bomb threat, further unnecessary handling should be avoided.

The Safety Director will notify appropriate law enforcement and management.

M. CHEMICAL EMERGENCIES

There are two types of chemical emergencies that can occur; a chemical leak or chemical attack. A chemical attack is the deliberate release of a toxic or unknown gas, liquid or solid that can possibly poison people and/or the environment. This can be associated with a terrorist act. A chemical leak is associated with a malfunction of a system or activity, such as a traffic accident near a jobsite involving a chemical tanker truck. The following address common emergencies or basic procedures to address hazardous chemicals should there be a release on the jobsite or in the workplace.

Chemical Leak - Natural Gas Leak

Leaks can occur on indoor lines or when outdoor lines are damaged. In the event of a natural gas leak the following procedures shall be followed which are identified by the three R's: Recognize, React, and Report.

- Recognize
 - In its natural state, natural gas is colorless and odorless. Utility companies add a distinctive odor, that of rotten eggs, to make even the smallest leaks easier to detect. You should smell this odor when a leak occurs. Other signs of a leak include a blowing or hissing sound, dead or discolored vegetation in an otherwise green area, flames (if a leak has ignited), dirt or dust blowing from a hole in the ground and/or bubbling in wet or flooded areas.
- React
 - Assess the immediate threat to human life if a fire or explosion were to occur
 - Evacuate the area as needed by providing verbal instructions and move 200 feet away from the area of the leak or the building. When in doubt about the level and possible threat, evacuate.
 - TURN OFF AND DO NOT USE cellular phones, radios, pagers.
 - DO NOT TURN ON/OFF flashlights, lights, alarms, electrical equipment, elevators or other devices capable of producing static electricity, sparks, arcs or open flame.
 - If possible, stay away from carpeted areas to avoid sparks of static electricity.
 - Do not start vehicles.
- Report
 - When you are away from the gas leak contact your Supervisor or the Safety Director.
 - Safety Director will notify Building Operations or the gas company, as appropriate.

Chemical Attack

Typically notification of a terrorist act will come through local law enforcement agencies. Actions described below offer procedures to follow in the event of a threat. A chemical attack may occur without advance warning. Signs of a chemical attack include many people suffering from watery eyes, twitching, choking,

difficulty breathing or losing coordination. Many sick or dead birds, fish or other small animals are also cause for suspicion. The following also provides procedures to follow when an incident occurs without warning.

If a threat of a chemical attack is received, the Safety Director will notify law enforcement.

If necessary and time allows for a safe evacuation of the jobsite, law enforcement will make the decision. Supervisors will be contacted regarding the evacuation.

If time does not permit a safe evacuation or an evacuation would require individuals to pass through contaminated areas, supervisors will be contacted to instruct employees, other contractors and visitors where to seek shelter. Follow the procedures for in-place sheltering as provided below. Depending upon the security considerations, the PA system may or may not be used.

Supervisors or their designees will take the lead and ensure exterior doors and windows, and air vents are closed as quickly as possible.

Staff assigned to the building will turn off all fans and heating and air conditioning systems. Some systems automatically provide for exchange of inside air with outside air. These systems, in particular, need to be turned off, sealed, and/or disabled.

If told there is a danger of explosion, close the window shades, blinds, or curtain, as appropriate.

All individuals will be directed to gather whatever essential disaster supplies are available in the building from offices, custodial closets, etc. This includes items such as nonperishable food, bottled water, battery-powered radios, first-aid supplies, flashlights, batteries, duct tape, plastic sheeting, and plastic garbage bags.

Select interior room(s) above ground floor, with the fewest windows or vents. Room(s) should have adequate space for everyone to be able to sit. Avoid overcrowding by selecting several rooms if necessary. Large storage closets, utility rooms, pantries, copy and conference rooms without exterior windows will work well. Avoid selecting a room with mechanical equipment like ventilation blowers or pipes. This equipment may not be able to be sealed from the outdoors.

It is ideal to have a hard-wired telephone in the room(s) you select. Call emergency contacts and have the phone available if you need to report a life-threatening condition. Cellular telephone equipment may be overwhelmed or damaged during an emergency.

Take emergency supplies and go into the room you have designated. Seal all windows, doors, and vents with plastic sheeting and duct tape or anything else you have on hand. Do not cover glass, just joints.

Write down the names of everyone in the room. Call the Safety Director with this information.

The Safety Director will monitor law enforcement communications as well as local radio and television, or use the Internet. The law enforcement will be kept apprised of the situation and provide further instructions. Wait at your location until you are told all is safe or to evacuate.

N. EARTHQUAKE

The following procedures shall be followed in the event of an earthquake.

Stay inside until the shaking stops and it is safe to go outside. Most injuries during earthquakes occur when people are hit by falling objects when entering or exiting buildings.

Drop, Cover and Hold On! Minimize your movements during an earthquake to a few steps to a nearby safe place.

If you are indoors, take cover under a sturdy desk, table or bench, or against an inside wall, and hold on. Stay away from glass, windows, outside doors or walls and anything that could fall, such as lighting fixtures, wall hangings, or furniture.

If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building. Doorways should only be used for shelter if they are in close proximity to you and if you know that it is a strongly supported load-bearing doorway.

If you are outdoors, stay there. Move away from buildings, streetlights and utility wires.

If you become trapped in debris:

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort - shouting can cause you to inhale dangerous amounts of dust.

