Arch Inc.

Safety Manual

2022

ANNUAL RECORDKEEPING

January 1, 2017, a new rule took effect that requires employers to electronically submit their injury data to the Occupational Safety and Health Administration (OSHA). The new rule is designed to improve accuracy of recordkeeping data and improve worker safety through the public disclosure of this information. Ultimately, this data will be published on the OSHA website providing the general public with access to facility injury and illness data.

The requirements of the new rule are to be phased in over the next year. The first due date (December 1, 2017) requires each facility to only submit their 2016 300A injury summary data to OSHA. Each facility can submit their injury and illness data using the electronic reporting system found by clicking the "ITA launch page" link (Injury Tracking Application) ITA launch page, where you are able to set up an account and provide OSHA your 2016 300A data. It is reported that inputting the data will take approximately 10 - 15 minutes.

Actions

- Find and review your 2016 OSHA Form 300A
- Click the ITA launch page link, set up your facility account and enter the 2016 form 300A data into the system by December 1, 2017.
- When this action is completed, send a confirmation email to your Program Manager

All of the requirements and due dates of the rule are provided below, however, it continues to be subject to appeals, debates and changes due to the political climate. It is anticipated that OSHA may again revise the final rule sometime in November, so **our advice is to wait until the week of November 27 before submitting your 300A data**. If there are changes to the requirements or due dates, we will advise you immediately.

Due Dates & Requirements

By **December 1, 2017** - all facilities must submit their 2016 300A data and provide confirmation email to their Program Manager

By **July 1, 2018**, facilities with 250 or more associates must provide 2017 300A, 300 and 301 data while facilities with fewer than 250 associates need only submit their 2017 300A data.

In **2019 and all subsequent years**, facilities with 250 or more associates must provide the previous year's 300A, 300 and 301 data by March 2 while facilities with fewer than 250 associates need only submit their previous year's 300A data.

As always, contact your EHS Program Manager or someone from the Corporate Safety staff prior to making any call to or contact with OSHA.

BLOODBORNE PATHOGENS

Introduction and Purpose

This program identifies the minimum requirements for protecting associates who have a reasonable potential for exposure to blood and other infectious materials. This program documents efforts by Arch Electric to prevent occupational injuries and illnesses caused by transmission of bloodborne diseases such as HIV, and hepatitis. Occupational exposure to blood and other potentially infectious body fluids constitutes a significant risk because they may contain pathogens (microorganisms that can cause disease). Since it is possible to become infected through a single exposure, opportunities for exposure to pathogens must be minimized. Arch Electric strives to protect its workers from the occupational risk of infectious disease through this program.

Scope

This program applies to Arch Electric associates who are exposed occupationally to human body fluids.

Definitions

Bloodborne Pathogens: Microorganisms present in the blood that may cause disease. These include, but are not limited to, hepatitis B virus (HBV) and human immuno-deficiency virus (HIV).

Disinfect: Inactivation of pathogenic microorganisms on inanimate objects.

Engineering Controls: Controls that remove or isolate the hazard from the associate.

Exposure Incident: A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an associate's duties.

Infectious Waste: Blood and blood products, contaminated instruments, gloves, dressings, bandages, pathological and microbiological wastes.

Occupational Exposure: "Reasonably anticipated" skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an associate's job duties.

Other Potentially Infectious Materials: Body fluids, including semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic

fluid, saliva in dental procedures, and any bodily fluid that is visibly contaminated with blood. Any unfixed tissue or organ (other than intact skin) from a human (living or dead) and HIV or HBV containing cell or tissue cultures, organ cultures and culture medium are included.

Parenteral: Exposure because the skin barrier was pierced.

Personal Protective Equipment: Specialized clothing or equipment worn by an associate for protection from a hazard.

Sharps: Any object that can penetrate the skin including, but not limited to, needles, scalpels, and broken capillary tubes.

Sterilize: Using a physical or chemical procedure to destroy all microbial life including highly resistant bacteria.

Universal Precautions: A method of infection control in which all blood and certain body fluids are treated as if known to be infectious for HIV, HBV and other blood borne pathogens.

Work Practice Controls: Controls that reduce the likelihood of an exposure by altering the way a task is performed.

Program Responsibilities

Arch Electric Management

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.

Arch Electric Associates

- Associates are trained on an awareness level only.

Arch Electric EHS Specialist

- Maintain program policies, procedures, and training records.
- Periodically audit program for effectiveness.
- Prepare and provide training materials for annual associate awareness training.
- Review written program annually and update as needed.
- Document completed training.

Program Requirements

Exposure Determination: Associates at Arch Electric are **not** occupationally exposed to blood borne pathogens as part of their normal job.

Hazard Awareness Communication to Associates

Signs and Labels

Signs and labels must be used to identify containers of blood and other potentially infectious materials. Fluorescent orange labels with the biohazard symbol must be affixed to any containers used to store or transport blood and other potentially infectious materials.

- Labels must be affixed to containers in such a manner as to prevent loss or unintentional removal.
- Red bags or red containers may be substituted for labels on containers of infectious waste.

Training

Awareness level training is provided annually to Arch Electric associates. Training consists of:

- Discuss the OSHA regulation.
- Discuss appropriate methods for avoiding exposure to blood and other potentially infectious materials.
- Explain appropriate actions to take
- Explain/review what to do in case of an emergency.
- Explain procedures to follow in the event of an exposure.
- Provide a question and answer period.

Cleanup and Disposal

Spill Cleanup: Any spilled body fluids must be cleaned up and the area disinfected.

- Small quantities (up to the equivalent of several drops of blood) may be cleaned up by trained individuals
- Larger quantities must be cleaned up by a trained individual.
- All materials used for cleaning up spills of blood or other bodily fluids are disposed of properly immediately after use.

Methods of Compliance

Universal Precautions: Universal precautions are actions taken to prevent exposure based on the assumption that all blood and other potentially infectious materials actually are infectious. This includes the use of any or all of the other control methods shown below, as needed, to prevent physical contact with suspect material. This may involve such things as using ventilation, PPE, special containers, special handling techniques, etc.

Engineering Controls: Engineering controls are not necessary at Arch Electric. Engineering controls are not in place because Arch Electric associates are not occupationally exposed to bloodborne pathogens as part of their normal job.

Work Practice Controls: Arch associates are not occupationally exposed to bloodborne pathogens. However, best practices include:

- Good hygiene, including frequent washing of hands and other contaminated skin surfaces, is encouraged. Associates are encouraged to wash hands before eating, smoking, drinking or leaving the workplace.

Personal Protective Equipment (PPE): PPE appropriate to bloodborne pathogens is not provided to associates.

- Trained volunteers are provided with appropriate PPE and instructed in its' proper use. PPE contaminated with blood or body fluids are disposed of properly immediately after use.

Post-Exposure Follow-Up

Post-Exposure Follow-up: If an associate is exposed to bloodborne pathogens, a confidential medical evaluation and follow-up must be completed by a 3rd party physician.

The associate's personal physician may perform a separate evaluation. The information provided to the evaluating physician must include:

- A copy of the OSHA standard.
- A description of the exposed associate's duties as they relate to the occupational exposure.
- Documentation of the route and circumstances of exposure.
- Test results of the source individual and appropriate associate medical records.

The physicians' written opinion must be obtained and a copy must be given to the associate within 15 working days of the completion of the evaluation. The written opinion is limited to:

- Whether the hepatitis B vaccination is indicated for an associate and if the associate has received such a vaccination.

- A statement that the associate has been informed of the results of the evaluation and told about any medical conditions resulting from exposure to blood or other infectious materials which require evaluation or treatment.

Any other findings and diagnoses must remain confidential and must not be included in the written report.

CONFINED SPACE

Introduction and Purpose

This program has been prepared to make associates aware of the potential hazards in confined spaces and to ensure that confined spaces are entered safely. The program establishes the minimum requirements and provides guidance for working in confined spaces at Arch Electric.

This flowchart is consulted to determine if a confined space can be reclassified:

Ability to Reclassify		
□ True	□ False	The space has no atmospheric hazards and does not even have a recognized potential for an atmospheric hazard. If the space does have an actual or potential atmospheric hazard, it is possible to thoroughly eliminate this hazard and ensure that there will not be even the potential for an atmospheric hazard during entry. (NOTE: If a hazard must be eliminated by the use of ventilation, it must remain eliminated without the continued assistance of ventilation. Simply controlling the atmospheric hazard to an acceptable level with ventilation is not sufficient to allow reclassification.)
□ True	□ False	It is possible to eliminate all other serious safety or health hazards in and around the space.
□ True	□ False	It is possible to maintain the situation so that all hazards would remain eliminated during entry into the space.
If you answered "false" to one or more of these statements, it is not permissible to reclassify this space to non-permit status.		
If you answered "true" to all these statements, the space may be reclassified to non-permit status upon satisfying all of the above requirements. The work to be done must not create any hazards that would require permit entry.		

- If the confined space presents no hazards and has no potential for an air quality problem, it is categorized as a non-permit space.
- If the space does present hazards or has the potential for an air quality problem, but it would be possible to eliminate all of them prior to entry, the space is designated as reclassifiable.
- If the space presents hazards or has the potential for an air quality problem and it is not possible to eliminate all of these hazards, the space is categorized as permit-required.

Scope

This program applies to Arch Electric associates and covers operations and/or activities where entry into a confined space occurs, regardless of purpose or duration of entry.

Definitions

Confined Space: An enclosed or partially enclosed space that:

- Is large enough and so configured that an associate can bodily enter it and perform work;
- Has limited or restricted means for entry or exit; and
- Is not designed for continuous human occupancy.

Engulfment: The surrounding and effective capture of a person by a liquid or a finely divided solid material.

Entrant: An associate who has been trained specifically on confined space entry and has been authorized by supervision to enter a space to perform work.

Entry: The act of passing through an opening into a confined space or being positioned within a confined space. Entry occurs as soon as any part of a person's body breaks the plane of any opening into the space.

Entry Supervisor: The associate who is responsible for all aspects of entry into a confined space including assessment of conditions, authorizing entry, overseeing entry operations and concluding the entry job.

Hazardous Atmosphere: An atmosphere that exposes associates to risk of injury, illness, or impairment of ability to escape due to one or more of the following:

- A flammable gas, vapor or mist in excess of 10% of its lower explosive limit (LEL);
- An airborne combustible dust at a concentration equal to or exceeding its LEL (as a conservative approximation, it obscures vision at a distance of ten feet or less);
- An atmospheric oxygen concentration below 19.5 percent or above 23.5 percent by volume;
- An atmospheric concentration of any substance that could cause associate exposure above an established exposure limit;
- Any atmospheric condition recognized as immediately dangerous to life or health.

NOTE: Atmospheric concentrations of substances that are not capable of causing death, incapacitation, and impairment of ability to escape, injury, or acute illness are not covered by this definition. For instance, a concentration of silica dust (which causes illness due to long term exposure) slightly above its exposure limit would not constitute a hazardous atmosphere.

Immediately Dangerous to Life or Health (IDLH): Any condition that poses an immediate or delayed threat to life; may cause irreversible or immediate, severe health effects; or may result in eye damage, irritation or other conditions that could impair an associate's escape from a confined space.

Non-Permit Confined Space: A confined space that does not have the potential to contain a hazardous atmosphere and does not contain any other hazard capable of causing death or serious physical harm.

Permit-Required Confined Space: A confined space with one or more of the following characteristics:

- Contains or has a known potential to contain a hazardous atmosphere.
- Contains a material having a potential to engulf an entrant;
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor that slopes downward and tapers to a smaller cross-section;
- Involves any other recognized serious safety or health hazard such as powered equipment, toxic or corrosive residues, exposed live electrical connections, heat, radiation, etc.

Rescue Team: A group of two or more associates designated, trained, and properly equipped to perform rescues from confined spaces. Arch Electric does not have a rescue team.

Restricted Entry or Exit: Anything that impedes a person's ability to enter or exit a confined space. This may include small openings, awkward positioning of openings, or configuration inside the space that limits ability to reach the opening. Indications of restricted entry or exit are contort the body to enter the space or using hands to climb in or out.

Program Responsibilities

Arch Electric Management

- Enforce the program and correct deficiencies. Ensure **NO** Arch Electric associates enter a confined space.

Arch Electric EHS Specialist

- Identify all confined spaces and assess their hazards.
- Review new jobs sites and determine if there are any Confined Spaces.
- Prepare and provide training materials for annual associate awareness training.
- Post signs at confined space entrances.
- Maintain program policies, procedures, and training records.
- Review written program annually and update as needed.
- Document completed training.

Program Requirements

There are two categories of confined spaces: 1) permit-required spaces, and 2) non-permit spaces. Some permit-required confined spaces are allowed to be reclassified temporarily to non-permit status if certain conditions are met. Therefore, there are three types of confined spaces:

- "non-permit"
- "permit-required"
- "reclassifiable".

No Arch Electric associates are trained and authorized to enter confined spaces.

A permit-required confined space may be entered only in accordance with an approved, written procedure and a permit system that takes into account the specific hazards of the space. Permit-required confined spaces that will not be entered for any reason still must be posted or otherwise marked to indicate that entry is prohibited, and associates must be instructed not to enter them.

DANGER
CONFINED SPACE
ENTRY PROHIBITED

A reclassifiable confined space may be entered under non-permit conditions if the required steps are taken prior to entry to eliminate the existing hazards and make the space safe. However, once reclassified, no hazard may be introduced to the space that would require it to be treated as permit-required. Spaces that have been reclassified to non-permit status may be entered by trained and authorized confined space entrants without further restriction. However, if entry is necessary either to eliminate the hazards or to verify that they have been eliminated, such entry must be done under permit conditions. Once elimination or verification is complete, non-permit status may be granted.

For these confined spaces, the sign states:

DANGER
CONFINED SPACE
ENTER BY PERMIT ONLY

Reclassifying Permit-Required Spaces to Non-Permit Status: Permit-required confined spaces may be reclassified temporarily to non-permit status if the following steps are taken.

- All potential for atmospheric hazards must be eliminated completely. Simply controlling atmospheric hazards to acceptable levels by ventilation or other means is not sufficient.
- All non-atmospheric hazards within the space must be eliminated completely (examples include draining tanks and/or following lockout/tagout procedures).

- All hazards must remain eliminated while non-permit entry is occurring. If hazards develop during entry, associates must leave the space immediately and the space must be reevaluated to determine whether a permit now is needed.
- The work performed inside the confined space must not introduce a hazard that would require the confined space to be treated as permit-required. The work must not involve a dangerous activity and must not introduce even the potential for a hazardous atmosphere.
- A reclassification certificate must be completed for each entry of this type. The certificate must show the hazards that were present, how they were eliminated, space location, the date, and the signature of the person approving reclassification.

A non-permit confined space may be entered without any restrictions. However, the work to be done in such a space must not introduce any hazard that would require it to be treated as a permit-required confined space. If a hazard is introduced into a non-permit space that space then becomes a permit-required confined space.

Identifying, Assessing and Classifying Confined Spaces: All confined spaces are identified and hazards evaluated. Based on these assessments, confined space are categorized either as non-permit, permit-required, or reclassifiable. **Attachment 2** shows the decision process for making these determinations.

Confined Space Inventory: Structures or enclosures are evaluated to determine if the equipment meets the definition of a "confined space". The EHS Specialist retains a copy of the most recent inventory of confined spaces.

Confined Space Hazard Assessment: Confined spaces are evaluated to identify the hazards and the control measures needed for safe entry. The hazard assessment identifies atmospheric hazards that reasonably could occur in the space. The assessment considers what is or may have been present in the space, what chemical reactions could occur in the space, and what possibly could infiltrate the space from surrounding areas. With regard to oxygen deficiency, the evaluation considers the potential for oxygen displacement by other gasses or vapors. The potential for oxygen depletion by such activities as rusting, biological decomposition of organic material, or chemical absorption is considered. Besides potential air quality problems, all other serious safety or health hazards that could jeopardize associates during entry must be listed. Identified hazards are included on the inventory.

Lockout/Tagout: Confined space entry requires compliance with the Arch Electric Lockout/Tagout Program. Entrants must be protected from injury that could be caused by unexpected startup, movement or release of energy. Potentially harmful sources of energy (electrical, pneumatic, hydraulic, mechanical, thermal, chemical) are isolated before entry occurs. Where lockout is involved, entrants have been trained at the authorized level for lockout/tagout and follow approved written lockout procedures.

If lockout/tagout is in effect, anyone entering the space is trained at the authorized level and must apply their own locks and tags to the energy-isolating devices.

If Lockout/Tagout is not able to be done associates must determine what protective ppe, tools, and equipment is necessary to perform the task. Examples: Arc Flash clothing, face shield, rubber gloves, not conductive material, insulating material, and barriers. Once determined the associate must fill out a live electrical work permit that is to be signed off by the President of the company.

Confined Space Procedures: Confined Space procedures are completed for all.

Confined Space – Contractors: Contractors are responsible for the safety of their associates. When a contractor is hired to perform work in a permit-required confined space, the contractor is informed that the work area is considered a permit space and that there may be associated hazards. Arch Electric meets with the contractor and additional information about past experiences with the space may be discussed as relevant.

The contractor is responsible for performing an assessment of the space and taking the appropriate precautions to ensure the safety of its workers. The emergency response procedures are reviewed. Arch Electric may question contractors at the end of operations to learn if they encountered any problems or unexpected situations. This may prove beneficial to future entries and improve the program.

Arch Electric will not loan safety equipment or instruments to a contractor for the purpose of entering permit spaces. Arch Electric will not perform air monitoring or any other tasks that are part of the entry process. The contractor is responsible for providing its own equipment and performing all required entry tasks. To loan equipment or become involved in the process could incur significant liability.

Training

Associates are trained on the existence, location, and danger of permit-required confined spaces. This includes spaces that can be reclassified, since they are permit-required until the hazards are eliminated. All associates who work in areas where confined spaces exist receive awareness training on this topic. This training explains the basic hazards and the restrictions on entering confined spaces.

Awareness Training: This training is provided periodically to all associates so they understand definitions, roles and responsibilities, and unique signage.

Training Documentation: All training must be documented.

Audits

This confined space entry program is reviewed annually and updated as needed. The canceled permits that have been retained during the past year may be used during the review. Confined space entry jobs will be audited on a periodic and ongoing basis to ensure that work is completed safely and in compliance with the written program. Any identified knowledge or performance deficiencies will be corrected immediately via additional training, revisions to procedures, etc.

CONTRACTOR SAFETY

Introduction and Purpose

All Contractors must be aware of safety and environmental requirements at Arch Electric. Contractors must follow to the minimum safety and environmental requirements unless a higher standard is required to meet the Contractor's policy. This Contractor Safety Program provides guidelines for contractors working at Arch Electric sites to protect against injury, accident, loss, or environmental upset. The document explains expectations and responsibilities for Contractors and their Arch Electric associate Point-of-Contact.

For Contractors who work with Arch Electric at multiple sites throughout a year will need to sign the Contractor Safety Training for each site. Each contractor at each site must sign the Contractor Safety Training yearly. Contractor Management is responsible to ensure that all of its associates are fully aware of these requirements.

Scope

This program applies to all Contractors working with Arch Electric. As a condition of doing business with Arch Electric, all Contractors must comply with applicable local, state, and federal regulations.

Definitions

Contractor: Any non-Arch Electric associate performing work at Arch Electric at the request of a Arch Electric associate.

Arch Electric Point-of-Contact: The associate responsible for the Contractor. The Arch Electric Point-of-Contact may be any associate working at Arch Electric.

Program Responsibilities

Arch Electric Management and Supervision

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.
- Notify Arch Electric EHS Specialist if Contractor Safety training is needed.

General Contractor

- Read and understand Contractor Safety Training.

- Read, understand and sign EHS-22 (Arch Electric EHS Guide for Visitors)
- Understand and follow Arch Electric EHS policies and procedures.
- Provide proper training for required tasks for Contractor associates.
- Maintain required insurance coverage.

Arch Electric Point-of-Contact

- Coordinate with the Arch Electric EHS Specialist as necessary for EHS related issues.
- Notify Contractor and Contractor Associates of Arch Electric policies and procedures prior to start of the job.
- Verify that the Contractor has the necessary equipment, training, and qualifications to comply with the provisions of this Program, including Arch Electric policies and procedures.
- Monitor and inspect contractor compliance throughout the duration of the project.
- Take necessary corrective action for non-compliance issues, including escorting the Contractor from the building if necessary.
- Submit completed and signed sign EHS-22 (Arch Electric EHS Guide for Visitors) to the EHS Department.

Arch Electric EHS Specialist

- Assist the Arch Electric Contact as necessary.
- Maintain program policies, procedures, and training records.
- Prepare and provide training materials.
- Review written program annually and update as needed.
- Supports the Contractor Safety Program including, but not limited to:
    - Contractor training
    - Random audits
    - Technical assistance for administering, interpreting, and communicating Arch Electric policies and procedures.

Program Requirements

All Contractors are required to adhere to Arch Electric EHS policies and procedures. Failure to adhere to the EHS policies can result in the Contractor escorted from the site, and possible financial liability for fines related to contractor violations.

A short PowerPoint presentation is available on for contractor training. Information included in this presentation may or may not pertain to every contractor. The Arch Electric Point-of-Contact should determine applicable information based on contractor knowledge. The Arch Electric Point-of-Contact may amend this list based on the job specifications, and/or based on discussions with the EHS Specialist. Information included in the presentation includes:

- Emergency Action Plan / Arch Electric Emergency Action Plan Quick Response Guide
- Lockout/Tagout
- Personal Protective Equipment
- Hot Work
- Machine Guarding
- Powered Industrial Trucks
- Call before digging/moving earth
- Fall Protection
- Respiratory Protection
- Confined Space
- Hazard Communication
- Waste disposal requirements
- Asbestos disposal
- Fall Protection
- Industrial Vehicles

In addition to the PowerPoint Presentation, the Point-of-Contact gives a copy of Arch Electric EHS Guide for Visitors (EHS-22) to each contractor. The contractor must sign this document stated that he or she understands the EHS requirements of Arch Electric. This training is valid for one year and is site specific.

Training

Training includes information for Arch Electric associates, and training for contractors. For Arch Electric associates,

- Supervisors are trained in this procedure on an as needed basis.

Contractor Training includes

- PowerPoint presentation
- Explanation of EHS Guide for Visitors (EHS-22)
- Discussion of emergency response

DRUG AND ALCOHOL POLICY

Introduction and Purpse

Arch Inc. is committed to maintaining a safe work environment for all employees and those in the public who may be affected, while ensuring that all employees are treated fairly and with respect. Everyone who works for and with our Company is expected to understand the risks of alcohol and drug use to workplace safety, and to be able to identify and respond to those risks in compliance with this policy. Employees are expected to comply directly with this policy and any supporting Company programs. Contractors who conduct work on behalf of our Company are expected to develop and enforce comparable policies and programs to manage alcohol and drug risks among their employees.

Work Rules

All employees will be informed regarding this policy at the time of employment.

The following actions are strictly prohibited

1. While on company property or at a company worksite, to use, consume, possess, distribute, sell or transfer:
    i. Alcohol (unless contained in sealed (unopened) packaging, and secured in vehicle for transfer to home or official company-sanctioned event) or
    ii. Drugs other than those permitted by this policy as described below, or
    iii. Drug paraphernalia

2. From reporting to work or performing work while the employee's ability to safely perform his or her duties is adversely affected by use of drugs or alcohol.
3. From refusing to
    i. Comply with a request to confirm he or she is in compliance with this policy when a supervisor or manager has reasonable grounds to believe the employee may not be in compliance, or
    ii. Comply with a request to submit to an alcohol or drug test:
        a. When a supervisor or manager has reasonable grounds to believe the employee may not be in compliance with the policy and the employee cannot confirm compliance without a test
        b. Following an incident or near miss if a supervisor or manager present at the workplace has reasonable grounds to believe that the employee was involved in the incident or near miss and there is no objective evidence to believe that

the use of alcohol or drugs did not contribute to the cause of the incident or near miss

c. When the employee has previously tested positive and is returning to work after an assessment by a substance abuse expert.

4. This Work Rule permits the possession or use of prescription and non-prescription drugs under the following conditions:
    i. Any prescription drug in the employee's possession or used by the employee is prescribed to the employee, and
    ii. The employee is using the prescription or non-prescription drug for its intended purpose and in the manner directed by the employee's physician or pharmacist or the manufacturer of the drug, and
    iii. The use of the prescription or non-prescription drug does not adversely affect the employee's ability to safely perform his or her duties, and
    iv. The employee has notified his or her supervisor or manager before starting work of any potentially unsafe side effects associated with the use of the prescription or non-prescription drug.

No information collected about an employee under this policy will be disclosed to any person unless the employee has given consent or the supervisor or manager in possession of the information is legally required to disclose it.

Testing Procedures

Laboratory Testing

Arch Inc. will designate the laboratories to perform substance testing on blood or urine specimens in accordance with standards set forth by an established industry standard. The substances and detection levels covered by this testing program are set forth below. Employees may be asked by collection site personnel to indicate whether there is the potential that they will test positive for prescription or other substances. A consent form and information sheet will be provided. If the employee fails to provide an acceptable urine specimen the company may take the following steps:

i. Extend the stay of the employee at the designated collection site, if feasible, until an acceptable specimen can be collected.
ii. Reschedule the test due to unusual circumstances, i.e. post-operative situations.
iii. Discipline the employee, up to and including termination, on the first offense for failing to cooperate or refusing to provide an acceptable specimen

All positive urine specimen test results for employees on active status will be confirmed by standard laboratory procedures. In case of testing by means other than urine (i.e. breath or other samples), reliable laboratory or instrument testing procedures will be followed.

Testing Substances

As a minimum, the following substances and detection levels shall be tested for:

i. Alcohol level equal to or in excess of 0.04 BAL
ii. Equal to or in excess of the urine concentrations set out in the below table

Drugs or Classes of Drugs	Screening concentration equal to or in excess of ng/ml
Marijuana metabolites	50
Cocaine metabolites	300
Opiates	2000
6-Acetylmorphone	10
Phencyclidine	25
Amphetamines/Methamphetamines	1000
MDMA	500

Concentrations at or in excess of the above levels shall be conclusive proof of unacceptable levels of unauthorized, prohibited, illegal or controlled substances.

Disciplinary Action for Policy Violation

Applicants

i. If the final result of a pre-employment drug scree is positive, the applicant will not be employed. No applicant can be reconsidered for employment sooner than six (6) months following the date of the positive drug screen.

Employees

i. No drug test will be conducted without written consent. However, any employee who refuses to provide such written consent and fully cooperate with this policy will be subject to disciplinary action up to and including discharge from employment.
ii. Under certain circumstances, disciplinary action may include a mandatory referral to and enrollment in an approved rehabilitation program at the employee's expense. This action may also require an indefinite suspension of regular employment.

iii. An employee's job is not in jeopardy by reason of his voluntary admission to having a substance problem and request for help and referral to an approved rehabilitation program, provided that such request is made prior to, and well in advance of, any consideration of being tested under the provisions of this policy. Employees participating in this rehabilitation program will be subject to follow-up or "maintenance" testing.

Contractors, Subcontractors, Vendors, Their Employees' Agents or Representatives

i. No drug test will be conducted without written consent. However, anyone who refuses to provide such written consent and does not fully cooperate with this policy will be subject to disciplinary action up to and including removal from the job or job site, as may be appropriate. Preliminary findings of a policy violation may require that the individual involved be suspended from the job pending the results of the company investigation.
ii. If the final result of a "reasonable cause" or "post-accident" drug screen is positive, the individual will be permanently barred from the job.

Client Requirements

In the event that a client has an Alcohol and Drug Testing Guideline that is more stringent than those outlined above, the client's guidelines will be followed for all work done with that client. Examples of more stringent guidelines include but are not limited to:

i. A greater number of substances (panels) to be tested for
ii. A lower detection/cut off levels
iii. Specified number or percent of employees to be tested on the site
iv. DOT or similar mandated programs

HOISTS AND SLINGS

Introduction And Purpose

This program provides guidance in the proper use of cranes, hoists, and "below-the-hook" lifting devices. Arch Electric associates who operate or use overhead cranes and hoists must have training and instruction on the proper operation, inspection, and safe work procedures associated with this equipment.

Scope

This program applies to all associates at Arch Electric who operate covered equipment covered under this program. This program also applies to the design, manufacture, and maintenance of covered equipment.

Definitions

Crane: A machine for lifting and lowering a load and moving it horizontally, with the hoisting mechanism an integral part of the machine. Cranes (fixed or mobile) are driven manually or by power.

Bridge: That part of a crane consisting of girders, trucks, end ties, foot walks, and drive mechanism which carries the trolley or trolleys.

Bridge travel: The crane movement in a direction parallel to the crane runway.

Bumper [buffer]: Energy absorbing device for reducing impact when a moving crane or trolley reaches the end of its permitted travel, or when two moving cranes or trolleys come in contact.

Drum: The cylindrical member around whom the ropes are wound for raising or lowering the load.

Hoist: An apparatus that may be a part of a crane, exerting a force for lifting or lowering.

Hoist chain: The load bearing chain in a hoist.

Hoist motion: Motion of a crane that raises and lowers a load.

Load: The total superimposed weight on the load block or hook.

Main hoist: The hoist mechanism provided for lifting the maximum rated load.

Rated load: The maximum load for which a crane or individual hoist is designed and built by the manufacturer and shown on the equipment nameplate(s).

Trolley: The unit which travels on the bridge rails and carries the hoisting mechanism.

Sling: An assembly that connects the load to the material handling equipment.

Working Load Limits: The working load limit is the maximum load in pounds which should be applied to the chain, even when the chain is new, and when the load is uniformly applied in direct tension to a straight length of chain.

Program Responsibilities

Arch Electric Management and Supervision

- Provide resources to implement and maintain the program.
- Enforce the requirements established in this program and correct deficiencies.
- Ensure associate receives the required training and are certified and licensed to operate the equipment in their areas.

Arch Electric Associates

- Operate, inspect, and maintain equipment according to these program requirements.
- Operate hoisting equipment safely.
- Conduct functional tests (such as limit switches) prior to using equipment.
- Select and use rigging equipment appropriately.
- Participate in the training program and maintain certification.

Arch Electric EHS Specialist

- Review written program annually and update as needed.
- Provide and document training.
- Work 3rd Party to schedule annual inspections.
- Provide Maintenance copies of records of inspections (internal and external).
- Periodically verify tests and inspection reports.

Program Requirements

The EHS Specialist maintains an inventory of lifting devices. This list is updated and modified as needed. Below-the-hook lifting devices must be marked with certain information to facilitate safe use and periodic inspections. Each lifter must be marked with:

- Manufacturer's name
- A unique identification (serial) number
- The rated capacity of the lifter
- The weight of the lifter (if over 100 pounds)

This information must be affixed permanently to the lifting device. Any detachable components of the device must be marked individually.

Safe Use of Lifting Devices

- **Site Evaluation:** Determine what is overhead, what is the load bearing capacity of the site, and know the hazards of the area.
- **Operator Training:** Operators receive training on completing the Pre-Use inspection form and general review on hoist and lifting device operation.
- **Selection of the proper equipment for the job**: The crane must be designed for the operation that is to be used in. Operators must review the manufacturer's specification and recommendations to determine if a crane can be used in an application.
- **Crane Inspection**: Proper inspections provide the opportunity to find and correct problems before the equipment is used. When problems are discovered during inspections, the equipment damage, defects, or other problems must be corrected before the crane can be used again. Inspection of cranes ensures that the equipment is functioning as it is designed. Depending on the type of hoist and frequency of use, inspections can be divided into four classifications.
- **Initial inspection**
- **Daily inspections (documented) – pre-shift**
- **Monthly inspections (depending on the equipment)**
- **Annual inspections.**
- **Incidents (including "Near Miss" and Property Damage)**: All crane accidents, failures, and near misses will be investigated.
- **Rated loads**: Rated loads must be marked on each side of the crane. Each hoist must be marked with its rated load.

Inspections and Maintenance

All lifting devices (cranes, hoists, slings and other lifters) are inspected by the operator prior to use. This includes checking operating mechanisms for poor adjustment that may interfere with proper operation. Other observations may include deterioration or leakage in lines, tanks, valves, drains pumps, and other parts of air or hydraulic systems. Hoist chains (including end connections) are visually inspected for excessive wear, twists, and distorted links. This information is included in training sessions and on the Pre-Use Inspection Check list that must be filled out prior to each shift.

Hoist Inspection	Yes	No	Comments
Check to ensure that hoists are not tagged, "Out of Service".			
Test run to ensure that all motions agree with control device markings.			
Run the hoist through the full range of motions, all the way up and down.			
Check for hook damage. Inspect for: cracks, nicks, gouges, twisting, and wear on load bearing point.			
Check hook latch operation and inspect for wear or deformation. The latch must be present and operational.			
Load chain inspection. Check for: nicks, gouges, deformation, flaws, heat damage, bent links, wear, stretch, corrosion, and proper lubrication.			
Inspect Cable Hoist wire rope for: broken wire, broken strands, kinks, untwisted, crushed, and any deformation to the rope structure.			
Limit Switches: Check to ensure that the upper limit device stops the lifting motion of the hoist load block before striking any part of the hoist.			
Deformation and corrosion of the body frame, gear case, gears, sheaves, bearings and chain stopper pin.			
Check for any sign of oil leakage on the hoist and/or on the ground beneath the hoist.			
Check for any unusual sounds from the hoist mechanism while operating the hoist.			
Additional Comments:			
Inspector: KO: Date:			
Team Leader: KO: Date:			

If issues are noted, supervision will notify Arch Electric EHS to evaluate the equipment and notify the Third-Party Contractor if necessary. Only a qualified representative can make repairs or modifications to hoists. If needed, a third-party contractor may be contacted to repair the equipment.

Monthly inspections of all hoists are conducted by a third-party contractor. These inspections are triggered by the Preventive Maintenance (PM) system. These inspections are documented by the third-party contractor program; inspection records are kept in Maintenance.

Annual inspections are conducted by a third-party contractor. Findings are documented and report maintained in EHS files and in Maintenance files. All non-conforming lifting devices are taken out of service until repairs are completed. If repairs cannot be made, the equipment is tagged and removed from service and destroyed.

During the inspection, the third-party contractor evaluates:

- Loose bolts or rivets.
- Cracked or worn sheaves and drums.
- Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.
- Excessive wear on brake system parts, linings, pawls, and ratchets.
- Load, wind, and other indicators over their full range, for any significant inaccuracies.

- Excessive wear of chain drive sprockets and excessive chain stretch.
- Electrical apparatus, for signs of pitting or any deterioration of controller contactors, limit switches and pushbutton stations.