If you must go out after an earthquake watch for fallen objects, downed electrical wires, weakened walls, bridges, roads and sidewalks.

Be prepared for aftershocks. These secondary shock waves are usually less violent than the main quake but can be strong enough to do additional damage to weakened structures.

If the electricity goes out, use flashlights or battery powered lanterns. Do not use candles, matches or open flames indoors after the earthquake because of possible gas leaks.

Evacuate buildings if fumes are detected and the building is not well ventilated.

O. TORNADO

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. They are most likely to occur during the spring and summer months between 3 p.m. and 9 p.m., but can occur at any time of day or night and at anytime of the year. When conditions are right for a tornado the National Weather service will issue a Tornado Watch. This means tornadoes are possible. If they issue a Tornado Warning, a tornado has been sighted or indicated by weather radar.

Tornado Watch Procedures

In the event of a tornado watch, remember the following:

- The Safety Director will monitor NOAA Weather Radio and commercial radio or television newscasts for the latest information and keep law enforcement apprised of conditions.
- If necessary, the law enforcement will close the affected facility (or facilities). Building occupants will be notified what to do over the PA system. If a PA system is not available, supervisors will be contacted to notify employees, other contractors and visitors of the closure and what to do.
- In the event time does not permit a safe evacuation, building occupants are to seek safe shelter.

Tornado Warning Procedures

In the event of a tornado warning, remember the following:

- When a tornado has been sighted, seek shelter immediately.
- Seek shelter in buildings as listed below.
- If you are in a building without a basement, go to an interior room on the lower level (closets, interior hallways). Put as many walls as possible between you and the outside. Get under a sturdy table and use arms to protect head and neck. Stay there until the danger has passed.
- Stay away from windows, doors and outside walls. Go to the center of the room. Stay away from corners because they attract debris.
- If caught outside with no shelter, lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of the potential for flooding.

Typical locations that offer a good shelter in place for tornados are: basements, hallways, corridors, and internal break rooms. Places to avoid include lobbies, near windows, away from large overhanging fixtures, etc.

P. WORKPLACE VIOLENCE

Intervention is the key to workplace violence situations. Employees shall report any pattern of behavior and attitude that causes concern to their supervisor and/or the Safety Director. The Safety Director will work with the appropriate entities to discuss procedures for diffusing the situation. For crimes in progress, violent incidents or specific threats of imminent violence employees will:

- Get to safety as quickly as possible.
- Immediately contact emergency services as provided in the Emergency Reporting and Notification Procedures. If able, use a phone out of sight and/or hearing of the individual or ask another to call for help.
- Not attempt to intervene physically or deal with the situation himself/herself. It is critical that law enforcement take charge of any incident that can or does involve physical harm.
- When making the call, stay on the line and provide the following information
 - Location
 - Your name
 - Nature of the problem
 - Number of individuals involved
 - Whether or not weapons are involved

Hostage Situation

If involved in a hostage situation, take the following actions:

- Immediately contact emergency services as provided in the Emergency Reporting and Notification Procedures, if possible. Supply as many details as possible including number of persons involved, description of hostage takers, weapons displayed, threats made, etc.
- Do what they are told without argument.
- Not attempt to negotiate or argue with a hostage taker.
- Try to get others to remain calm. Tell them to do what they are told.

Civil Disturbance

Any indication of a civil disturbance such as a demonstration, picketing, or riot shall be reported immediately to the Safety Director.

- Jobsite/building personnel should:
 - remain in the building and/or on the jobsite away from the disturbance area, unless instructed to do otherwise,
 - stay away from windows,
 - avoid confrontation with demonstrators, picketers, or rioters,
 - leave telephones clear in case contact is necessary.
- It may be necessary to lock exterior doors.
- Safety Director will arrange for escorts to enter or exit the buildings/jobsites as needed.

Q. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Emergency Response Checklist	Used to perform an annual review of companywide and jobsite safety programs	Filed with company annual review files	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.osha.gov/SLTC/etools/evacuation/docs/eap_checklist.pdf
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

FALL PROTECTION

A. PURPOSE AND SCOPE

Fall hazards are a major concern in our industry. This program has been developed to ensure that all employees are protected from these hazards while working on elevated surfaces and to comply with OSHA 29 CFR 1926 Subpart M Fall Protection.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- coordinate the type of fall protection (fixed protection systems or PPE) to be used on the jobsite with the general contractor/host/construction manager.
- will ensure that all fall protection equipment meets required specifications for the intended use.
- ensure that all personnel required to use fall protection equipment have been medically qualified and trained in the proper use of the equipment.

Supervisors

Supervisors will:

- ensure that personal fall protection systems are used where required.
- will inspect fall protection equipment on a weekly basis.

Employees

Employees will:

- be trained to recognize fall hazards and the procedures to minimize these hazards.
- use personal fall protection equipment as trained.
- inspect their fall protection equipment before each use.
- inform their supervisors of any conditions that may hinder their ability to work at heights or use personal fall arrest equipment.

C. INSTALLATION AND USE OF EQUIPMENT

All equipment will be installed and used in accordance with OSHA standards and the manufacturer's instructions.

The installation and use of equipment will be inspected and approved by a competent person. All equipment will be used only for the application for which it was designed.

D. FALL PROTECTION EMERGENCIES

Potential fall emergencies will be evaluated.

An equipment inventory will be conducted by the supervisor before each job where fall protection is required.