Slings

Arch Electric uses chain, cable, and synthetic web slings. EHS inspects slings annually. Damaged or worn slings are taken out of service and destroyed. General sling requirements are:

- Capacity ratings must be legible on the manufacturer's label on the sling.
- The capacity of the sling being used must be adequate for the load and attachment method.
- Slings that are damaged or defective cannot be used.
- Slings must not be shortened with knots, bolts, or other makeshift devices.
- Slings may not be loaded in excess of their rated capacities.
- Slings used in a basket hitch must have the loads balanced to prevent slippage.
- Slings must be securely attached to their loads.
- Slings must be padded or protected from the sharp edges of their loads.
- Suspended loads must be kept clear of all obstructions.
- Slings cannot not be pulled from under a load when the load is resting on the sling.
- Slings must be used within the safe operating temperature of the sling.
- Nylon web sling cannot be used where fumes, vapors, sprays, mist or liquids of acids or phenolics are present.

Fabrication Requirements

The lifting device must be designed by, or under the direction of, a degreed structural or mechanical engineer. It must comply at least with OSHA and ANSI standards. The materials of construction and fasteners must be specified in the design and must be more than adequate for the intended use.

The device must be able to withstand the forces imposed by the rated load with a minimum design safety factor of three based on the yield strength of the materials of construction. Other requirements include:

- Any heat treating or welding is to be done by an AWS-certified or equivalent welder.
- The device must be fabricated per approved drawings.
- The device must be marked permanently with the required information shown in the 'Program Requirements" section.

Training

Associates selected to operate a crane or hoist must be able to learn and understand basic safety information for equipment and personnel. They must also learn the special requirements for the safe handling and use of the equipment that they will operate. Training is documented and copies saved in respective files.

EHS RULES

Introduction And Purpose

This program documents general safety rules for all associates working at Arch Electric. Arch Electric Environment, Health and Safety (EHS) Committee and the EHS Specialist will periodically review and upgrade the Safety Rules.

Scope

All associates are responsible for their own safety and are required to follow established safety rules at all times. This program provides general safety work rules for all associates working at Arch Electric, including all subsidiaries.

Related Documents

Published and approved Environmental and Safety programs, policies and procedures.

Definitions and Acronyms

CSE – Confined Space Entry

EHS – Environment, Health and Safety

LOTO – Lockout/Tagout

PIV – Powered Industrial Vehicle

PPE - Personal Protection Equipment

Program Responsibilities

Arch Electric Management and Supervision

- Follow EHS Rules and set a positive example.
- Have an "open-door" policy and be accessible to all associates for any safety related concerns and/or issues.
- Support programs and procedures designed to promote environmental and safety compliance.
- Ensure proper tools, safety equipment, and materials are available for use.
- Provide constructive feedback to the EHS Committee on improvement opportunities.

- Enforce safety rules and assist Human Resources (HR) Department with enforcing safety rules through disciplinary actions.
- Provide prompt medical attention for any injured associate.
- Complete required notifications in the event of an "incident".

Arch Electric Associates

- Follow the EHS Rules and set a positive example.
- Be alert for hazards and situations that may cause injuries to yourself and others.
- Report unsafe conditions, tools, equipment, and practices to your supervisor.
- Do not attempt to make equipment repairs unless you are qualified to do so.
- Wear the specified personal protective equipment (PPE) required in each area.
- Report all incidents and injuries to your supervisor immediately, including property damage, and "near miss".
- Provide constructive feedback and participate in training, EHS teams, and EHS committees.

Arch Electric EHS Specialist

- Adequately train associates on EHS rules; document completed training.
- Investigate all incidents to determine root cause. Develop and follow through with corrective actions to avoid recurrence.
- Maintain records of all work-related incidents.
- Conduct regular inspections to identify and correct unsafe conditions.
- Conduct required reviews of safety and environmental programs.
- Work with the EHS Committee to revise and update rules, policies, and procedures.
- Communicate any changes in EHS policy, procedures, etc., to all associates, including management.

Arch Electric Safety Rules

The following safety rules are a guide. These rules will not cover every possible work situation, nor will it take the place of common sense and good judgment.

General Rules

- Maintain good housekeeping. Keep floors clean and free from spills and materials that may cause a falls, trips, or slips.
- Keep aisles and walkways clear of tools, equipment, cables, and other materials.
- Do not block or lock fire exits and escape routes.
- Use proper lifting methods to avoid personal injury. Get help when lifting loads too heavy or bulky for one person to handle. Do not lift any object 50 pounds or greater without assistance.

- Horseplay is not permitted. Management reserves the right to define horseplay. Disciplinary action will be at the discretion of management on a case-by-case basis.
- Do not walk and use your cell phone. If you must use the phone, stop, step aside, and complete your call/text quickly.

Personal Protective Equipment

- **Safety Shoes** - Safety shoes must be worn at all times by associates, contractors, visitors and vendors while in the construction areas. Safety shoes must meet or exceed ANSI Z41 PT91.
- **Eye Protection** - Associates, contractors, visitors and vendors must wear safety glasses with side shields while in the construction areas. Safety glasses must meet or exceed ANSI Z87.1. Prescription safety glasses cannot have removable side shields. In areas with hazards from flying debris (compressed air), safety glasses (including prescription safety glasses) must fit tightly to protect the eyes. Goggles may be provided to ensure adequate eye protection.
- Contact lenses may be worn under non-prescription safety glasses or safety goggles in lieu of wearing prescription safety eyewear. Under certain circumstances (high airborne dust concentrations, irritating vapors, and risk of chemical splash), it may not be advisable to wear contacts.
- **Gloves** - Only wear tear away gloves while operating moving equipment. Other gloves are available for specific applications and may be required for specific tasks.

Incident Reporting

- Report all injuries, incidents, near misses, property damage, and spills to your Lead and/or supervisor immediately. Failure to report injuries, incidents, near misses, property damage, and spills may lead to disciplinary action.

Confined Space Entry

- Follow all rules of Confined Space Entry (CSE) Entry. All authorized associates must complete confined space entry training prior to entering any confined space. All other associates must attend awareness training and are not permitted to enter confined spaces.

Powered Industrial Vehicle (PIV)

- Do not operate PIVs unless you are trained and licensed by Arch Electric.
- Complete the pre-use inspection (operator's daily checklist) before the start of each shift.
- Do not block access to exits, aisles, stairways, and fire equipment when parking the PIV.
- Do not leave PIVs unattended (25 feet away or out of operator's sight) unless the forks are lowered, controls neutralized, power is shut off, and brakes set.

- Know the posted capacity of the PIV and do not overload it. Know the weight of the load, and make sure the load is secure.
- Slow down and use the horn on blind turns and intersections.
- Drive backward if the load obstructs your view. Always face the direction of travel.

Lockout/Tagout (LOTO)

- All authorized and affected associates must complete LOTO training prior to performing maintenance, general service, and/or set-up on equipment.
- Never perform maintenance/service to a piece of equipment unless you have been trained and authorized to do so.
- Do not remove another associate's lock without permission; this may result in disciplinary action.

Electrical

- Keep all extension cords, appliance cords, and other wiring in good condition. Replace any wiring that is cut, frayed, deteriorated, or otherwise unsuitable for service.
- Do not affix flexible wiring (extension cords, etc.) to building and equipment structures.
- Do not use flexible wiring in lieu of permanent building wiring.
- Do not run temporary or permanent wiring through doorways, windows, and hatchways, or through holes in walls, ceilings, and floors.
- Ground prongs must be intact and functional on electrical cords using a 3-wire grounding system.
- Only trained and authorized personnel are permitted to make repairs or alterations to electrical equipment.

Machine Guarding

- Machine guarding must be closed and locked at all times during operation. Do not remove guarding. Removal of machine guarding may result in disciplinary action.

Biological Hazards (Bloodborne Pathogens)

- In the event of an injury and/or illness that results in blood and or bodily fluid loss into the work area, contact EHS.

Hot Works – Grinding/Torching/Welding/Brazing/Cutting/Soldering

- A hot work permit is required for all temporary operations involving open flames, heat production, and/or open sparks.

- Associates must complete Hot Works training prior to performing hot works activities. Contact EHS for Hot Works Permits.

Air Hoses

- Always use nozzles with blow back protection.
- Never use an air hose to clean your work clothes.
- Any modification to air nozzles beyond manufacturer's recommendations is prohibited.

Training

Training on Safety Rules is provided during New Associate Training, and periodically thereafter depending on the job and regulatory requirements.

ELECTRICAL

Introduction and Purpose

This program establishes safety requirements for associates performing work on equipment in energized and non-energized states. Implementation of Arch Electric Electrical Safe Work Practice Program will help to prevent injuries from direct or indirect electrical contacts and fires in the facility.

Scope

This program applies to all work areas and surrounding grounds. The EHS Specialist will develop, coordinate, and implement this program. All qualified personnel must abide by all the regulations and requirements of applicable federal, state, local and Arch Electric programs.

Definitions

Ampere: Unit of measure used for current.

Arc-Blast: Extreme temperatures of the arc cause explosive expansion of both the surrounding air and the metal in the arc's path.

Arc Flash: Electric current passes through air between ungrounded and grounded conductors, temperatures can reach 35,000 degrees F.

De-energized: Free from any electrical connection to source of potential difference and from electrical charge.

Device: A unit of an electrical system that is intended to but not utilizes electric energy.

Disconnecting (isolating) switch: A mechanical switching device used for isolating a circuit or equipment from a source of power.

Electrical Shock: Electrical current flows through the body.

Energized: Electrically connected to a source of potential difference.

Fuse: An over current protective device with a circuit opening fusible part that is heated and severed by the passage of over current through it.

Ground: A conducting connection, whether intentional or accidental, between an electric circuit or equipment and the earth, or to some conducting body that serves in place of the earth.

Insulated: Separated from other conducting surfaces by a dielectric (including air space) offering a high resistance to the passage of current.

Overload: Operation of equipment in excess of normal, full-load rating, or of a conductor in excess of rated capacity that, when it persists for a sufficient length of time, would cause damage or dangerous overheating.

Qualified person: One who has received training in and has demonstrated skills and knowledge in the construction and operation of electric equipment and installations and the hazards involved.

Voltage: Unit of measure for the electromotive force in an electrical circuit.

Program Responsibilities

Arch Electric Management and Supervision

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies. Ensure only trained personnel perform electrical work, including contractors.

Arch Electric Associates

- Implement and administer this program with support from the EHS Specialist
- Attend *Authorized* training when deficiencies are noted, or refresher needed.
- Periodically audit program for effectiveness.
- Maintain PPE compliance/inspections
- Complete and follow procedures.
- Document completed training.

Arch Electric EHS Specialist

- Support Arch Electric to administer and maintain this program.
- Prepare and provide training materials for annual associate awareness training.
- Maintain program policies, procedures and training records.
- Review written program annually and update as needed.
- Document completed training.

Program Requirements

Qualified Personnel: Qualified person are trained and knowledgeable of the construction and operation of equipment or a specific work method. Qualified person must be trained to

recognize and avoid the electrical hazards that may be present with respect to equipment or work method. To avoid injury, qualified personnel use precautionary techniques, determination of correct PPE, insulating and shielding materials, insulated tools and test equipment, distinguish exposed energized parts from other parts of electrical equipment, determine the nominal voltage of exposed energized parts, and safe approach distances. An unqualified electrical worker may only work on or near equipment that has been placed into an electrically safe work condition (follow all LO/TO procedures to reach zero energy state).

Guarding: Electrical equipment of 50 volts or more must be guarded by location in a locked room, screens or partitions, elevation of 8 feet or more above the floor or platform. Entrances to locations with live parts must be marked with warning signs.

Mechanical Protection Devices: An aisle at least 3 feet wide must be maintained in front of circuit breaker panels (painting on the floor). Circuit breaker panel covers must remain closed. Circuit breaker panels must have a directory index. There cannot be missing breakers or other open spaces in breaker panels.

Ground Fault Circuit Interrupter (GFCI): GFCI's must be used when tools and extension cords are used on construction sites and near water.

Labeling: All electrical equipment must be labeled appropriately.

Lockout/Tagout: Follow all LO/TO procedures specific to the machinery and ensure it is at zero energy state before performing job tasks to prevent injury from occurring due to electrical energy.

Working on or Near Energized Equipment

Electrical tools and equipment must meet industry standards examples may include, but not limited to voltage rated tools, correct categories of diagnostic equipment, multi-meters, proximity testers, amp meters, and other diagnostic equipment as required, non-conductive ladders, non-conductive scaffolding, voltage rated gloves, appropriate arc flash protective equipment, and clothing. Tools, ladders, scaffolding, and other equipment that is able to conduct electricity must not be stored or used so close to energized equipment, installations or conductors that can make electrical contact. Conductive materials, tools and equipment that are in contact with any part of a worker's body shall be handled in a manner that prevents accidental contact with energized electrical conductors or circuit parts.

Means shall be employed to ensure that conductive materials approach exposed energized conductors and circuit parts no closer than that permitted by 2015 NFPA 70E 130.2.

Conductive Articles of jewelry and clothing (e.g., watch bands, bracelets, rings, key chains, or metal headgear) shall not be worn where they present an electrical contact hazard with exposed energized electrical conductors or circuit parts.

If workers are subject to handle long dimensional conductor objects such as ducts or pipes, The Company shall ensure safe work practices are implemented which includes the use of insultation, guarding, and material handling techniques to minimize the hazard.

- If equipment is not de-energized, any work on the equipment must be conducted by Qualified Person(s).
- Only a Qualified Person can work on or near exposed energized equipment.
- Control circuit devices, such as pushbuttons, selector switches and interlocks, must not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment cannot be used as a substitute for lockout.
- When working on or near exposed energized conductors or circuit parts, insulated tools must be used.
- Fuse-handling equipment that is insulated for the circuit voltage must be used to remove or install fuses when the fuse terminals are energized.
- A minimum of a four-foot barrier, either by barrier tape or posted signs, must be in place any time there are exposed energized conductors at over 50 volts (and less than 480 volts) in order to prevent non-qualified personnel from entry. Non-qualified personnel can only enter this area when escorted by a Qualified Person.

Overhead electrical lines

- While conducting site activities near overhead lines, field personnel need to be aware of the location of the lines so as not to use conductive equipment (e.g., metal equipment to include: drill rigs; hand auger extensions; geoprobe units; excavators, etc.) in close proximity to power lines.
- Higher voltages require greater clearance distances. Contact the electrical utility company to verify line voltage and to see if the line can be deenergized.. If the voltage is higher than 50kV, the clearance shall be increased 4 in. for every 10kV over that voltage.

Table 12-1

Voltage	Required Clearance
0-50 kV	10 feet
50-200 kV	15 feet
200-350 kV	20 feet
350-500 kV	25 feet
500-750 kV	35 feet
750-1000 kV	45 feet

Electrical Two-Person Rule Requirement

- Certain work requires two qualified persons. This occurs when work is considered electrically hazardous.

Confined or Enclosed Workspaces

- Workers working in a confined or enclosed space that contains exposed energized electrical conductors or circuit parts operating at 50 volts or more, or where an electrical hazard exists, the worker shall use protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts and the effects of the electrical hazard.
- Doors, hinged panels, and the like shall be secured to prevent their swinging into a worker and causing the worker to contact exposed energized electrical conductors or circuit parts operating at 50 volts or more or where an electrical hazard exists if movement of the door, hinged panel, and the like is likely to create a hazard.

Handling Conductive Material

Conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, the employer shall institute work practices (such as the use of insulation, guarding, and material handling techniques) which will minimize the hazard.

Other Electrical Equipment Requirements

- All doors, covers, and openings for electrical receptacles or equipment must remain closed while energized.
- Unused openings in boxes, cabinets, and panels must remain closed to the protection equivalent of the wall of the equipment.
- Each disconnecting means for equipment will be legibly marked unless its purpose is obvious.
- All electrical equipment within 20 feet of a flammable liquid storage area will be of the non-sparking, explosion proof type, unless physically separated from the area by a partition.
- Electrical equipment may not be used unless it has markings giving voltage, current, wattage, or other ratings as necessary.
- Any conductive material is forbidden to be used while performing electrical work.

PPE

- Refer to **Attachment 1** for PPE requirements when working on energized equipment.

Required tests should be performed as indicated below:

- Before first use
- Before being returned to service following any repairs
- Before being used, after any incident that can be reasonably suspected to have caused damage (for example, when a cord set is run over)
- At intervals not to exceed 6 months

Power Cord Inspection Process

- Electrical power cords are inspected on a quarterly basis by Arch Electric personnel. This inspection is generated by an email from EHS. All cords are labeled to facilitate the inspection using this code:

Equipment Grounding Conductor Color Code		
Month	**Month Tested**	**Color Tape to Apply to Cord**
1	January	White
2	February	White
3	March	White
4	April	Green
5	May	Green
6	June	Green
7	July	Red
8	August	Red
9	September	Red
10	October	Orange
11	November	Orange
12	December	Orange

General Requirements for Flexible Cords, Power Strips and Cables

This information is provided to Production associated during periodic EHS training sessions:

- Flexible cords and cables must be protected from damage from sharp corners, projections, doorways or other pinch points.
- Flexible cords must be heavy duty, and properly sized and rated for the conditions in which they are used.
- Plugs for cords rated above 120 volts must be covered or otherwise protected when not plugged in or in storage to prevent dust accumulation inside the plug.

- Do not bring cords from an external source (Menards, your house, etc.) If you need a power cord, contact EHS.
- Extension cords may be used only for temporary (brief and immediate) needs, such as when using hand-held power tools for a construction project or using a fan to dry out a wet carpet. If you have a need for longer term power at a location, initiate a discussion with EHS.
- Associates are not permitted to purchase power strips and electrical cords from external sources (Best Buy, Wal-Mart, etc.). Power Strips must be used for specific, dedicated use only.
- Power strips must be plugged directly into a wall outlet. Plugging one power strip into another (*daisy-chained*) is not permitted.
- Do not suspend power strips by their cords, or by the cords that are plugged into them. They must be mounted properly.
- Check the plug before plugging in. Using a damaged plug exposes you and others to possible electrocution by contact with the item that is plugged in. Except for plugs on double-insulated devices that clearly were designed with only two prongs, most equipment will have a heavier cord and plug with three prongs. Make sure the round grounding prong is not missing. If it is missing (you will see a small dimple in the plastic plug where it used to be), do NOT use that item. Leave it unplugged and throw it away.
- If you see any damage on extension cords or other power cords (outer insulation layer pulled away from plug, crushed or otherwise damaged insulation, exposed wires) take these cords out of service immediately.
- If you use an extension cord temporarily, do not lay it across corridors or walkways where it will be a trip hazard.
- NEVER affix extension cords with zip ties, tape, string or any other material to building structures, racks or machines. Extension cords are only allowed for immediate, temporary and portable use.
- Damaged cables must be removed from service immediately.
- Cords must be used in continuous lengths without splices.

Training

Associates are trained in and familiar with the safety-related work practices that pertain to their respective job assignments every 3 years with annual refresher training yearly. Qualified persons (those permitted to work on or near exposed energized parts) must be trained in and familiar with the following (NPFA 70E):

- Skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment by determining the exposed parts that are isolated from grounded parts.
- Skills and techniques necessary to determine the nominal voltage of exposed live parts by examining labels, nameplates, one-line diagrams or schematics, or by testing.
- Approach boundaries and the corresponding voltages to which the qualified person will be exposed.

- Where, when and how to use appropriate personal protective equipment.
- Emergency response techniques including CPR, First Aid and releasing a victim.

All associates at Arch Electric receive electrical awareness training on a regular basis, including a discussion of the items listed above in ***General Requirements for Flexible Cords, Power Strips, and Cables***. Training is documented.

Attachment 1: PPE for ENERGIZED ELECTRICAL WORK

Arch Flash Guideline (600 Volts Nominal and Below)		
Original Date:	Revision Date:	Revision: B
Written By:	Approved By:	
Responsibility: Electrical Dept.		
PRINTED DOCUMENT NOT VALID AFTER 24 HOURS		

Less than 50 Volts: No Arc-flash hazard.

50 through 240 Volts Nominal Exposed Live Parts
Minimum Boundary: 4 feet
PPE Required: Category #1 Arc Flash PPE. This must include… ➢ Fire-resistant shirt and pants or coveralls with 4 cal rating

- ➢ Hard hat with face shield
- ➢ Safety glasses
- ➢ Hearing protection
- ➢ Voltage rated gloves
- ➢ Leather work shoes

Above 240 through 600 Volts Nominal Exposed Live Parts
Minimum Boundary: 4 feet
PPE Required: Category #2 Arc Flash PPE. This must include…

- ➢ Non-melting under layers
- ➢ Fire-resistant shirt and pants or coveralls with 8 cal rating
- ➢ Hard hat with face shield
- ➢ Safety glasses
- ➢ Hearing protection
- ➢ Voltage rated gloves

Above 600 to 15,000 Volts Nominal Exposed Live Parts
Minimum Boundary: 5 feet
PPE Required: Category #4 Arc Flash PPE. This must include…

- ➢ Non-melting under layers

- Fire-resistant jacket and overalls - 40 cal rating
- Fire-resistant hood and arc-flash rated face shield - 40 cal rating
- Safety glasses
- Hearing protection
- Voltage rated gloves
- Leather work shoes
- Leather work shoes

NOTE: An **energized work permit** is required when live parts are not placed in an electrically safe work condition and: (1) work will be performed within the restricted approach boundary; or (2) interaction with equipment will pose an increased risk of injury due to arc flash even though the equipment has no exposed conductors or circuit parts.

The energized work permit is not required when a qualified person is using appropriate PPE and safe work practices for: (1) testing, troubleshooting and voltage measuring; (2) thermography and visual inspections if the restricted approach boundary is not crossed; (3) movement in and out of an area with energized electrical equipment if no electrical work is performed and the restricted approach boundary is not crossed; and (4) general housekeeping and miscellaneous non-electrical tasks if the restricted approach boundary is not crossed.

FALL PROTECTION

Introduction and Purpose

This program provides basic requirements for fall protection at Arch Electric. The goal of the program is to prevent occupational accidents and injuries by educating associates on the safe use of fall protection. This program focuses on associates performing work at heights greater than 6 feet above floor level.

Scope

This program applies to all associates at Arch Electric working at heights of 6 feet and greater where there is a possibility of falling. All associates must use effective fall protection systems or engineering controls when working in situations that present an exposure to a fall hazard. Arch Electric will endeavor to implement engineering controls to eliminate the need for fall protection; however, some positions currently require associates to work at heights greater than 6 feet. Contractors working for Arch Electric must follow the elements of this program.

Definitions

Anchor Point: A secure point of attachment for lifelines, lanyards, or deceleration devices. An anchor point must be capable of supporting at least 5,000 pounds (3,600 pounds if engineered/ certified by a qualified person) per person and must be independent of any anchorage being used to support or suspend platforms, which is independent of the means of supporting or suspending the associate.

Authorized Person: A person approved or assigned by Arch Electric to perform a specific type of duty or duties with the use of fall protection at a specific location or job site.

Competent Person: A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component, as well as in their application and use with related equipment.

Connector: A device which is used to couple (connect) parts of the personal fall arrest system together.

Deceleration Device: Any mechanism, such as a rope grab, rip-stitch lanyard, a specially woven lanyard, tearing or deforming lanyard, automatic self-retracting lifeline/lanyard, etc., which serves to dissipate a substantial amount of energy during a fall arrest.

Deceleration Distance: The additional vertical distance a falling associate travels before stopping, from the point at which the deceleration device begins to operate. This distance does not include the lifeline elongation or the free fall distance.

Full Body Harness: A design of straps that may be secured about the associate in a manner to distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching it to other components of a personal fall arrest system.

Guardrail System: A barrier erected to prevent employees from falling to lower levels. This system includes a toe board, mid-rail and top-rail able to withstand 200 pounds of force applied in any direction.

Lanyard: A flexible line of rope, wire rope, or strap that is used to secure the body harness to a deceleration device, lifeline, or anchorage.

Lifeline: A component consisting of a flexible line for connecting other components of a personal fall arrest system to the anchorage.

Personal Fall Arrest System: A system used to arrest or stop an associate in a fall from a working level. It consists of an anchorage, connectors, and a body harness and may include a lanyard, deceleration device, lifeline, or a combination of these components.

Self Retracting Lifelines (SRL): Used to arrest or stop a fall from a working level. SRLs are anchored overhead and extend and retract automatically. Tension is always kept on the lifeline, which reduces dragging, snapping and trip falls.

Tie-Off: The act of an associate, wearing personal fall protection equipment, connecting directly or indirectly to an anchorage.

Total Fall Distance (TFD): The distance between the anchorage point and the closet obstruction.

Program Responsibilities

Arch Electric Management

- Provides the resources necessary to implement and maintain this program.
- Enforce the program and correct deficiencies.

Arch Electric Associates

- Follow the requirements of this procedure and only perform those tasks for which they are fully trained and qualified.
- Inspect all equipment prior to use, regardless of the time of the last inspection.
- Report all falls to supervision.

Arch Electric EHS Specialist

- Maintain and review this procedure annually and update as required.
- Inspect fall protection equipment annually if authorized as a "*competent person*".
- Provide associate training and documentation.

Program Requirements

Fall protection is required wherever the potential to fall 6 feet or more exists. At Arch Electric, this includes:

1. Associates working at any job site, and
2. Associates working at office buildings

All tasks performed at Arch Electric that require work at heights more than 6-feet above the floor must be:

- Protected with appropriate guardrails, railing or other fixed barrier (engineering controls) or,
- Performed by associates using an appropriate body harness and personal fall arrest system.

All guardrail systems will contain a 42" high top-rail, a mid-rail and toe board, which can withstand 200 pounds of force in any direction. If guardrails are not installed, personal fall protection systems must be used. The components of a fall protection system include:

When working at height, all tie-offs must be made to a fixed anchorage. Fixed anchorages and lifelines must be approved by a qualified person. Industrial Vehicles and attachments, high lifts, and portable ladders ***do not*** meet the definition of "fixed anchorage":

Calculating Total Fall Distance: Calculating Total Fall Distance (TFD) is as necessary and important as using the proper body harness, connectors and anchorage point. The TFD is the distance between the anchorage point and the closet obstruction. Refer to **Attachment 1** for more information about this calculation.

Personal Fall Arrest System Inspections: Fall protection equipment is inspected prior to use by the authorized person at least once at the beginning of each eight-hour shift. This inspection verifies that it has not sustained any wear or damage that would require removal from service.

Fall protection and fall rescue equipment is inspected at least once per year by a competent person. This inspection is completed to verify that the equipment is safe for use. The inspections are documented, and provide this information:

- Absence or illegibility of markings or tags.
- Absence of any elements affecting the equipment form, fit, or function.
- Evidence of defects in or damage to hardware elements including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, or excessive wear.
- Evidence of defects in, or damage to, straps or ropes including fraying, unsplicing, kinking, knotting, roping, broken or pulled stitches, excessive elongation, chemical attack, excessive, soiling, abrasion, alteration, needed or excessive lubrication, excessive aging, or excessive wear.
- Alteration, absence of parts, or evidence of defects in, damage to, or improper function of mechanical devices and connectors.
- Any other condition that calls to question the suitability of the equipment for its intended purpose.

An inspection checklist is document FP 1.0. For Arch Electric, the inspection is the responsibility of the EHS Specialist; **Attachment 2** is a general guideline for annual and pre-use equipment inspection.

Any damaged equipment is taken out of service immediately. Once the equipment is deemed unsafe, it is tagged so that it does not return to service and either destroyed or returned to the manufacture. This information is included on the inspection form.

Equipment Storage: All equipment must be kept in safe, serviceable condition. It must be cleaned, inspected, and stored to meet this requirement. Equipment must be stored in a manner that protects it from exposure to any conditions that could result in damage.

Rescue Procedures: Arch Electric understands that the use of fall protection will create a specific rescue procedure to ensure prompt rescue for each site.

Training

Initial Training: Each associate who will use fall protection must be trained, by a qualified or competent person, regardless of prior experience. This includes full-time, part-time, seasonal, flex, and temps. Arch Electric associates are trained in the requirements of this program and in the proper use off personal fall arrest systems prior to working at a height more than 6 feet above the floor. The training session addresses:

- Fall hazard recognition.
- Fall hazard elimination and control methods.

- Applicable fall protection procedures.
- Responsibilities of designated persons.
- How to use written fall procedures.
- Inspection of equipment components and systems before use.
- Proper hookup and attachment methods for the equipment.
- Appropriate anchoring and tie-off techniques.
- How to estimate free-fall distances.
- Fall protection rescue procedures.
- Self-rescue procedures and techniques.
- Proper storage of fall protection equipment.

Retraining is required when the nature of work, workplace, of methods of control change to an extent that prior training is not adequate. It is also necessary to conduct retraining if it becomes apparent that the authorized person does not have the required level of skill and knowledge or is not following the required means and methods.

Refresher Training: Authorized Persons refresher training is conducted at least every two years to stay current with the fall protection and rescue requirements. If the EHS Specialist or any member of supervision determines that refresher training is required more often, proactive measures will be taken and refresher training provided.

Competent Person Training: To be designated as a "Competent Person" training must be provided by a competent person trainer or a Qualified Person trainer. Initial training includes physical demonstrations on how to inspect, anchor, assemble, and use the fall protection and rescue equipment that are used in locations where they work. Training includes the use of all types of equipment and systems used in locations where the authorized persons work, including inspecting systems prior to use, installation, component compatibility, estimating free fall distances, total clearance dismantling, storage, and the common hazards associated with each system and component.

Additional components of Competent Person training addresses:

- Fall hazard elimination and control methods.
- Applicable fall protection regulations.
- Fall hazard surveys and fall protection procedures.
- The responsibilities of designated persons under this standard.
- Detailed inspection of equipment components and systems.
- Fall protection system assessments and determining when a system is unsafe.
- Fall protection rescue procedures.
- The selection and use of noncertified anchorages.

Competent person refresher training is conducted at least every five years to stay current with fall protection and rescue educational industry requirements.

HAZARD COMMUNICATION

Introduction and Purpose

In 1984, the Occupational Safety and Health Administration (OSHA) established the Hazard Communication Standard. The standard states that associates have the *right-to-know* what hazardous chemicals are used in their workplace. Associates are entitled to information regarding the hazards of those chemicals, and the protective measures they can take to avoid harmful exposure.

Hazard communication applies to any chemicals present in the workplace in such a manner that associates could be exposed during normal work activities, or during a foreseeable emergency. Hazard communication provides information to associates so they can 1) work with chemicals safely using container labeling, 2) Safety Data Sheets (SDS), and 3) training.

Scope

This program applies to all Arch Electric associates who may have contact with hazardous chemicals during the course of their work. The hazard communication program applies to all work areas where hazardous chemicals are known to be present both under normal conditions and in a foreseeable emergency. The hazard communication program has five major components:

- Hazardous chemicals identification;
- Container labeling and other forms of warning;
- Safety data sheets (SDSs);
- Written program and chemical inventory; and
- Associate training.

Definitions

Article: An item which meets the following criteria:

- It is formed to a specific shape or design during manufacture;
- The function of the item depends upon its shape or design during end use; and
- It does not release or otherwise result in exposure to a hazardous chemical under normal conditions of use.

Chemical: Any element, compound, mixture, or material.

Consumer Product: Any consumer product that is used in the workplace in the same manner as normal consumer use.

Container: Any bag, barrel, bottle, box, can, cylinder, drum, storage tank, etc. that could hold a chemical. Pipes or piping systems, engines, fuel tanks, or other operating components on a vehicle, are not considered containers.

Contractor: Any individual contracted by Arch Electric to perform work anywhere within the organization.

Distributor: A business, other than a chemical manufacturer or importer, who supplies hazardous chemicals to other distributors or to employers.

Exposure or Exposed: Actual or potential contact with a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.).

Global Harmonization System (GHS): Also Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Includes criteria for the classification of health, physical and environmental hazards, as well as specifying what information should be included on labels of hazardous chemicals as well as safety data sheets.

Hazardous Chemical: Any chemical that poses a physical or health hazard.

Hazard Warning: Any words, pictures, or symbols/pictograms appearing on a label or other appropriate form of warning that convey the specific physical and health hazards of the chemical(s) in the container.

Health Hazard: The ability to cause adverse acute or chronic health effects in exposed individuals.

Mixture: Any combination of two or more chemicals that does not cause a chemical reaction.

Physical Hazard: Attributes that can cause physical harm as a result of such things as combustion, reactivity, explosively, or sudden release of pressure.

Safety Data Sheets (SDSs): Technical information documents used to inform associates of the physical and chemical hazards that may arise from chemicals, as well as other safety information about those chemicals. Formerly referred to as **Material Safety Data Sheets (MSDSs)**

Program Responsibilities

Arch Electric Management

- Provide resources to implement and maintain the program.

- Enforce the program and correct deficiencies.

Arch Electric Supervision

- Ensure chemicals are properly used, stored, and labeled.
- Ensure only minimum amounts of chemicals are maintained at workstations.
- Ensure SDSs' are accessible to all associates.
- Notify EHS for chemical changes.

Arch Electric Associates

- Report any problems with storage or use of chemicals.
- Report spills or suspected spills of chemicals immediately.
- Use only those chemicals for which training has been provided.
- Use chemicals for the proper task and in the proper quantities.
- Obtain chemicals only through the proper company procedure.
- Request approval from Arch Electric EHS Specialist for any new chemicals prior to purchase.

Arch Electric EHS Specialist

- Provide a documented response for all new chemical approval requests.
- Conduct annual physical inventory of chemicals in use at Arch Electric.
- Maintain and update SDS system for Arch Electric.
- Ensure SDS availability, including training supervisors.
- Monitor facility for proper use, storage and labeling of chemicals.
- Provide periodic training.
- Review and update this Hazard Communication program annually.
- Ensure contractor compliance.

Contractor Compliance

- Notify the EHS Specialist before bringing any chemicals into Arch Electric.
- Monitor and ensure proper storage and use of chemicals by their associates

PROGRAM REQUIREMENTS

Most materials and products in the workplace can present some type of chemical hazard depending on how they are stored, handled, or used. This program deals with traditional chemicals and with materials and commodities not normally thought of as "chemicals". These include abrasives, welding rods, sands, plastics, lumber, and fabrics. This also includes some raw materials used in manufacturing process.

(M)SDS: Copies of (M)SDS are available electronically. Associates receive training on how to access this site if a computer is available. During annual training (including New and Transfer Associate training), associates are instructed to contact supervision to obtain copies of (M)SDSs.

Chemical Inventory List: The Arch Electric EHS Specialist maintains a Chemical Inventory List. The list is updated as needed. The list verifies Safety Data Sheets (SDSs) in the electronic system against the list generated during the physical inventory.

Labeling of Hazardous Chemicals: All containers must remain labeled. All labels must be legible and prominently displayed. Missing or illegible labels must be replaced. Portable containers for the immediate use of the associate need not be labeled.