The supervisor will ensure that fall protection equipment or tools are available for post-fall recovery (ladders, scaffolds, man-lifts etc.), emergency phone numbers are posted and first-aid equipment and personnel are prepared to respond to a fall emergency.

E. TRAINING

Employees will receive annual training on the use of fall protection. Training will include information on the use of fall protection equipment, inspection, installation and maintenance, OSHA Safety Standards, and company procedures. Training will consist of toolbox talks and hands-on demonstrations. Re-training will be provided as needed.

Topics to be included:

- 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, warning lines, and safety monitoring systems.
- Role of each employee in the Safety Monitoring System (if one is used).
- Correct procedures for equipment and materials handling, and storage and erection of overhead protection.
- Requirements of the OSHA Fall Protection Standard, 29 CFR 1926, Subpart M.

F. FALL PROTECTION SYSTEMS

Covers

- All covers shall be secured to prevent accidental displacement.
- Covers shall be color-coded or bear the markings "HOLE" or "COVER".
- Covers located in roadways shall be able to support twice the axle load of the largest vehicle that might cross them.
- Covers shall be able to support twice the weight of employees, equipment, and materials that might cross them.

Guardrail Systems

Guardrail systems shall be erected at unprotected edges, ramps, runways, or holes where it is determined by the Safety Director that erecting such systems will not cause an increased hazard to employees. The following specifications will be followed in the erection of guardrail systems.

Toprails shall be:

- At least 1/4 inch in diameter (steel or plastic banding is unacceptable)
- Flagged every six (6) feet or less with a high visibility material if wire rope is used

- Inspected by the Safety Director as frequently as necessary to ensure strength and stability
- Placed forty-two (42) inches (plus or minus three (3) inches) above the walking/working level
- Adjusted to accommodate the height of stilts, if they are in use.

Midrails, screens, mesh, intermediate vertical members, and solid panels shall be erected in accordance with the OSHA Fall Protection Standard.

Gates or removable guardrail sections shall be placed across openings of hoisting areas or holes when they are not in use to prevent access.

Personal Fall Arrest Systems

Personal fall arrest systems shall be issued to and used by employees as determined by the Safety Director and may consist of anchorage, connectors, body harness, deceleration device, lifeline, or suitable combinations.

Personal fall arrest systems shall:

- Limit the maximum arresting force to 1800 pounds
- Be rigged so an employee cannot free fall more than six (6) feet or contact any lower level
- Bring an employee to a complete stop and limit the maximum deceleration distance traveled to three and a half (3 ½) feet
- Be strong enough to withstand twice the potential impact energy of an employee free falling six (6) feet (or the free fall distance permitted by the system, whichever is less)
- Be inspected prior to each use for damage and deterioration
- Be removed from service if any damaged components are detected.

All components of a fall arrest system shall meet the specifications of the OSHA Fall Protection Standard, and shall be used in accordance with the manufacturer's instructions.

- The use of non-locking snaphooks is prohibited.
- Dee-rings and locking snaphooks shall:
 - Have a minimum tensile strength of 5000 pounds
 - Be proof-tested to a minimum tensile load of 3600 pounds without cracking, breaking, or suffering permanent deformation.
- Lifelines shall be:
 - Designed, installed, and used under the supervision of the Safety Director
 - Protected against cuts and abrasions
 - Equipped with horizontal lifeline connection devices capable of locking in both directions on the lifeline when used on suspended scaffolds or similar work platforms that have horizontal lifelines that may become vertical lifelines.
- Self-retracting lifelines and lanyards must have ropes and straps (webbing) made of synthetic fibers, and shall:
 - Sustain a minimum tensile load of 3600 pounds if they automatically limit free fall distance to two (2) feet; or
 - Sustain a minimum tensile load of 5000 pounds (includes ripstitch, tearing, and deforming lanyards).

- Anchorages must support at least 5000 pounds per person attached and shall be:
 - Designed, installed, and used under the supervision of the Safety Director
 - Capable of supporting twice the weight expected to be imposed on it
 - Independent of any anchorage used to support or suspend platforms.

Safety Monitoring Systems

In situations when no other fall protection has been implemented, the Safety Monitor shall monitor the safety of employees in these work areas. The Safety Monitor shall be:

- Competent in the recognition of fall hazards
- Capable of warning workers of fall hazard dangers
- Operating on the same walking/working surfaces as the employees and able to see them
- Close enough to work operations to communicate orally with employees
- Free of other job duties that might distract them from the monitoring function.

No employees other than those engaged in the work being performed under the Safety Monitoring System shall be allowed in the area. All employees under a Safety Monitoring System are required to promptly comply with the fall hazard warnings of the Safety Monitor.

Warning Line Systems

Warning line systems consisting of supporting stanchions and ropes, wires, or chains shall be erected around all sides of roof work areas.

- Lines shall be flagged at no more than six (6) foot intervals with high-visibility materials.
- The lowest point of the line (including sag) shall be between 34 and 39 inches from the walking/working surface.
- Stanchions of warning line systems shall be capable of resisting at least 16 pounds of force.
- Ropes, wires, or chains must have a minimum tensile strength of 500 pounds.
- Warning line systems shall be erected at least six (6) feet from the edge, except in areas where mechanical equipment is in use. When mechanical equipment is in use, warning line systems shall be erected at least six (6) feet from the parallel edge, and at least ten (10) feet from the perpendicular edge.

G. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Fall Protection Checklist	Used to determine if and what types of fall protection are needed.	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual
Personal Fall Arrest System Checklist	Used to verify that PFASs are in good and safe working order	Filed at jobsite	http://www.ohio.edu/ehs/docs/fall_arrest.pdf
Toolbox Talks	Used to perform training on types of fall hazards and fall protection.	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.lni.wa.gov/Safety/Topics/Atoll/ToolBoxTalks/default.asp
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

FALL-ARREST SYSTEM CHECKLIST

ANCHORAGE POINTS

- ☐ Anchorage points are stable, substantial, and have sufficient strength to withstand twice the potential impact energy of the free-fall
- ☐ Anchorage points for body harnesses are located at shoulder height
- ☐ Anchorage points for self-retracting lifeline systems are located overhead
- ☐ Workers who move from one station to another or climb are protected from exposure to falls

VERTICAL LIFELINES

- ☐ Lifeline has a minimum breaking strength of 5,000 pounds (2,268 kilograms)
- ☐ Lifeline protected from abrasive or cutting edges
- ☐ System provides fall protection as the worker connects to and releases from the lifeline
- ☐ Workers never hold on to lifeline for balance
- ☐ Vertical segment is integrated with horizontal segment to provide continuous fall protection

HORIZONTAL LIFELINES

- ☐ Entire horizontal lifeline system has been designed and approved by a competent person
- ☐ Anchorages used for lifeline attachment are designed specifically for a horizontal lifeline
- ☐ Designer of the system has approved the number of workers who will be using it
- ☐ Rope or cable has required initial sag
- ☐ Hardware riding on horizontal lifeline is made of steel

FALL ARRESTERS

- ☐ Fall arrester is compatible with the lifeline on which it is to be installed or operated
- ☐ Fall arrester is in an operational condition
- ☐ Fall arrester is equipped with changeover lever allowing it to become a stationary anchor on lifeline
- ☐ Fall arrester is equipped with a locking mechanism that prevents unintentional opening of the device and subsequent disengagement from the lifeline
- ☐ Fall arrester's "up" direction is marked properly so equipment can be attached to the line correctly
- ☐ Fall arrester is included in a regular maintenance program

LANYARDS

- ☐ Lanyard length is appropriate for work to be performed but does not allow for greater than a six foot free fall nor the potato to strike a lower surface and includes a shock-absorbing feature as needed to limit arresting forces to 500-600 pounds
- ☐ Manually adjustable lanyards are used when it is desirable to be able to take slack out of the lanyard
- ☐ Employees are prohibited from tying of knots from the lanyard to the lifeline (mechanical rope grabs or fall arresters must be used)

RETRACTABLE LIFELINE (RL)

- ☐ Cable ends are properly spliced (Thimble eye, Flemish eye-spliced, and swaged fitting/ferrule)

SNAP HOOKS

- ☐ All snap hooks used are of the double-locking type
- ☐ Snap hooks are attached to D-ring, eyebolt, or other in a manner approved by manufacturer
- ☐ Snap hooks are arranged so they are never connected to each other

BODY HARNESES

- ☐ Are full-body harnesses selected for a particular job quipped with all necessary attachment points (for fall arresting, work positioning, descent control, rescue, or ladder fall-protection systems)
- ☐ Velcro type of closure use is prohibited for all load-bearing connections

TRAINING

- ☐ Employees have received training by a competent person and are retrained as needed to ensure:
 - o They understand fall hazards
 - o Follow all manufacturer's recommendations, restrictions, instructions, and warnings
 - o Know the location of appropriate anchorage points and attachment techniques
 - o Know procedures for the proper use, inspection, and storage of all equipment
 - o Rescue procedures for retrieving fallen workers

INSPECTION

All equipment is inspected before each use as follows:

- o harnesses inspected regularly for wear, abrasion, broken stitching, and missing hardware
- o snap hooks for stress, wear, distortion, and spring failure
- o Ropes or cables are free from signs of wear or abrasion

FIRE PROTECTION/PREVENTION PROGRAM

A. PURPOSE AND SCOPE

The goal of the Fire Protection program is to establish safety rules regarding the prevention and response to workplace fires. This written program works to create and maintain a safe work environment as required in 29 CFR 1926 Subpart F as well as 1926.50 (First Aid), 1926.65 (Hazardous waste/emergency response) and 1926.35 (Emergency action plans).

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Develop, implement and administer a site-specific fire prevention and protection program that will cover all jobsite offices and storage trailers, temporary warehousing and material laydown areas, vehicles and mobile equipment and work activities.
- Ensure firefighting equipment is installed and maintained at all jobsites, in vehicles and work areas.
- Identify fire hazards at the jobsite.
- Conduct fire safety training sessions that will include actual and potential fire hazards, causes of workplace fires and the procedure for work area inspections and hazard elimination or control.

Supervisor

The Supervisor will:

- Take prompt corrective actions whenever unsafe fire conditions or acts are identified.
- Inspect entire work area to ensure flammables are stored correctly and adequate fire protection is provided in all areas.

Employees

Employees will:

- Comply with all site fire prevention rules including, but not limited to, proper flammable storage.
- Know the emergency telephone number to call in case of a fire emergency.
- Report all fires immediately by way of telephone or radio and notify other nearby workers.
- Be trained to recognize potential fire hazards and the location and operation of the fire extinguisher that is located on the jobsite.
- Maintain a fire-safe work area.