Each container of incoming chemicals must have appropriate labeling including these six elements:

- Product Identifier
- Responsible Party
- Signal Word ("hazard" or "warning")
- Pictograms
- Hazard Warnings
- Precautionary Statements

Chemical Procurement: New chemicals must be approved by the Arch Electric EHS Specialist **before** ordering.

TRAINING

Training is provided to associates periodically, or when a new chemical hazard enters the workplace. Specialized training will be provided prior to performance of non-routine tasks involving chemical hazards.

Contractor Training: Contractors are expected to provide appropriate training to their associates prior to work at Arch Electric. The contractor's Arch Electric contact will ensure the following information is provided to the contractor:

- The chemicals present at the work site and their hazards.
- General information regarding the container labeling system.

HEARING CONSERVATION

Introduction and Purpose

Arch Electric implements this Hearing Conservation Program (HCP) to prevent noise-induced hearing loss among our associates. Noise is one of the most pervasive occupational health problems. It is a by-product of many industrial processes. Repeated exposure to high levels of noise causes hearing loss and may cause other harmful health effects. Hearing loss occurs very gradually over time. The worker may not notice any change in hearing until the hearing loss begins to interfere with everyday communication. Noise induced hearing loss is not reversible and cannot be treated medically.

This program has been prepared to make associates aware of the hazards of noise. Various government regulations have been developed to address noise exposure and hearing loss, including the U.S. Occupational Safety and Health Administration (OSHA) regulations found under 29 CFR 1910.95. In addition to addressing the needs of Arch Electric, this Hearing Conservation Program covers the OSHA requirements.

Scope

This program applies to all associates at Arch Electric. When associate noise exposures equal or exceed the **action level**, the affected associates are included in Arch Elecrics Hearing Conservation Program. The major elements for this program include:

- Noise exposure monitoring
- Use of hearing protection
- Associate training
- Audiometric testing.

Definitions

Presbycusis: Naturally occurring hearing loss that results from aging.

Recordable hearing loss: The occurrence of a work-related standard threshold shift in either or both ears when, at the same time, the employee's average hearing level at 2000, 3000, and 4000 Hz is 25 dB or higher above audiometric zero in the same ear(s).

Standard threshold shift (STS): A permanent change in hearing threshold, relative to the baseline audiogram, of an average of 10 dB or more at 2000, 3000 and 4000 Hz in either ear.

Program Responsibilities

Arch Electric Management

- Provides the resources necessary to implement and maintain this program.

Arch Electric Supervision

- Enforce hearing protection requirements established in this program.
- Provide appropriate hearing protectors and makes them available to associates.
- Make sure associates are trained on the proper use, care, and cleaning of hearing protectors.
- Verify that associates properly use and care for hearing protectors.
- Replace defective or damaged hearing protectors immediately.

Arch Electric Associates

- Obtain and use hearing protectors according to the requirements established in this program.
- Attend required training sessions.
- Care, clean, and maintain hearing protectors as required.
- Inform supervision if hearing protectors are needed, or if repairs or replacements are needed.

Arch Electric EHS Specialist

- Maintain program policies, procedures and training records.
- Provide training and technical assistance to supervisors and associates on the proper use, care, and cleaning of approved hearing protectors.
- Review and update this program annually, and when work place conditions change.
- Prepare and provide training materials for annual associate awareness training.
- Document completed training.

Noise Exposure Monitoring

Purpose: Sound level measurements and exposure monitoring are performed to:

- Identify high noise areas;
- Determine the associates who must be included in the hearing conservation program;
- Identify operations for which noise controls must be evaluated; and
- Enable the proper selection of hearing protectors.

Procedures: Sound level measurements are made using calibrated sound level meters. At times, meters equipped with octave band filter sets may be needed to measure sound levels at specific frequencies as well as impact noises. The information obtained through sound level measurements is used to support noise exposure monitoring data, identify noise sources, and develop noise control strategies.

Noise exposures are determined with a calibrated sound level meter called an audio-dosimeter. The audio-dosimeter is worn by the associate. These meters continuously measure and integrate sound levels during the work shift. At the end of the monitoring period, the meters are removed from the associates and the resulting time-weighted average noise exposures are recorded

If associates work for extended periods of time (10 hour shift), the measured noise exposures are adjusted accordingly by converting the **dose** received over the extended time period to an 8-hour average.

Frequency: Following initial assessment, personal noise exposure monitoring is performed as necessary to keep the data current and representative of the conditions within the facility. In addition, follow-up personal exposure monitoring may be performed upon any significant changes in production, process, equipment, or controls causing increased noise exposures such that additional associates may be exposed at or above the action level.

Observation of Monitoring: When noise exposure monitoring is performed, associates are provided an opportunity to observe the monitoring procedures.

Notification of Results: Noise exposure monitoring results are documented in writing and all affected associates are informed of the results by their supervision

Records Retention: Noise exposure monitoring and sound level measurement records are retained for a minimum of **50** years.

Hearing Protection

Purpose: Hearing protectors are used to prevent noise induced hearing loss when engineering controls (silencers, enclosures, etc.) are either not effective or feasible.

Scope: Associates are required to wear hearing protectors in all high noise areas. Hearing protectors are available to all associates at no cost to the associate.

Suitability: When required, hearing protectors must attenuate an associate's noise exposure to an 8-hour time-weighted average below 85 dBA. When personal noise exposure monitoring results show that hearing protectors are necessary, the minimum acceptable effectiveness for these devices are determined on a job position-specific basis. See **Attachment A** for the procedure to use in determining hearing protector effectiveness.

Fitting, Use and Care: Every associate who uses hearing protectors receives training on their fitting, use and care. See **Attachment B** for additional information.

Compliance: Where hearing protectors are required, it is the responsibility of supervision to ensure that all affected associates comply with the requirement.

Training

Training is provided to explain occupational noise exposure, personal protection, and audiometric testing. Training promotes associate participation in the hearing conservation program. All associates who are exposed to noise at or above the action level of an 8-hour time-weighted average of 85 dBA receive training. Each affected associate must be trained annually.

As a minimum, associate training must cover the following:

- The effects of noise on hearing;
- An explanation of the purpose and procedures for audiometric testing;
- The purpose of hearing protectors;
- The advantages, disadvantages, and attenuation of various types of hearing protectors; and
- Instructions on the selection, fitting, use, and care of hearing protectors

Training must be documented. The associate's signature should appear on the training documentation form.

Audiometric Testing and Follow-Up

Audiometric testing is performed to evaluate associate hearing acuity and confirm that associates are being protected from the potential adverse effects of occupational noise exposure. Testing is performed annually for those associates included in the hearing conservation program.

Scope: At minimum, all associates who are exposed occupationally to noise at or above the action level (85 dBA as an 8-hour time-weighted average) will be tested for hearing acuity.

Qualifications: Audiometric tests are performed by a 3rd party, certified by the Council of Accreditation in Occupational Hearing Conservation. The 3rd party uses approved audiometers that are appropriately calibrated and maintained; approved audiometric test rooms are used.

Audiogram Review: The audiometric technician reviews each audiogram with the associate in the following manner.

- So long as a Standard threshold shift (STS) has not occurred with respect to the baseline audiogram, an audiogram showing no hearing thresholds greater than 10 decibel at any frequency may be described as "appears to be essentially normal". Standard threshold shift (STS): A permanent change in hearing threshold, relative to the baseline audiogram, of an average of 10 dB or more at 2000, 3000 and 4000 Hz in either ear.

- An audiogram with a hearing threshold greater than 10 dB in any frequency may be described as "not normal". The technician may discuss possible causes for the loss but should not attempt to give a diagnosis or state a cause of the loss.
- Audiograms with no change from the baseline audiogram greater than 5 dB in any frequency may be identified as "shows no change".
- Any audiogram that shows 20 dB or greater shift at any frequency except 6000, when compared with the previous year's audiogram, must be repeated immediately, if possible. If the associate shows a threshold shift greater than 10 decibels at any frequency except 6000 and has not been using hearing protection, the technician should schedule a repeat audiogram within 30 days. If the change is confirmed, the audiogram will be referred to the 3rd party for review.
- Associates with questions about the explanation(s) for hearing loss will be referred to the Arch Electric EHS Specialist.
- The associate signs the audiogram after it has been reviewed.

Retest: When the associate tested shows a threshold shift, the audiometric technician should schedule a repeat audiogram within 30 days. The associate must be tested either when there has been no occupational noise exposure for 14 hours prior to the test or the associate has been wearing hearing protection during the previous 14-hour period. Generally, there is no need for such retest if two successive audiograms are essentially identical.

Medical Evaluation and Follow-up: The technician must forward any audiogram showing an abnormality or a standard threshold shift to the Arch Electric EHS Supervisor for evaluation. The audiometric technician will not make a diagnosis with reference to abnormal hearing but should refer all questions to the physician. The physician will evaluate the audiogram and determine if the audiogram is valid and if a standard threshold shift has occurred. The audiogram must be corrected for presbycusis (age-induced hearing loss).

Medical Referral: If the physician suspects that a medical pathology of the ear is unrelated to the use of hearing protectors, he must inform the associate of the need for an ontological examination.

STS Notification: If there is a standard threshold shift, the associate must be informed of this in writing within 21 working days of the audiometric test. The associate will be requested to make an appointment with the 3rd party for an examination.

If subsequent testing of the associate shows that the STS is not persistent and the associate's daily average noise exposure is less than 85 dBA, the associate shall be informed of the new audiometric interpretation.

Revised Baseline Audiogram: If a STS is determined to be persistent, the annual audiogram that first shows the STS will be substituted for the baseline audiogram in order to avoid continually identifying the same shift. An annual audiogram also may be substituted for a baseline audiogram when a significant improvement in hearing capability is indicated.

Recordable Hearing Loss: Arch Electric is required by OSHA to record occupational hearing loss on the occupational injury and illness log Form OSHA No. 300. Recordable hearing loss is a work-related permanent change in hearing threshold, relative to the baseline audiogram, of an average of 25 dB or more at 2000, 3000, and 4000 Hz in either ear. The hearing loss is recorded on the date of the loss, or on the retirement date. It is not recorded as a DART case. Refer to **Attachment C** for guidelines on reporting hearing loss.

When such loss is identified (after adjustment for presbycusis), the audio technician should refer the audiogram to the Arch Electric. Arch Electric will review the associate's medical record, review the work history and interview the associate when it is suspected the hearing loss may not be work-related. If the work history and applicable noise monitoring results provide strong and clear indication that the hearing loss is not work-related, it is not necessary to record the case. Arch Electric EHS Specialist retains the documentation supporting this decision.

Records Retention: Audiometric testing program records are to be kept as follows.

1. Audiograms must be retained for at least the duration of the affected associate's employment *plus* 30 years. These records must include:
    - Name and job classification of the associate;
    - Date of the audiogram;
    - The examiner's name;
    - Date of the last acoustic or exhaustive calibration of the audiometer; and
    - Associate's most recent noise exposure assessment.
2. Results of background sound pressure level measurements made in the audiometric test room must be maintained at least **50** years.
3. Documentation of all audiometer calibrations, including daily functional operation checks, must be maintained for at least **50** years.
4. Copies of associate STS notifications must be maintained for the duration of employment **plus** 30 years.

Access to Information and Records

A copy of the OSHA occupational noise exposure standard (29 CFR 1910.95) must be posted in the workplace where associates can read it. .

Program Audits

At Arch Electric, the EHS Specialist is responsible for audiometric testing and training. Audits may address noise exposure monitoring efforts, audiometric testing and training frequency, hearing protection use, and record retention. If deficiencies are found in the program, they will be corrected, and resolution documented.

HEAT ILLNESS

Introduction And Purpose

Construction involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects, or strenuous physical activities, are potential causes of heat stress on associates engaged in such operations. Excessive heat stress may lead to the development of various heat-related illnesses.

At Arch Electric, elevated temperatures and high humidity occur periodically during the summer months. This makes the working environment uncomfortable for certain associates during periods of elevated temperatures and high humidity. This Heat Illness Prevention Program establishes guidelines for minimizing the effects of heat stress and preventing heat-related illness at Arch Electric.

Heat stress can cause a gradual onset of work-related ailments. Heat stress occurs when hot air and/or high humidity, or continued heavy exertion prevent your body from cooling itself fast enough. As your body's temperature starts to rise, your heart responds by pumping more blood. The blood then circulates closer to the surface of your skin releasing excess heat. When this does not cool your body enough, your body starts sweating. As perspiration evaporates, your skin cools. The most important mechanism for losing heat during heavy work is evaporation of sweat. When the relative humidity increases, less sweat evaporates, thus reducing the cooling factor.

Scope

This program applies to all Arch Electric associates where the combination of working conditions may cause heat stress and have a detrimental effect on associate's health.

Definitions

Heat Index: A measurement of the air temperature in relation to the relative humidity that is used as an indicator of the perceived temperature; also known as "apparent temperature".

Heat Stress: Physical strain placed upon the body because of excessive exposure to heat, which may be due to air temperature, radiant heat, humidity, level of exertion, or all these factors.

Heat Edema: The mildest form of heat-related illness. It occurs when swelling develops in the hands or feet due to accumulation of excess water in the soft tissue. Experienced by persons not acclimated when initially exposed to hot weather or heavy exertion.

Heat Rash: Also known as "prickly heat". It is caused by a hot, humid environment and plugged sweat glands.

Heat Cramps: Painful muscle cramps. They can occur when excessive sweating causes an imbalance in the body's electrolytes, which then interferes with nerve impulse transmission between muscle cells.

Heat Exhaustion: Physically stressed and weakened condition caused by the depletion of body fluids through profuse sweating. Heat exhaustion can lead quickly to heat stroke. Immediate medical attention is required.

Heat Stroke: The most severe heat-related illness. This is a life-threatening emergency. It occurs when the body is no longer able to regulate its temperature. The mechanism that allows the body to sweat fails, and the body is not able to cool. The core body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency medical treatment is not provided.

Program Responsibilities

Arch Electric Management

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.

Arch Electric Supervision

- Enforces the requirements established in this program.

Arch Electric Associates

- Report heats related illness to Supervision or the EHS Specialist.

Arch Electric EHS Specialist

- Monitor workplace conditions.
- Provide training resources and orientation for new and existing associates.
- Develop a Heat-Illness Prevention Program.
- Review written program annually and update as needed.
- Document completed training.

Program Requirements

Associates must report any heat related signs and symptoms immediately to their supervisor or the nearest associate. If associates show any signs or symptoms of heat related illness, supervisors must remove the individual from the environment and into an air-conditioned area as soon as possible.

Heat cramps can be treated by removing the associate from the environment, passive cooling, and/or hydrating with an electrolyte solution. Arch Electric first aid kits have ice packs for heat cramps.

For more severe heat illness (beyond heat cramps), the individual will be sent to the closest Urgent Care.

General Precautions: The prioritization of control measures for preventing injury or illness in the workplace begins with engineering controls, followed by administrative controls and personal protective equipment. Associates can do several things on their own to reduce the effects of heat and humidity, including wearing appropriate clothing and drinking cold fluids. A detailed list of general precautions is provided with the annual training session.

Engineering Controls: When the general precautions are not adequate to prevent heat illness, engineering controls must be used to the extent feasible to improve workplace conditions. These controls may include:

- Use of insulated enclosures to contain heat.
- Use of shielding to protect against radiant heat.
- Use of fans to create air movement.
- Mechanizing or automating work tasks to reduce level of exertion.

Administrative Controls: To the extent that general precautions and engineering controls may not be feasible or sufficient, administrative controls must be used to reduce the effects of heat stress. Administrative controls include:

- Cutting back workload for the shift to reduce level of exertion.
- Eliminating or postponing non-critical activities.
- Rescheduling activities to cooler times of the day or night.
- Providing frequent breaks and plenty of cold water.
- Rotating work activities between job positions to reduce level of exertion.

Personal Protective Equipment: As a last resort (when other control methods have proven to be infeasible or insufficient), PPE may be used to reduce the effects of heat stress. PPE types include:

- Air-supplied, vortex-cooled garments such as vests or jackets.

- Cooling garments that use ice packs or cold gel packs.
- Water-activated cooling bandanas, hat inserts and other garments.
- Reflective garments to shield against radiant heat.

Training

All associates who work in areas or perform tasks that may be subject to heat stress must be trained on the relevant aspects of this issue and this written program. Awareness training is provided for all associates during annual awareness training. The training session includes these items:

- Types of heat illnesses, as well as their signs and symptoms.
- Factors that increase the effects of heat stress.
- Precautions that associates can take to prevent heat illnesses.

INCIDENT REPORTING

Introduction And Purpose

The purpose of this procedure is to provide guidance for investigation of incidents involving illness, injury, property damage, environmental spills, and upsets and "near-miss" incidents.

Scope

This program applies to all associates at Arch Electric. The program covers work-related injuries, illnesses, property damage, "near-miss", environmental upsets, and notifications. Complaints from external sources will be investigated using this procedure.

Definitions

Days Away Restricted or Transferred (DART) Case: Any case that results in one or more days away from work or job transfer or restrictions.

Environmental Spill or Upset: An undesired event that could or does result in unintended harm or damage to humans, the environment, property, or productivity.

First Aid Case: A minor injury requiring only First Aid treatment, normally given by someone other than a physician.

Injury: Any injury that results from a work incident or from an exposure involving a single incident in the work environment.

Incident: Any unplanned condition resulting in injury, damage to equipment or "near-miss" situations.

Indirect Cause: The substandard acts/practices or conditions that directly contribute to the occurrence of an incident/incident. Frequently referred to as unsafe acts or conditions.

Near-Miss: Any unplanned condition which, under other conditions, could have resulted in injury or damage to property.

Notification Only: A category of injury where the associate only wants documentation but does not want Medical or Therapy.

Recordable Case: A minor injury that requires treatment beyond first aid, but does not result in lost work, transfer, or job restrictions.

Program Responsibilities

Arch Electric Management

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.
- Provides resources to minimize recurrence where possible.
- Participates in review of DART cases and Significant Events.

Arch Electric Supervision

- Enforces the requirements established in this program.
- Participates in incident investigations and provides resources to minimize recurrence.
- Review investigations for accuracy and signs off (electronically) to complete the investigation.

Arch Electric Associates

- Reports incidents, accidents, property damage, environmental spills/upsets or "near miss" incidents to their Supervisor, Team Leader, or EHS Specialist.
- Participate in the Incident Investigation Process.

Arch Electric EHS Specialist

- Maintain program policies, procedures, and records.
- Lead or assist supervision in incident investigations.
- Document results of the investigation and provides copies to supervision for review and sign-off.
- Provide corrective action plan when warranted.

Program Requirements

All Arch Electric associates are required to report incidents, property damage, near miss, and environmental spills/upsets. Incidents may be reported verbally or electronically to Supervisors or to the EHS Specialist. The report must be made within 48 hours of the incident, or sooner if possible. Where appropriate, the EHS Specialist, or designee, reports on all incidents during the Tuesday morning meeting.

All DART cases and recordable cases require a formal investigation. For other incidents, the investigation may be formal or informal, depending on the severity.

The EHS Specialist maintains a file of all investigations and related documentation.

Significant Events and complaints from external sources will be investigated using this procedure. Management must participate in the review of Significant Events and complaints from external sources. The responsible manager and direct reports will meet within two business days after any fatality, major property loss, or other significant event.

Training

Each year, associates receive training to reiterate reporting requirements, a review of the process, and the need for compliance. Feedback is solicited to improve the process. Reporting requirements are also discussed during New and Transfer Associate Training.

Attendees are required to sign into document attendance; copies of attendance are kept electronically and entered in to training documentation tracking system if applicable.

LOCK OUT TAG OUT

Introduction and Purpose

Every year thousands of workers are injured on the job due to unexpected release of energy. This energy may be electrical, hydraulic, pneumatic, chemical, mechanical, thermal, or gravitational. The presence of energy may not be obvious. Turning off a switch or closing a valve does not guarantee a person's safety. Releases of energy can be caused by equipment failure, not understanding a piece of equipment, or the actions of others who are unaware of the consequences.

This program establishes the minimum requirements for isolating machinery from energy sources prior to performing certain types of set-up, service and maintenance work at Arch Electric. It explains how to use the 8-step lockout/tagout process to avoid injury resulting from unexpected startup or movement of equipment or the release of energy. It identifies when LO/TO must be used, the basic steps for performing LO/TO, what tools to use for LO/TO, the required content for written procedures and what training associates must receive.

Scope

This program applies to any servicing or maintenance of machines and equipment where unexpected energizing or startup or release of stored energy could cause injury to associates.

Definitions

Affected Associate: Any associate whose machine or equipment is serviced under lockout/tagout, or who works in or may enter an area where such servicing is being performed

Authorized Associate: An associate who locks out and tags machinery or equipment to clean, un-jam, repair, maintain or otherwise service it and has the specific training to perform these actions.

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

Energy Isolating Device (EID): A mechanical device that physically prevents the release or transmission of energy. Examples include a manually operated electrical circuit breaker, disconnect switch, a slide gate, a slip blind, a line valve, a block, etc. This does not include push buttons, selector switches and other control circuit-type devices.

Energy Source: – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or gravitational energy.

Lockout: Placement of a lockout device on an EID, in accordance with an established procedure, ensuring that neither the EID nor the equipment being controlled can be operated until the lockout device is removed.

Lockout Device: A device (padlock) used in conjunction with a lock hasp and warning tag or a long-shackle padlock specifically marked for lockout/tagout use and permanently bearing the owner's identity.

LOTO: Abbreviation for Lockout/Tagout

Normal Production Operations: The normal operation of a machine or piece of equipment to perform its intended production function such as making parts, conveying materials, etc.

Service, Maintenance and Repair: Activities such as setting up, adjusting, inspecting, modifying, cleaning, unjamming, lubricating and repairing machines or equipment where the associate may be exposed to unexpected startup or movement of the equipment or to the hazardous release of energy.

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

Tagout Device: A readily visible tag and means of attachment (wire or nylon cable tie) that can be fastened to an EID to indicate that the EID and the equipment being controlled are not to be operated.

Program Responsibilities

Arch Electric Management

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.

Arch Electric Associates

- Only perform lockout/tagout work if trained at the "authorized" level.
- Follow policies and procedures and report deficiencies and non-compliance to supervision.

Arch Electric EHS Specialist

- Maintain program policies, procedures and training records.
- Audit program annually per requirements in Section 6.0.
- Prepare and provide materials for training.
- Review written program annually and update as needed.
- Review applicable legislation and update related materials to reflect changes.

- Document completed training.

Procedure

General Requirements

- Arch Electric Authorized Associates must use Arch Electric issued LOTO equipment.
- Unauthorized removal of another person's lockout or tagout device is grounds for discipline.
- Whenever locks can be used, they must be used. The use of tags and tagout procedures alone is permitted only when energy isolating devices are not capable of being locked out. In both cases, the machinery must be isolated and rendered inoperative before an associate begins to work on it.
- Only those associates trained at the "authorized" level are allowed to perform lockout/tagout work. The authorized associates must understand the types, magnitudes and hazards of the energies involved, as well as the means to control them, before applying lockout/tagout procedures.
- To service certain types of machines and to perform certain types of equipment maintenance, the energy sources must be connected and turned on. When it is not possible to lock out a machine and perform the required work, other safeguards must be used. Additional protective measures (physical guarding, blocking devices, presence sensors, etc.) must be implemented to provide equally effective protection for the associate doing the work.

Written Procedures: LOTO procedures have been prepared using Arch Electric EHS form. Each LOTO procedure is approved by a member of Arch Electric staff. Once prepared and approved, the final LOTO procedure is published on the Arch Electric OneDrive.

Written Procedure Content: Each LO/TO procedure must include at least the following:

- A unique procedure name and/or number for tracking the procedure.
- The specific identity of the machines or equipment covered by the procedure.
- The latest revision date of the procedure.
- Specific identification of the types, sources and magnitudes of energies for the machine.
- Specific identification of the types and locations of energy-isolating devices for the machine.
- Specific steps for shutting down, isolating and locking out the machine.
- How to verify effective lockout of the machine.
- Specific steps for safely returning the machine to normal service.

Using the Procedures: Before starting work that requires lockout/tagout:

- Obtain the lockout/tagout procedure for the machine that is to be serviced.
- Read through the procedure while reviewing the machine/equipment to ensure you are familiar with both.

- Identify all personnel that may be affected by the upcoming job.
- Obtain sufficient lockout/tagout equipment for all authorized personnel who will be involved.

Procedures

The written LOTO procedures contain the specific details for shutting down and isolating specific machines.

- Notify all affected associates in advance of the LOTO work to be done in their area.
- Shut down the machine in an orderly fashion using its normal controls. Tag the controls so nobody tries to use them as you complete the rest of the procedure.
- Put all EIDs in the "off" or "closed" position to isolate the machine from its energy sources.
- Place lockout devices to the EIDs. Each authorized associate must affix (place) his/her own lockout device to each EID. (If an EID cannot be locked physically and a tag must be used, affix it directly to the EID or as close as possible so that it will be obvious to anyone who might try to operate the EID.)
- Dissipate or block any remaining (stored) hazardous energy to achieve the zero-energy state.
- Verify that the lockout is effective. After making sure that no one is exposed to potential harm, attempt to operate the machine using its normal controls. After confirming that it will not operate, put all controls back in the "off" position. (If the machine does operate, resolve the problem and repeat this process to confirm isolation before proceeding with the work.)
- Keep the lockout in effect, and proceed with the job.
- When done, return the machine to normal operation.

Restoring to Normal Operations: When the job is completed, reverse the process to bring the machine back into operation safely.

- Return the machine to normal condition, including replacement of all guards.
- Notify all affected associates that the machine is being returned to normal operation.
- Check the work area to ensure all tools, equipment and personnel are out of the way for startup.
- Remove locks, tags and blocking devices. (Associates must remove their own lockout devices.)
- Put EIDs in the "on" or "open" position.
- Start the machine with the normal operating controls.

Removal of an Absent Associate's Lock: If an authorized associate is not present at the facility to remove the LOTO device, that device may be removed by the Maintenance Foreman provided that:

- It is verified that the authorized associate who applied the device is not at the facility,
- All reasonable efforts have been made to contact the authorized associate,

- A responsible individual (foreman, supervisor, safety coordinator, etc.) authorizes and supervises removal of the associate's lockout device, and
- The authorized associate is informed of this action upon returning to work. This can be completed via email, as long as the date, authorized associate, identification of machinery/equipment, and reason for the deviation from procedure is provided. The email should be retained in the records as proof of LOTO Device Removal.

Testing and Positioning: Sometimes it is necessary to test or adjust the position of a machine during work that involves LOTO. For these situations:

Follow the procedure described above to restore energy to the machine.

- Conduct the test or reposition the machine as needed.
- Restore full lockout conditions before continuing work that requires access to a danger zone.

Shift or Personnel Changes (Bridging Shifts/Pass over): If LOTO work on a machine must continue beyond the end of a work shift, or if other personnel take over the job before the work is complete, the lockout condition must be maintained continuously.

One associate from the outgoing crew to keep his / her locks on the EIDs until at least one associate from the incoming crew applies his / her locks to all the EIDs. During shift change, the project is discussed, and both associates go to the work area and the locks are changed.

Group LOTO: At Arch Electric, each associate must lock out each EID using individual locks. However, the Group Lockout option is available when a group of associates works on a machine. This process can be used to reduce the number of locks and tags needed for the job. When done correctly, this process provides the same level of protection as individual lockout. Group lockout is completed as follows.

- A designated group leader puts a lock and tag on each EID for the machine.
- Each associate verifies that each EID has been locked out.
- The group leader then puts the keys for these locks into a secure lock box.
- Each person in the group affixes his/her own lockout device to the hasp on the lock box.
- The associates keep their individual keys so no one can open the box until all participating LOTO associates have unlocked it.

Note: Group lockout does not mean that one person locks out for all the associates. Group lockout cannot rely on one associate's lockout. It must be a coordinated effort.

Contractors and Other Outside Personnel: Arch Electric Authorized personnel and outside contractors must inform each other of their respective LOTO procedures.

Out of Service Equipment: Do not use normal locks and tags for locking out machines and equipment that are out of service. Use "OUT of SERVICE" tag available from Maintenance Stores as a stock item.

Loto Hardware

General Requirements: LOTO devices (locks, hasps and tags) must meet these requirements:

- Standardized by at least one characteristic.
- Cannot be used for any other purpose.
- Substantial (sturdy) enough to prevent unauthorized removal without the use of excessive force or unusual means.
- Must be the only devices used for controlling energy.
- Must not deteriorate or become illegible in the environments where they are used.
- Tags must include the word "Danger" and a warning such as "Do Not Operate".
- Authorized associate's name must be written legibly on any tag applied to an EID.
- Each lock applied to an EID by the Authorized associate must be identified by:
- Permanently marking the lock to identify the individual, or
- Affixing the associate's tag (with the associate's name on it) to the shackle of the lock. This can be done by passing the shackle though the hole on the tag or by using a nylon cable tie

Training and Communication

LOTO training is required for affected and authorized associates.

Authorized Level Training: This level covers recognition of hazardous energy sources, methods for energy isolation, examples of written procedures, use of lockout hardware, and other aspects of the program. The training enables the associates to develop the knowledge and skills necessary for the safe application, use and removal of energy controls.

Affected (Awareness) Level Training: Affected associates receive general awareness training on the purpose of lockout/tagout and how to recognize when something is locked out. They must understand that they are to stay away from machinery that is locked out and that they must never tamper with lockout devices and locked or tagged equipment. This safety training is provided in the communication meetings.

Retraining: This is required when:

- A change in the associate's job assignment affects his/her involvement with LOTO.
- A change in the workplace introduces a new hazard.
- The LOTO procedures used in an associate's area change.
- An associate does not follow LOTO requirements properly.

Documentation: All training must be documented, including.

- Change in the associate's job assignment affects his/her involvement with LOTO.
- Change in the workplace introduces a new hazard.
- LOTO procedures used in an associate's area change.
- An associate does not follow LOTO requirements properly.

Periodic Audits

LOTO procedures must be audited on a regular and continuous basis to ensure that they are being used correctly and that the requirements of this program are being met. The procedure is:

- An authorized associate other than the one(s) using the procedures perform the audits.
- The auditor checks each authorized associate's understanding of his/her responsibilities under the procedure being audited.
- Audits must correct deviations and deficiencies.
- Audits must be documented. An email or the LOTO audit form can be used as documentation as long as this information is provided:
    - Date of Audit
    - Printed name and signature of Auditor
    - Machine/Equipment Name
    - LOTO Procedure Number
    - Name of associates performing the LOTO procedure
    - Comments
    - Corrective Action (if any)
    - Signature of the audited associate (must print out email, sign and scan).
- The email must be sent to the EHS Specialist and kept for compliance purposes for one year.

MACHINE GUARDING

Introduction And Purpose

Machine/Equipment guarding injuries can be reduced by properly evaluating machine risks and formulating suitable safeguarding controls. This program establishes guidelines for a safe working environment for all associates working around machine/equipment parts, functions, and process that could cause injuries. This program explains Arch Electric requirements for the identification, assessment, and remediation of machine/equipment hazards and hazards of moving machine/equipment parts.

Scope

Occupational Safety and Health Administration (OSHA) requires guarding for any machine/equipment where machine/equipment parts, functions, or processes may cause injury. Any machine/equipment part, function, or process that might cause injury must be safeguarded from accidental contact. This program applies to all Arch Electric associates who may in the course of their job duties work with or instruct associates to work on or near machines/equipment.

Definitions

Guarding: A barrier that prevents entry of the operator's hands or fingers into the point of operation

Hazard: A condition or practice with the potential for accidental loss (injury).

Hazard area: An area or space that poses an immediate or impending hazard.

Non-routine: Duties that that do not fall under the categories of commonplace tasks, chores, or duties as must be done regularly or at specified intervals.

Point of Operation: The point where work is performed on the material, such as cutting, shaping, boring, or forming of stock.

Risk: The chance of loss (injury). Often calculated as the product of the probability of occurrence of a loss-producing event and the potential severity of the loss should the event occur.

Safeguarding: Protecting personnel from hazards by the combined use of engineering controls (guards, safeguarding devices, awareness devices), administrative controls (work practices and procedures, education and training), and personal protective equipment.

Safeguarding Method: Safeguarding implemented to protect individuals from hazards by the physical arrangement of distance, holding, openings, or positioning of the machine or machine production system to ensure the operator cannot reach the hazard.

Program Responsibilities

Arch Electric Management and Supervision

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.
- Provide and maintain required machine/equipment guarding.
- Enforce the requirements established in this program, including disciplinary actions for any removal or tampering of guards.

Arch Electric Associates

- Report any problems with machine/equipment guarding to supervision or EHS.
- Follow correct procedures when operating machines/equipment.
- Attend training and understand responsibilities.
- Report any non-guarded, improperly guarded, or damaged guards to supervision, EHS or Maintenance.
- Understands consequences (up to and including termination) if guarding is removed or tampered.

Arch Electric EHS Specialist

- Conduct machine guarding risk assessments as required.
- Maintain program policies, procedures, and training records.
- Prepare and provide training materials for training.
- Monitor training for effectiveness and document completed training
- Review written program annually and update as needed.
- Ensure associate compliance

Program Requirements

General Requirements for All Safeguards

Prevent Contact: The safeguard must prevent hands, arms or any other part of an associate's body from making contact with dangerous moving parts by reaching over, under, around, or through the guard. A good safeguard system eliminates the possibility of the operator or another associate placing his or her hands near hazardous moving parts.

Be Secured to the Machine: Safeguards must be firmly secured to the machine so that associates cannot easily remove, bypass, or tamper with the safeguard. Safeguards installed in such a manner that tools are necessary for their adjustment or removal are required. Examples of fasteners include screws (slotted, Phillips, hex or torque head), bolts, wing nuts, latches and hasps, and hooks and eyes.

Protect from Falling Objects: The safeguard should ensure that no objects could fall into moving parts. A small tool that is dropped into a cycling machine could easily become a projectile that could strike and injure someone.

Not Create New Hazards: A safeguard defeats its own purpose if it creates a hazard of its own, such as a shear point, a jagged edge or an unfinished surface that can cause a laceration. The edges of guards, for instance, should be rolled or bolted in such a way that they eliminate sharp edges.

Not Interfere with Job Performance: Any safeguard that impedes an associate from performing the job quickly and comfortably might soon be overridden or disregarded. Proper safeguarding can actually enhance efficiency since it can relieve the associate's apprehensions about injury.

Allow for Safe Lubrication of the Machine: If possible, one should be able to lubricate the machine without removing the safeguards. Locating oil reservoirs outside the guard, with a line leading to the lubrication point, will reduce the need for the operator or maintenance worker to enter the hazardous area.

General Hazard Control Hierarchy

Elimination or Substitution: Typically includes modifying physical features of the machine, reducing energy sources, and reducing task occurrences. Best incorporated during machine design or purchase.

Engineering Controls: Safeguarding controls are put into place. These controls are discussed in more detail later in this step of the process.