C. FIRE EMERGENCY NOTIFICATION PROCEDURES

Employees will be trained in the established emergency notification procedures.

Emergency telephone numbers will be posted within each jobsite trailer that is equipped with a telephone as well as other jobsite locations such as the material laydown areas, vehicles and mobile equipment refueling areas, personnel change trailers and work areas.

All employees will immediately report all fires by calling the project's emergency phone number.

Employees will report a fire emergency on a site radio when no telephone is located nearby.

D. PORTABLE FIRE EXTINGUISHERS

Portable Fire Extinguishers rated for the potential hazard will be installed, maintained and inspected in accordance with 29 CFR 1926 Subpart F.

Portable fire extinguishers will be installed on company trucks and mobile equipment.

All portable fire extinguishers will have an attached monthly inspection tag that indicates the fire extinguisher is ready to use and fully charged.

When a portable fire extinguisher has been discharged or found to be defective it is tagged and immediately removed from service and replaced with a fully charged extinguisher of the same type and size.

All employees that may be required to use a fire extinguisher will be trained to use the extinguisher on the type that is used on the jobsite.

E. TEMPORARY HEATING DEVICES

Only temporary heating devices approved by the Safety Director will be used on the jobsite. These will be operated by electricity, propane gas, LPG or steam.

The use of kerosene, wood or oil-fired salamanders is not permitted inside temporary buildings.

Stoves and heaters will be properly vented and all vent pipes must have tight joints and be well supported.

Each heating device will have the following information permanently affixed to the unit:

- Clearances
- Ventilation
- Fuel type and input pressure
- Lighting, extinguishing and relighting instructions
- Electrical power supply characteristics.

Requirements in ANSI A10.10 "Safety Requirements for Temporary and Portable Space Heating Devices and Equipment Used in the Construction Industry" will be used.

F. TRANSPORTATION AND STORAGE OF FLAMMABLE LIQUIDS

Flammable liquids will be transported only in containers approved by a national testing laboratory. These containers will be clearly labeled to identify the contents.

Flammable liquids will be transported on the jobsite in FM approved or UL listed metal safety cans with self-closing openings.

Drums, pails or other containers that contain or have contained a flammable liquid will be kept closed except when contents are removed or transferred.

OSHA Standard 1926.152(b) that covers indoor storage of flammable and combustible liquids will be fully complied with.

Temporary/portable storage tanks of 1,000 gallon maximum size will be placed at least 75 feet from buildings, construction equipment, parking lots, etc. to minimize exposure to fire involving the tank.

Storage tanks will be placed in a lined dike to contain spills equal to the storage capacity of the tank.

Containers from which flammable liquids are dispensed are to be electrically grounded and will be equipped with bonding wires to complete the grounding with the vessel receiving the liquid.

Smoking or open flames will not be permitted in flammable liquid storage areas. Signs prohibiting smoking must be posted.

G. TRAINING

Employee training will include, but is not limited to, the following:

- The ability to identify the causes of workplace fires
- The procedures for workplace inspections to eliminate or control fire hazards
- Identify and describe the three classes of fires and the fire extinguishers that should be selected to fight each class.
- Describe actions that should be taken when responding to a fire victim.
- Demonstrate competence in the use a portable fire extinguisher and fight a fire.

H. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Document	Purpose	Where Filed	Source
Fire Prevention Control Checklist	Used to identify and control potential fire hazards at the jobsite	Filed with jobsite inspection records	NECA eSafetyLine www.esafetyline.com/neca/manual
Portable Fire Extinguisher Inspection Checklist	Used to inspect portable fire extinguishers and ensure their readiness	Filed with jobsite inspection records	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.cdc.gov/niosh/docs/2004-101/chklsts/r1n16f1.htm
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

HOUSEKEEPING

A. PURPOSE AND SCOPE

The goal of housekeeping is to create and maintain all company site offices and storage trailers, storage areas, fabrication shops and laydown yards and construction work areas in a clean and orderly condition. This will help create a hazard-free work environment. This written program works to create and maintain a safe work environment as required in 29CFR 1926.25.

B. RESPONSIBILITIES

Safety Director

The Safety Director will develop a plan to maintain good housekeeping at the beginning of the job.

The Safety Director will ensure this plan is carefully supervised and followed through to the final clean-up.

Supervisor

The Supervisor will make certain that trash and scrap metal containers are provided and that these containers are emptied as often as needed to maintain an orderly work environment.

The Supervisor will ensure that garbage and other wastes will be disposed of at frequent and regular intervals.

Employees

All employees share the responsibility of maintaining a clean jobsite.

Employees will pick up their own scrap materials, tools, electrical cords, etc. and place them in the proper places as work progresses.

C. ACTION DETAILS

The housekeeping plan will be developed at the beginning of a job and carefully supervised and followed through until the final jobsite clean-up.

Individual containers will be provided for the different types of debris and trash that is generated at the jobsite.

Debris and trash will be removed from the jobsite as often as is necessary to maintain orderliness.

A rush schedule cannot be used by this company or any subcontractor and will not be allowed as an excuse to allow poor housekeeping habits.

Housekeeping is a shared responsibility that can't be ignored. All employees at a jobsite will pick up after themselves and any trash or debris they generate.