Administrative Controls: These should only be tried after elimination and engineering controls have been pursued. Theses may include warning signs, safe working procedures, and associate training.

Personal Protective Equipment: Use of PPE must be the last avenue of protection after all other risk reduction methods have been tried and exhausted. PPE is typically used to augment other risk reduction methods.

Types Of Guarding

One or more methods of machine guarding must be provided to protect the operator and other associates in the machine area from hazards created machine operation. Guarding methods may be barriers, two hand tripping devices, presence sensing devices, etc.

Machine Guarding Risk Assessment

All equipment new to Arch Electric must have a documented Risk Assessment. Engineering can work with the equipment manufacturer to prepare Risk Assessments. The engineer with support from EHS, etc. will validate the risk assessment once equipment is in place at Arch Electric. The 5 steps listed in this program show the general sequence that a risk assessment must follow.

1. Identify the Machine/equipment, number and describe the hazard

Series # (machine or process)	Hazard #	Hazard	Sev (S

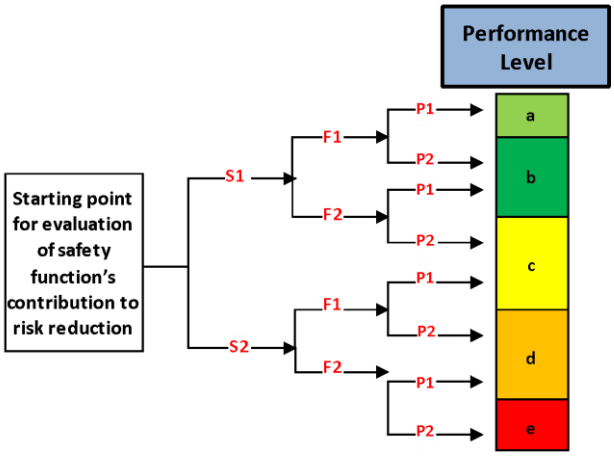
2. Using the definitions in the following table, rate the "severity", "frequency" and "probability" of each identified hazard.

Consequences	Severity (Se)	Risk Parameters	Frequency (Fr)	Probability of Hazard of Event	Probability (Pr)
Serious (Death, Permanent loss of body part)	2	**Frequent-to-continuous** (Exposure time is extensive) Action or activity occurs once per day.	2	**Very Likely** (Expected) Action is guarenteed to happen on a regular basis. (1 out of 100)	2
Slight (Reversible, medical attention)	1	**Seldom-to-less often** (Exposure time is short) Action or activity occurs less than once per day.	1	**Outcome Unlikely** (Doubtful) Event is not expected to happen. (1 out of 1,000,000)	1

3. Document the ratings for each classification in the associated table

Severity (Se)	Frequency (Fr)	Probability (Pr)	Pe L

4. Use the matrix to determine safety performance level A to E referencing the ratings on the form. Performance Level E requires the greatest integration of safety into the system to ensure system failure is minimized.



5. Determine safety measures and re-evaluate

Safety Measures	Re-evaluated Preformance Level(PL)

Training

Appropriate training is provided to associates. This training is documented.

POWERED INDUSTRIAL VEHICLES

INTRODUCTION AND PURPOSE

The purpose of this procedure is to prevent occupational injuries and illnesses by providing a Powered Industrial Vehicle (PIV).

SCOPE

This program applies to all associates at Arch Electric, and contractors working for Arch Electric. The Powered Industrial Vehicle Program applies to the types of PIVs are used to carry, push, pull, stack, tier, or retrieve materials.

DEFINITIONS

Attachments: Devices (other than conventional forks) mounted permanently or temporarily on the elevating mechanism of the truck.

Capacity: Designates the weight-handling ability of a particular truck as equipped.

Center of Gravity: The point on an object at which all of the object's weight is concentrated. For symmetrical loads, the center of gravity is at the middle of the load.

Counterweight: The weight that is built into the truck's basic structure and is used to offset the load's weight and to maximize the truck's resistance to tipping over.

Fulcrum: The truck's axis of rotation when it tips over.

Grade: The slope of a surface, which is usually measured as the number of feet of rise or fall over a hundred foot horizontal distance (the slope is expressed as a percent).

Lateral Stability: A truck's resistance to overturning sideways.

Load Center: The horizontal distance from the load's edge (or the fork's or other attachment's vertical face) to the line of action through the load's center of gravity.

Longitudinal Stability: The truck's resistance to overturning forward or rearward.

Operator: A trained and authorized person who controls any function(s) of a powered industrial truck.

Powered Industrial Vehicle (PIV): Any mobile power-propelled truck used to carry, push, pull, lift, stack or tier materials. Powered industrial trucks can be ridden or controlled by a walking operator. Earth moving and over the road haulage trucks are not included in the definition. Equipment designed to move earth but has been modified to accept forks is not included.

Tiering: The process of placing one load on or above another.

Track: The distance between the wheels on the same axle of the truck.

PROGRAM RESPONSIBILITIES

Arch Electric Management

- Provides the resources necessary to implement and maintain this program.
- Enforce the program and correct deficiencies.

Arch Electric Supervision

- Ensure driver qualification
- Monitor compliance with this program

Arch Electric Associates

- Attend required training sessions.
- Complete pre-use inspection forms
- Provide data upon request concerning medical conditions that would hinder safe PIV operation.
- Only associates who are trained and licensed according to this program may drive powered industrial trucks.

Arch Electric EHS Specialist

- Maintain program policies, procedures and training records.
- Review and update the program annually.
- Prepare and provide training materials.
- Document completed training.
- Periodically audit program for effectiveness.

TRAINING PROGRAM

Training Program: Each associate who will operate a PIV at Arch Electric must be trained and certified, ***regardless of prior experience***. This includes full-time, part-time, seasonal, substitute, and occasional operators.

Trainer Qualifications: PIV training and evaluations must be conducted only by persons who have the knowledge, training, and experience to perform those duties. Each person who will instruct operators or evaluate their performance must be trained as an instructor. Training for trainers is documented.

There are three phases of training:

- **Phase I (Basic PIV Training)**: This includes general instruction on the principles of operation, typical hazards, and methods of safe operation for PIVs. This can be completed using traditional classroom training or using self-paced computer based training (CBT). Training is documented. If associate has not taken CBT or classroom Phase I for more than 5 years, or indicates that they are not familiar with basic fork truck operations, Phase I CBT is required. CBT training is not needed if the associate operates a powered pallet walkie only.
- **Phase II (Hands-On Training)**: This includes 1) vehicle-specific instruction and demonstrations by a qualified trainer and 2) actual practice with the vehicle by the trainee. **Phase II training must be completed for each vehicle the associate will operate**. Training continues until the trainer determines that the trainee can operate the PIV safely and effectively.

  During this training, the trainee may operate a powered industrial vehicle only:

  1. Under the direct supervision of a trainer who has the knowledge, training, and experience to train operators and evaluate their competence; and
  2. Where such operation does not endanger the trainee or other associates.

- **Phase III (Operator Certification)**: The qualified trainer must evaluate the operator's performance with the vehicle in the workplace (the “driver’s test”). The evaluation determines the effectiveness of the training and the ability of the associate to operate the PIV safely. Upon successful completion of the evaluation, the trainer certifies that the operator is qualified to operate the vehicle. **Phase III training must be completed for each vehicle the associate will operate**.

Training Documentation: Training documentation must be retained for Phases I, II and III. Training records will be maintained by the EHS Specialist:

Recertification: Recertification is required for all licensed PIV drivers every 3 years. If requested by supervision or the trainer, the operator may be required to re-take Phase I training session.

Refresher Training: Refresher training will be provided as needed to ensure that associates continue to operate powered industrial vehicles safely. It may consist of repeating the full Phase I and/or Phase II training, or may include a combination of observation, questioning, instruction, and demonstration that is focused on the areas of deficiency. The EHS Specialist and Arch Electric Supervision have the authority to require a PIV operator to be retrained utilizing any portion of this procedure at any time.

At minimum, refresher training on the appropriate topics is required whenever:

- The operator has been observed to operate a vehicle in an unsafe manner.
- The operator has been involved in an accident or near-miss incident.
- The operator is assigned to drive a different type of vehicle on which he/she is not trained.
- A condition in the workplace changes in a manner that could affect safe operation of the vehicle.
- Any other unique or hazardous conditions specific to Arch Electric.

PIV PROGRAM REQUIREMENTS

Pre-Use Inspection: PIVs must be examined each shift before use to ensure they are in proper condition and can be operated safely. If a PIV has a condition that adversely affects safety, it must be taken out of service until it is repaired. Deficiencies must be noted on the inspection checklist, reported and corrected. Completed checklists must be kept in the appropriate department for at least one week, or until deficiencies are corrected, whichever is longer.

General Requirements

- When a PIV will be unattended, turn it off, neutralize the controls and engage the parking brake (if so equipped). On fork and platform trucks, lower the forks/platform to the ground.
- All PIVs must be equipped with a multi-purpose, dry chemical fire extinguisher.
- Operators must report all accidents, regardless of fault and severity, to supervision
- Operators must participate in the incident investigation.
- Stunt driving and horseplay are not permitted.
- Keep arms and legs within the running lines of the vehicle (for riding type vehicles).
- Do not stand or pass under the elevated portion of any PIV, regardless if it is loaded or empty. Use a load backrest extension if there is a possibility that part of a load could fall rear-ward.
- Never ride on the forks or other portion of a powered industrial vehicle that is not specifically designed for a passenger.
- Maintain a safe distance from the edges of ramps, platforms and other elevated surfaces.
- Do not use PIVs for opening or closing freight doors.
- Do not park PIVs where they may block fire aisles, access to stairways, eyewash stations, electrical panels or fire equipment.

- If PIVs are used as a man lift, an appropriate man lift platform (cage with standard rails and toe-boards) will be used. **NOTE**: The man lift cage must be securely attached to the backrest.

Loading and Unloading Requirements

- Lift capacity will be marked on all PIVs. Make sure the load does not exceed the rated capacity. **NOTE**: There must be a capacity plate rating for each type of attachment that the PIV uses.
- Handle only stable or safely arranged loads. Special precautions and rigging may be needed for off-center loads that cannot be balanced easily.
- Place forks or lift platforms under the load as far as possible; on a forklift, tilt the mast back slightly to stabilize the load.
- Use great care when tilting a load forward or backward, particularly when tiering an elevated load. Tilting forward is permitted only when picking up a load or when depositing a load directly onto a rack or stack.
- When placing a load:
    1. Make sure you have sufficient clearance.
    2. Square the load to the target area.
    3. Raise the load so that it clears the stack or rack and drive forward slowly.
    4. With the load positioned over the set point, tilt the mast forward until it is vertical.
    5. Lower the load slowly until it comes to rest.
    6. Lower the forks slightly to free them and back out carefully.
    7. Inspect the stack or rack to ensure stability of the load.
- An elevated load must not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only use enough backward tilt to stabilize the load.

Traveling Requirements

- Travel at a speed that will permit you to stop safely and without losing control of the load.
- Comply with all traffic regulations, including speed limits.
- When following another PIV, remain at least three vehicle lengths behind the lead vehicle.
- Do not attempt to pass another vehicle at an intersection, blind spot, or other hazardous location.
- Pedestrians have the right-of-way. PIV drivers must yield to pedestrians.
- Slow down and sound the horn at aisle crossings, corners and other areas where vision is obstructed.
- If the load obstructs the forward view, drive in reverse and turn to face that direction.
- Cross railroad tracks diagonally wherever possible. Do not park closer than 8 feet to the center of railroad tracks.

- Ascend and descend inclines slowly. When ascending or descending, loaded trucks must be driven with the load up-grade.
- On all grades, tilt the load back slightly (if applicable) and raise it only as far as necessary to clear the road surface.

Entering Trucks and Trailers:

- The flooring of trucks and trailers must be checked for breaks and weakness before entering with the PIV.
- Before driving onto or into a trailer, secure the trailer in place by putting wheel chocks under two wheels at opposite sides of the trailer or by engaging the trailer with a dock locking mechanism.
- The brakes of highway trucks must be set.
- When loading trailers, dock plates must be used. Operators must make sure that dock plates are in good condition. Store dock plates on edge when not in use.
- When applicable, follow the established dock lock procedures (ex: red/green light system).
- Fixed jacks may be necessary to support a semitrailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.
- Fixed jacks are required to support short semitrailers and prevent upending during loading and unloading when a trailer is not coupled to the tractor.

Changing Liquid Propane Gas (LPG) Cylinders: Propane is a highly combustible fuel that can explode if handled improperly. These guidelines must be followed when changing LPG cylinders.

- No smoking in the area while changing propane cylinders.
- Change propane cylinders outside when possible.
- Park the PIV, engage the parking brake, lower the forks (if present), and put the controls in neutral. Leave the engine running.
- Use the appropriate personal protective equipment (PPE), including rubber gloves and safety glasses with side shields.
- Turn the propane cylinder valve to the “off” position.
- When the PIV stalls, turn the key off and then try to restart the engine. Turn the key back to “off”.
- Disconnect the hose from the propane cylinder.
- Unbuckle and remove the propane cylinder from the bracket.
- Place the full propane cylinder into the bracket and buckle it in. Make sure the cylinder is aligned with the locator pin.
- Reconnect the hose to the cylinder and tighten firmly.
- Open the propane valve slowly and assure a proper seal.

PIV Modifications: Modifications or additions to vehicles that could affect capacity and/or safe operation cannot be performed without the manufacturer's prior written approval. If changes are made, capacity, operation, and maintenance instruction plates, tags, or decals must be changed accordingly. Documentation of modifications must be in writing and maintained in the PIV Program file. Prior approval of modifications must be cleared with the EHS Specialist or supervision.

HEAVY MOBILE EQUIPMENT

PURPOSE

The use of heavy equipment/mobile equipment is a common part of many jobs conducted by COMPANY NAME; hereafter referred to as "The Company." The Company recognizes the hazards associated with the operation of heavy equipment/mobile equipment, and has developed this policy to establish guidelines in an attempt to eliminate injuries or fatalities related to this type of equipment.

The Company is dedicated to assuring that every job is conducted safely, and that operational expediency, including the use of short cuts, does not compromise the safety and well being of workers and the public.

This policy applies to all free moving mobile equipment that may be propelled by gasoline, propane, diesel or electricity, however the policy is not intended for operators of licensed and registered (by the Department of Motor Vehicles) automobiles and similar motor vehicles intended for use by licensed motor vehicle operators on public roads and highways.

Examples of Heavy Equipment/Mobile Equipment covered by this policy include but are not limited to:

- Backhoes Sweepers Graders
- Loaders Excavators Mini-Excavator
- Dump Trucks Skid-Steers Boom Trucks
- Dozers Mini-Skid Steer Forklifts
- Tractors Compact Tractor Golf Carts
- Bucket Truck Mower Sand/salt spreader
- Rollers All Terrain Vehicles Snow Plow

Only competent workers may operate heavy equipment/mobile equipment. An workers competency must be demonstrated by successful completion of the training and evaluation process specified in this policy. This policy establishes requirements to work in or around all types of mobile equipment. The requirements defined in this policy describe the minimum required by the Company. In addition, the operation of some equipment may require the operator to possess other licenses (i.e., Commercial Drivers License, Forklift License) or specialty training required by the State or other regulatory agency.

DEFINITIONS

Competent Person – Person who by possession of a recognized degree in an applicable field or a certificate of professional standing, or who by extensive knowledge, training and

experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

Free Moving Mobile Equipment – Operator controlled mobile equipment not constrained by Fixed Rails and can include Industrial Fork Trucks, Aerial Lifts, Buggies, Sweepers and Backhoes.

Mobile Equipment – Free moving equipment propelled/powered by gasoline, propane, natural gas, diesel or electricity used to haul, transport, excavate, move, maneuver, or hoist materials, equipment, products or workers.

Pre-use Inspection – Required inspection of a piece of mobile equipment completed when the facility has not operated the mobile equipment for each shift.

RESPONSIBILITIES

The following identifies some of the responsibilities for various parties affected by this policy.

Company Management

- Ensuring that Federal, State and Local laws, regulations, codes and ordinances are followed.
- Developing policies, accident prevention methods, procedures and programs.
- Conducting periodic safety inspections of all work locations.
- Assuring that accidents and hazardous conditions are investigated and corrective actions are implemented.
- Provide/Arrange for assistance with the policy to requesting departments.

Supervisors

Supervisors are responsible for:

- Identifying the specific jobs or individuals to whom this policy applies.
- Identifying all heavy equipment/mobile equipment in their department.
- Ensuring that a competent person is available for heavy equipment/mobile equipment training and evaluations.
- Ensure that operators of heavy equipment/mobile equipment are trained, evaluated, observed and given skills needed to operate the equipment safely.
- Assuring that Operator's manuals and manufacturer's safety information is available for all equipment and vehicles identified in the department.
- Ensuring that safety procedures presented in this and other Company policies, as well as in Manufacturer's Operator's and Safety Manuals are implemented and enforced.
- Maintaining training and certification records for all operators of heavy equipment/mobile equipment.

Supervisors/Mangers/Leads

Due to their constant contact with workers, supervisors, managers and leads must take a primary role in the prevention of accidents and the safety of workers under their supervision.

Responsibilities include:

- Observing and evaluating the use of heavy equipment/mobile equipment by workers and correcting any unsafe conditions or practices and reporting or correcting any found.
- Checking and ensuring that heavy equipment/mobile equipment is properly maintained and in safe operating condition.
- Remove from service, any heavy equipment/mobile equipment that is not safe.
- Promptly investigating all accidents and completing required reports.
- Encouraging workers to report all unsafe conditions and practices.
    - Being familiar with and enforcing all safety procedures and practices applicable to work done by their workers.