Dirty light fixtures reduce essential light levels. Clean light fixtures can improve lighting efficiency significantly and will be kept in this condition.

Aisles will be wide enough to accommodate people and vehicles comfortably and safely. Aisle space allows for the movement of people, products and materials.

Aisles and stairways will be kept clear. They will not be used for temporary "overflow" or "bottleneck" storage. Adequate lighting will be maintained in stairways and aisles.

Tools require suitable fixtures with marked locations to provide orderly arrangement, both in the tool room and near the work bench. They will be returned promptly after each use to reduce the chance of them being misplaced or lost.

Employees will regularly inspect, clean and repair all tools and take any damaged or worn tools out of service.

A regular collection, grading and sorting of scrap will be conducted.

Scrap containers will be kept near where the waste is produced to encourage orderly waste disposal and make collection easier.

D. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Resources and References			
Work Area Checklist	Used to identify potential hazards from inadequate housekeeping.	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

LADDERS AND STAIRWAYS

A. PURPOSE AND SCOPE

The goal of the Ladders and Stairways program is to establish safety rules regarding use, inspection and maintenance of ladders and stairways. This written program works to create and maintain a safe work environment as required in 29 CFR Subpart X.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Ensure training is provided to employees on ladder selection, inspection and maintenance as well as the recognition of hazards associated with ladder use.
- Ensure training is provided to employees on stairway construction, use and maintenance as well as the recognition of hazards associated with stairway use.
- Ensure all ladders used by employees are safe and in good operating condition.

Supervisor

The Supervisor will:

- Ensure ladders are used safely and as they are designed to be used.
- Ensure that job-made ladders are constructed and used safely.

Employees

Employees will:

- Inspect ladders prior to using them. If the ladder is defective, it will be tagged and removed from service.
- Receive training on the selection, inspection and maintenance of ladders and the hazards associated with their use.
- Receive training on stairway construction, use and maintenance and the hazards associated with their use.
- Use ladders safely and as they are designed to be used.

C. ACTIONS DETAIL

- Ladders that are found to be in any way defective or damaged are immediately tagged and taken out of service.
- Side rails will extend no less than 36 inches above a landing. If this is not practical, grab rails must be installed.
- Ladders must not be placed in passageways, doorways, driveways or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.

- Metal ladders must not be used for electrical work or where they may contact electrical conductors.
- Employees must always face the ladder when going up or down and maintain three-point contact.
- Stairways, such as those going into the job trailer, with four or more risers or rising more than 30 inches will be equipped with at least one handrail and one stair rail system along each unprotected side or edge.
- Treads for temporary service will be made of wood or other solid material and will be installed the full width and depth of the stair.
- All parts of stairways will be free of hazardous projections, such as protruding nails.
- Stairway systems and ladders and their use must comply with 29 CFR 1926 Subpart X.

D. TRAINING

Employee training will include, but is not limited to, the following:

- Identification of the hazards associated with ladders and stairs
- Use the equipment safely
- Understand the regulations governing the use of ladders and stairs
- Inspection of ladders and the tagging for those found to be damaged or defective.
- Inspection of stairways for use and maintenance.

E. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Stairs and Stairways Checklist	Used to inspect stairs and stairways for potential hazards	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual http://nonprofitrisk.org/tools/workplace-safety/public-sector/topics/bm/stairchk-ps.htm
Ladder Checklist	Used to conduct an inspection ladders on the jobsite	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.ncsu.edu/ehs/www99/left/forms/hardcopy/ladders.htm
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

MACHINE AND TOOL

A. PURPOSE AND SCOPE

The goal of the machine and tool program is to reduce the number of tool related injuries. This can be accomplished by using the correct tool, using that tool correctly and proper tool maintenance. The following program outlines how we will accomplish this objective. This policy covers all potential workplace exposures involving tools and machines as defined by 29 CFR 1926 Subpart I and 29CFR 1910 Subparts O and P.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Will ensure all employees are trained on the proper use of hand and power tools and never assume "everybody knows how".
- Designate proper storage facilities for all tools in the tool room or on the jobsite.

Supervisor

The Supervisor will:

- Ensure any damaged or defective hand or power tools are immediately removed from service.
- Ensure that tools are returned to the designated storage facilities when not in use.
- Inspect hand and power tools periodically.
- Only allow those employees certified in the use of a Powder Actuated Tool to operate the tool for which they are certified.

Employees

All employees will:

- Use the appropriate PPE when using hand and power tools.
- Only use hand and power tools for their designed purpose.
- Inspect hand and power tools at the beginning of their shift for any defects. If any defects are found, the tool will be tagged and removed from service.
- Use guards on power tools whenever they are in place.
- Use Powder Actuated tools only if certified to use that model of tool.

C. TRAINING

To ensure the safety of all employees, they will be trained in the proper use of hand and power tools. This training will include but not be limited to:

- Training employees to select the correct tool for a job
- Tool inspection and tagging procedures of damaged tools

- Choosing the appropriate PPE.

D. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Hand and Power Tool Checklist	Used to inspect hand and power tools for any defects	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual
Machine and Tool Safeguard Checklist	Used to inspect tools to be certain safeguards are in place	Filed with company annual review files	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.cdc.gov/niosh/docs/2004-101/chklists/r1n50p~1.htm
Hand and Power Tools Toolbox Talks	Used to train employees on the proper care and use of hand and power tools	Filed with Safety Director	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.lni.wa.gov/Safety/Topics/AToZ/ToolBoxTalks/default.asp
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

MATERIAL HANDLING

A. PURPOSE AND SCOPE

The goal of the Material Handling Program is to reduce the number of material handling injuries and to increase efficiency. This can be accomplished by minimizing material handling by combining or eliminating operations.