Workers/Heavy Equipment/Mobile Equipment Operators

Worker responsibilities include:

- Reading, understanding and following the procedures and practices outlined in this policy.
- Reading, understanding and complying with owner's manuals and manufacturer-provided safety information before using heavy equipment/mobile equipment.
- Completing the Daily Heavy/Mobile Equipment Checklist before use.
- Report any inspection deficiencies with equipment to their immediate supervisor for maintenance or further action prior to operation of the equipment.
- Using all appropriate safety equipment and devices, including but not limited to seatbelts.
- Immediately reporting all work related accidents, fuel spills, fires, and injuries to their supervisors.
- Obey traffic signs and signals and audible or visual warning devices.
- Immediately reporting all unsafe conditions and practices to their supervisors and/or Department Head and/or Company Administrator.
- Attending appropriate training as recommended by their supervisors.

Competent Person (Equipment Trainer)

- Train and evaluate equipment operators in classroom, hands-on training process and refreshers.
- Be knowledgeable and experienced in the particular equipment operation and how-to train.
- Document evaluations and training.

Heavy Equipment/Mobile Equipment Operations

General Requirements

All vehicles must have a service brake system, an emergency brake system, and a parking brake system. These systems may use common components, and must be maintained in operable condition. Whenever visibility conditions warrant additional light, all vehicles in use must be equipped with at least two headlights and two taillights in operable condition. All vehicles, or combination of vehicles, must have brake lights in operable condition regardless of light conditions. All vehicles must be equipped with an adequate audible warning device at the operator's station (horn) in an operable condition.

- The vehicle has a reverse signal audible above surrounding noise level.
- The vehicle backs up only when an observer signals it is safe to do so.
- All vehicles with cabs must be equipped with windshields and powered wipers.
- Cracked and broken glass must be replaced.
- Vehicles operating in areas or under conditions that cause fogging or frosting of the windshields must be equipped with operable defrosting devices.
- All haulage vehicles, whose pay load is loaded by means of cranes, power shovels, loaders, or similar equipment, must have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.
- Tools and material will be secured to prevent movement when transported in the same compartment with workers.
- Vehicles used to transport workers must have seats firmly secured and adequate for the number of workers to be carried.
- Seat belts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Safety Standards) must be installed in all motor vehicles, and used by the operator.
- Trucks with dump bodies must be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done.
- Operating levers controlling hoisting or dumping devices on haulage bodies must be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism.
- Trip handles for tailgates of dump trucks will be so arranged that, in dumping, the operator will be in the clear.
- All rubber-tired motor vehicle equipment manufactured on or after May 1, 1972, must be equipped with fenders.
- Mud flaps may be used in lieu of fenders whenever motor vehicle equipment is not designed for fenders (such as dump trucks where the dump bed forms an effective fender).

- All vehicles in use must be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use:
  - Service Brakes (including any trailer brake connections)
  - Horn
  - Parking System (hand brake)
  - Steering Mechanism
  - Emergency Stopping System
  - (Brakes)
  - Tires
  - Coupling Devices
  - Seat Belts
  - Safety Devices
  - Operating Controls

Operators will complete the Daily Heavy/Mobile Equipment Checklist (Appendix A) every day that a piece of equipment is used, prior to using that equipment.

All defects will be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.

General Safety Requirements for Earthmoving Equipment

These rules apply to the following types of earthmoving equipment: scrapers, loaders, crawler (track) or wheel tractors, bulldozers, off-highway trucks, graders, agricultural and industrial tractors, and similar equipment. Following are general requirements for earth moving equipment:

Seat Belts

Seat belts must be provided on all equipment listed above, and must meet the requirements of the Society of Automotive Engineers (SAE).

Tractors listed above must have seat belts as required for the operators when seated in the normal seating arrangement for tractor operation, even though back-hoes, breakers, or other similar attachments are used on these machines for excavating or other work.

Access Roadways and Grades

No company may move or cause to be moved construction equipment or vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved.

Every emergency access ramp and berm used by an employer will be constructed to restrain and control runaway vehicles.

Brakes

All earthmoving equipment must have a service braking system capable of stopping and holding the equipment fully loaded.

Fenders

Pneumatic-tired earth-moving haulage equipment (trucks, scrapers, tractors, and trailing units) whose maximum speed exceeds 15 miles per hour must be equipped with fenders on all wheels.

Rollover Protective Structures (ROPS)

Rollover protective structures must meet the requirements of 29 CFR 1926.1001 Minimum performance criteria for rollover protective structures for designated scrapers, loaders, dozers, graders, and crawler tractors.

Audible Alarms

All bidirectional machines, such as rollers, compacters, front-end loaders, bulldozers, and similar equipment, must be equipped with a horn, distinguishable from the surrounding noise level, which can be operated as needed when the machine is moving in either direction. The horn must be maintained in an operating condition. Earthmoving equipment with an obstructed view to the rear will not be used in reverse gear unless:

1. the equipment has in operation a reverse signal alarm distinguishable from the surrounding noise level, or
2. a ground guide signals that it is safe to do so.

Scissor Points

Scissor points on all front-end loaders or articulating equipment, which constitute a hazard to the operator during normal operation, must be guarded.

Lift trucks, Stackers, etc.

Equipment of this type must have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When auxiliary removable counterweights are provided by the manufacturer, corresponding alternate rated capacities also must be clearly shown on the vehicle. These ratings will not be exceeded.

Modifications or Additions

No modifications or additions which affect the capacity or safe operation of the equipment may be made without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals will be changed accordingly. In no case will the original safety factor of the equipment be reduced.

Steering or Spinner Knobs

Steering or spinner knobs must not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering wheel to spin. The steering knob must be mounted within the periphery of the wheel.

Operator Training

The employer must ensure that each heavy equipment/mobile equipment operator is competent to operate the equipment safely, as demonstrated by the successful completion of the training and evaluation specified in this section. Prior to permitting an worker to operate heavy equipment/mobile equipment (except for training purposes), the employer must ensure that each operator has successfully completed the training required by this section.

Training Program Implementation

Trainees may operate heavy equipment/mobile equipment only:

- Under the direct supervision of workers who have the knowledge, training, and experience to train operators and evaluate their competence.
- Where such operation does not endanger the trainee or other workers.

Training will consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance on the job-site.

All operator training and evaluation will be conducted by workers who have the knowledge, training, and experience to train heavy equipment/mobile equipment operators and evaluate their competence.

Training Program Content

Heavy equipment/mobile equipment operators must receive initial training in the following topics, except in topics which the employer can demonstrate are not applicable to safe operation of the equipment in the employer's workplace. Training will be documented on the Heavy Equipment/Mobile Equipment Operator Training. Certification Form presented as Appendix B.

All training documentation will be maintained in accordance with the recordkeeping and documentation policy.

Certification

The company will certify that each operator has been trained and evaluated as required by this section. The certification will include the name of the operator, the date of the training, the date of the evaluation, and the identity of the worker(s) performing the training or evaluation. Appendix C presents a Heavy Equipment

Operator Evaluation/Employer Certification Form that will be completed upon initial or refresher training of the operator, and at a minimum frequency of every three years thereafter.

Traveling (Roading) Heavy/Mobile Equipment

All traffic regulations must be observed, including authorized site speed limits. A safe distance must be maintained approximately three vehicle lengths from the vehicle ahead, and the equipment must be kept under control at all times. The right of way will be yielded to ambulances, fire trucks, or other vehicles in

emergency situations. Other vehicles traveling in the same direction at intersections, blind spots, or other dangerous locations may not be passed. The operator will be required to slow down and sound the horn at cross intersections of roadways, paths, and other locations where vision is obstructed. If the load being carried obstructs forward view, the operator will be required to travel with the load trailing (to the rear). Railroad tracks must be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.

Class I locations Class II locations Class III locations

Locations in which flammable gasses or vapors are, or may be present in the air in quantities sufficient to

produce explosive or ignitable mixtures Locations which are hazardous because of the presence of combustible dust. Locations where easily ignitable fibers are present but not likely to be in suspension in quantities sufficient to produce ignitable mixtures.

General Requirements for Heavy Equipment Use

All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, will have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.

A safety tire rack, cage, or equivalent protection will be provided and used when inflating, mounting, or dismounting tires installed on split rims, or rims equipped with locking rings or similar devices.

Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks will be substantially blocked or cribbed to prevent falling or shifting before workers are permitted to work under or between them.

Bulldozer and scraper blades, end-loader buckets, dump bodies, etc., will be either fully lowered or blocked when being repaired or when not in use. All controls will be in a neutral position, with motors stopped, and brakes set unless work being performed requires otherwise.

Whenever the equipment is parked, the parking brake will be set. Equipment parked on inclines will have the wheels chocked and the parking brake set. The use, care and charging of all batteries will conform to the following:

- Ventilation will be provided to ensure diffusion of the gases from the battery and to prevent the accumulation of an explosive mixture.
- Face shields, aprons, and rubber gloves will be provided for workers handling acids or batteries.
- Facilities for quick drenching of the eyes and body will be provided within 25 feet of battery handling areas.
- Facilities will be provided for flushing and neutralizing spilled electrolyte and for fire protection.

All cab glass will be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this section. All equipment will comply with the Company requirements when working or being moved in the vicinity of power lines or energized transmitters.

General Requirements for Site Clearing

Workers engaged in site clearing will be protected from hazards of irritant and toxic plants and suitably instructed in the first aid treatment available.

All equipment used in site clearing operations must be equipped with rollover guards. In addition, rider-operated equipment will be equipped with an overhead and rear canopy guard meeting the following requirements:

- The overhead covering on this canopy structure will be of not less than 1/8-inch steel plate or ¼-inch woven wire mesh with openings no greater than 1 inch, or equivalent.
- The opening in the rear of the canopy structure will be covered with not less than ¼-inch woven wire mesh with openings no greater than 1 inch.

Additional Heavy/Mobile Equipment Safety Guidelines

Many injuries involving heavy/mobile equipment do not occur to the operator, but are inflicted on ground personnel working in or around the vicinity of moving machines. Always be aware of the location of personnel working near your machine. Heavy/mobile equipment operations frequently require the aid of ground personnel who should be thoroughly familiar with the procedures of your operation and the capabilities of the machine; usual operating procedures should not be changed without first notifying ground personnel. Never assume that your assigned ground workers will watch out for themselves. Always know your ground personnel's location, if they are not visible to you, DO NOT MOVE THE MACHINE OR ANY IMPLEMENTS! When working in conjunction with ground personnel, never operate equipment at speeds which would necessitate

ground personnel to work in a careless manner. REMEMBER, they are depending on your skill and judgment, as are all workers in your immediate work area.

- Read the operators manual and operate the machine only if trained and considered competent to do so.
- Wear appropriate clothing and personal protective equipment for the job.
- Hearing protection is recommended for operating many types of heavy/mobile equipment.
- Do a walk around to make sure the area is clear before moving the machine.
- Do not climb on the machine where hand and foot holds have not been provided.
- Use a three point climbing technique whenever entering, exiting, or servicing the machine.
- Start machine only while sitting in the operator's seat and all workers are clear.
- Ensure all controls are in the neutral position before starting the machine.
- Keep tires properly inflated. Improper inflation may cause the machine to tip over under load.
- Heavy/mobile equipment machines are required to have a seat belt and rollover protection (ROPS).
- Always use the seat belt. The Company takes the position that seat belts are personal protective equipment, and failure to use them is grounds for discipline.
- Keep the load as low as possible while traveling; always reduce speed when making a turn. Keep speeds low on rough terrain. Bouncing, bucking, or side hopping because of excessive speed may cause loss of control of the machine.
- Check for overhead lines or obstructions before raising any overhead implement. Ensure the proper clearance requirements are being met when equipement is being worked on or moved in the vicinity of overhead power lines or transmitters.
- Do not allow the tires to spin when picking up or pushing a load.
- Do not walk, work, or allow workers under any raised part of heavy/mobile equipment.
- Do not use heavy/mobile equipment for demolition of structures which are taller than the machine without overhead protection sufficient to withstand the debris likely to impact the cab.
- Do not under-cut a bank which is higher than the machine.

- Use extreme caution when approaching or operating near excavations, the weight of the machine or vibration may cause the edges to collapse.
- Dust suppression and control is required where dust seriously limits visibility. Wear respiratory protection when needed.
- Pre-wet soil to make loading easier and to aid in dust control.
- Rip tight soil before scraping or excavating to improve speed and efficiency.
- Always load buckets or hoppers down grade to increase the speed of operation, lessen wear on equipment, and reduce the need for a push tractor.
- Do not use heavy/mobile equipment as a battering ram.
- In tight turns, make sure the machine has clearance in front and rear if equipped with rear implements.
- Do not place any part of your body under any raised implement at any time unless it is properly blocked.
- Keep operator's compartment free of clutter and all controls free of oil and grease. Personal tools or equipment must be secured.
- All underground utilities in the work area must be located prior to digging. Utility companies must be notified of your intention to excavate within established, or customary, response times. (Check local codes).
- When excavations approach the estimated location of underground utilities, the exact location must be determined and marked.
- Wherever equipment operations encroach on a public thoroughfare, a system of traffic controls must be used.
- Flaggers are required at all locations where barricades or warning signs cannot control moving traffic.
- Never use an elevating part of heavy equipment as a man-lift.

The productivity and safety of heavy equipment operations are increased by using well trained workers, along with properly maintained and serviced equipment. A well laid out worksite and work-plan always improves efficiency and safety on the jobsite.

VEHICLE MOUNTED WORK PLATFORMS

INTRODUCTION AND PURPOSE

This program is for Arch Electric associates who use aerial lift, scissor lift, boom lifts, and telehandler devices to perform various work duties. This program explains aerial lift devices, scissor lifts, lift baskets, inspections, proper safety equipment, safety procedures, and training.

SCOPE

This program applies to all Arch Electric associates that operate aerial lift devices, scissor lifts, portable forklift work platforms, and other similar vertical lift platforms. Vehicle-mounted work platforms are used to elevate personnel above the surrounding floor level. The policy applies to Arch Electric associates and contractors working for Arch Electric. Associates cannot operate an aerial lift including any aerial work platform without training.

If an inspection reveals there is a malfunction with the lift, the lift must not be use. Always read and follow the manufacturer's safety and operation manual.

DEFINITIONS

Aerial lift: Any aerial device used to elevate personnel to job sites above ground including extensible boom platforms, aerial ladders, articulating boom platforms and vertical towers.

Boom lift: A work platform that is attached via a fixed, telescoping or articulating boom to a self-propelled chassis and which can be positioned completely beyond the base of the chassis to elevate and position personnel.

Telehandler: A vehicle with a telescopically extensible boom, which can be fitted with various lifting or manipulative devices such as pallet forks or grab.

Fall protection: Physical barriers of specified dimensions and construction used to prevent a person from falling off an open-sided edge, or personal protective equipment worn by a person and connected to an anchor point to stop a fall safely if a person were to fall off an open-sided edge. Fall protection is required for all associates using lift equipment at Arch Electric besides Scissor lifts.

Full body harness: An interconnected set of straps that are secured about a person's body in a manner that will distribute fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders. The harness will have an attachment point for a lanyard at the shoulders or middle of the back.

Lanyard: A flexible line of wire rope, synthetic web, or strap used to secure a full body harness to an anchor point.

Portable Forklift Work Platform: A basket, bucket, deck with railings or other similar work surface that is attached to a vehicle and can be used to elevate personnel above the surrounding floor level. A work platform is:

1. Equipped with standard railings or equivalent side walls around the perimeter;
2. Supported by the forks of a forklift that have been inserted through mounting channels located on the underside of the platform;
3. Anchored securely to the fork backrest, and
4. Used to raise personnel vertically to perform work.

Scissor lift: A work platform with standard railings or equivalent side walls around the perimeter that is mounted to a mobile chassis via a pantograph leg system that is used to elevate the platform vertically.

Vehicle-Mounted Work Platform: In this written program, the Vehicle Mounted Work Platform is synonymous with Portable Forklift Work Platform.

PROGRAM RESPONSIBILITIES

Arch Electric Management

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.

Arch Electric Supervision

- Ensure driver qualification
- Monitor compliance with this program
- Enforces the requirements established in this program.

Arch Electric Associates

- Attend required training sessions.
- Provide data upon request concerning medical conditions that would hinder safe PIV operation.
- Follow the requirements of this program and only perform those tasks for which they are fully trained and qualified.
- Inspect all equipment prior to use, regardless of the time of the last inspection.
- Report all program deficiencies to supervision.

Arch Electric EHS Specialist

- Provide training resources and orientation for new and existing associates.
- Prepare and provide training materials.
- Review written program annually and update as needed.
- Document completed training.
- Periodically audit program for effectiveness.

TRAINING

Each associate who will operate a vehicle mounted work platform must be trained, regardless of prior experience. This includes full-time, part-time, flex, substitute, and occasional operators. Training requires demonstration of knowledge, skills, and abilities to operate vehicle mounted work platforms.

The training program has three phases, and follows requirements specified in the Arch Electric Industrial Vehicle (PIV) Program.

PROGRAM REQUIREMENTS

The Arch Electric Mobile Equipment Program has several mandatory components, including Inspections, Fall Protection, Training and Documentation.

Pre-Use Inspection:

- A documented pre-use inspection of the work platform must be performed before each use. Refer to SAF-19-02 (Pre-Use Inspection Form). Completed checklists must be