This written program works to create and maintain a safe work environment as required by 29CFR 1926 Subparts H, N, and O.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Determine mechanical means for moving materials when possible in order to avoid injuries such as muscle pulls, strains and sprains.
- Have cranes, derricks, hoists, powered industrial trucks and conveyors handle loads too heavy or bulky to handle manually.
- Ensure required inspections are performed and documentation maintained for all cranes and derricks.
- Ensure that cranes and derricks are operated by competent persons.
- Ensure protection is made available from falling hazards.
- Ensure employee training is provided on the selection, inspection, use and maintenance of material handling equipment.
- Ensure that before assigning employees to jobs that require heavy and/ or frequent lifting, they have been cleared as physically able to perform these tasks.

Supervisor

The Supervisor will:

- Plan for the receipt, shipment and/ or storage of materials.
- Ensure materials are kept at a proper distance from hoist-ways, inside floor openings and exterior walls.
- Ensure materials are stacked according to load limits, keeping passageways clear and arranged to prevent sliding, falling or collapse.
- Ensure that when using any manual handling equipment employees will follow all manufacturers' instructions.

Employees

Employees will:

- Be trained in the selection, inspection, use and maintenance of material handling equipment.

- Use mechanical means to move material whenever possible.
- Follow manufacturers' instructions when using manual material handling equipment.
- Be trained to recognize hazards and to protect themselves and prevent accidents.
- Recognize and respond to signs, signals, barricades and other forms of warning found at the jobsite.

C. MATERIAL HANDLING ACTIONS

Handling and Storage

If a load is too large for one employee, two are to be assigned to the task or material handling equipment supplied.

PPE such as gloves, hand leathers or other hand protectors are to be used to prevent hand injuries.

Maximum safe floor loads are to be posted and never exceeded.

Materials are to be kept clear of passageways, properly sorted and prevented from sliding, falling or collapsing.

Nails are to be bent or removed before stacking lumber for disposal.

Metal banding or packaging is not to be removed until the material is ready to be used.

Lumber piles will not exceed 20 feet in height (or 16 feet for manually handled lumber).

Slings

Rigging is to be inspected prior to use on each shift and as needed during a shift.

Defective rigging and slings will be removed from service, tagged and disposed of.

The rigging's load capacity is never to be exceeded.

When selecting a sling, consider the size, type of load and environmental conditions.

Safe Lifting Practices

The weight and balance of the load must be correctly determined before lifting.

Before lifting make certain the sling is properly secured and that the load is not lagged, clamped or bolted to the floor.

The angle of the sling should be kept as close to 90° (vertical) as possible.

Never allow the load to drag along the ground.

Watch a load at all times while it is in motion.

Never allow more than one person to control the lift or to give signals except to warn of hazards.

Once the lift is completed, the sling should be cleaned, inspected for damage and stored in a clean, dry place (hung on walls or racks).

Back Safety When Lifting

To help prevent back injuries that occur from lifting; the proper lift technique involves the following steps:

1. Get close to the object. Place one foot along side the object in the direction you will be carrying the object. Place the other foot behind the object. Feet should be securely planted with the object between your knees.
2. Bend at the knees to go down to the object.
3. Keep your back straight. If you maintain your pelvis in a level stance this will help to keep your back straight and prevent twisting.
4. Get a secure grip on the object.
5. Contract or tighten your diaphragm and stomach muscles. Hold this during the lift.
6. Lift the object in a steady motion with your legs keeping it close to your body. Try not to jerk when you lift.

D. TRAINING

Employee training will include, but is not limited to, the following:

- Proper lifting techniques to help minimize muscle, back and hernia injuries
- How to recognize hazards and to protect themselves and prevent accidents
- Selection, inspection, use and maintenance of material handling equipment
- How to properly position and stack materials
- Recognition of and response to signs, signals, barricades and other forms of warning found at a jobsite.

E. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Work Area Checklist	Used to inspect jobsite for potential material hazards	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual http://bfa.sdsu.edu/ehs/exhibit1.htm
Crane and Derrick Inspection Checklist	Used to conduct an inspection of cranes and derricks at the jobsite	Filed at jobsite	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.dlr.state.md.us/labor/constcheck/eccranes.htm
Back Safety Checklist	Used to ensure good back health and safety	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

PERSONAL PROTECTIVE EQUIPMENT

GENERAL

A. PURPOSE AND SCOPE

The goal of the Personal Protective Equipment (PPE) program is to protect all employees exposed to various workplace hazards. This can be accomplished through pre-planning and careful implementation of all applicable federal, state and local safety and health regulations/standards.

This written program works to create and maintain a safe work environment as required by 29 CFR 1910 Subpart E and 29 CFR 1926 Subpart E.

B. RESPONSIBILITIES

Safety Director

The Safety Director will:

- Strive to eliminate work site hazards (safety, health or environmental) through modifications to work practices and procedures or by working with the host employer to implement engineering revisions.
- Determine what Personal Protective Equipment (PPE) will be used for the hazards that could not be otherwise eliminated.
- Ensure that employees are trained in the use, care, storage, maintenance, and limitations of the PPE to be used at each jobsite.
- Conduct a Jobsite Hazard Assessment to select the appropriate PPE for hazards that are present. This process may rely on information from the host employer on what hazards have been identified, their magnitude and the methods used to control them.

Supervisor

The Supervisor will:

- Ensure that company provided or employee-owned protective equipment is appropriate for the task and is properly cleaned, maintained, and stored.
- Ensure that employees, who are required to use PPE, use it correctly and consistently.
- Ensure that employee-owned protective equipment meets OSHA standards.

Employees

Employees will:

- Be trained in the proper use, cleaning, storage, maintenance, and limitations of any protective equipment that will be used at each jobsite.
- Use the appropriate PPE whenever a jobsite hazard is present.

C. ACTION DETAILS

Electrical PPE

See Electrical Program (Chapter 4) for PPE assessment and equipment related to electrical hazards.

Respiratory PPE

See Respiratory Program (Section 14.1) for PPE assessment and equipment related to respiratory hazards.

Hearing PPE

See Hearing Protection Program (Section 14.2) for PPE assessment and equipment related to noise level hazards.

General

All employees, while on the jobsite, will wear safety helmets/hard hats, safety glasses with side shields, heavy duty work boots and proper work clothing.

Specialized PPE will be provided as needed by the employer for employees. This may include, but is not limited to:

- Head protection
- Hearing protection devices
- Fall protection devices
- Hand protection equipment
- Life-lines and harnesses
- Respirators
- Specialty Footwear,
- Specialty illumination equipment
- Any other specialty equipment or devices required to be safe on the jobsite
 - Rubber insulating gloves and protectors
 - Rubber insulating blankets
 - Rubber insulating line hose
 - Rubber insulating hoods
 - Insulating shields and/or barriers
 - Rubber insulating sleeves, if required
 - Rubber matting for use around an electrical apparatus.

PPE that has been modified in a way that is not supported by the manufacturer or that reduces its effectiveness will be repossessed, repaired or destroyed.

Any PPE that has been previously worn or used will not be reissued to another employee until it has been inspected, repaired, if necessary, according to manufacturers recommendations, cleaned, sterilized and repackaged.

Employee Compliance and Enforcement

The Supervisor will conduct daily field inspections to ensure employees are wearing all necessary PPE.

All PPE will meet or exceed the applicable requirements of NIOSH, OSHA, ANSI and/or any other applicable agency or standard.

Employee Safe Work Practices

Employees will follow these safety rules:

- An appropriate hard hat will be worn when there is danger of impact, falling or flying objects, or electrical shock
- Impact-resistant safety glasses with side shields will be worn when there is danger of materials striking the eye
- Non-vented safety goggles will be worn if working with materials or chemicals that could damage the eyes
- Face shields will be worn, as needed, to protect the face from flying objects
- Proper shoes or boots will be worn to protect against foot injuries
- Protective clothing, appropriate for the task at hand, will be worn, where specified in the job briefing document.

D. TRAINING

Employee training will include, but not be limited to:

- Recognizing hazards on the jobsite that require PPE
- How to determine the appropriate PPE to avoid potential injuries,
- The correct way to inspect, put on, remove, use, care, store, clean, and maintain each piece of PPE, as needed
- The limitations of the PPE employees are required to use.

E. RESOURCES AND REFERENCES

To effectively execute the policy and procedures identified in this section of our safety manual the following documents may be used. The documents will be filed with our company records (personnel files, OSHA Recordkeeping, etc.) as noted in the table. Copies of documents that do not include sensitive personnel information will be provided to the host employer/general contractor/construction manager upon request.

Document	Purpose	Location	Access
Hazard Assessment Form	Used to determine potential hazards at a jobsite	Filed with jobsite inspection records	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.ncsu.edu/ehs/safetyplan/forms/HAZARDAS.pdf
PPE Checklist	Used to inspect, care and maintain various types of PPE	Filed with jobsite inspection records	NECA eSafetyLine www.esafetyline.com/neca/manual http://www.cdc.gov/niosh/docs/2004-101/chklists/r1n56p-1.htm
Training Attendance Rosters	Documents used to identify training completed and employees present	Filed with company personnel records	NECA eSafetyLine www.esafetyline.com/neca/manual

Up: \$

6518 FREMONT ROAD

EAST SYRACUSE, NY 13057

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PROTECTIVE EQUIPMENT ELECTRICAL TEST

PARTICIPATING

ENTITY: A-M Electronic Inc DATE: 11-21-18 TEST LOCATION: E. SYRACUSE

DATE: 11-21-18

TEST LO

ITEM	QUANTITY	KV TEST VOLTAGE	NO. PASSED TEST	NO. FAILED TEST	COMMENTS
GLOVES	2	5KV	2	0	1 pair Class 0 gloves
SLEEVES					
BLANKETS					
C/O COVERS					
GROUND					
MECHANICAL JUMPERS					

THE ENTITY RECEIVING THIS TESTING SERVICE AGREES THAT THE NYS LINEMAN'S SAFETY TRAINING FUND HAS NO RESPONSIBILITY FOR THE TESTING AND INDEMNIFIES AND HOLDS HARMLESS THE FUND FOR ANY CLAIMS OR LAWSUIT THAT MAY ARISE

PRINT NAME:

SIGNATURE:

SIGNATURE OF TESTER: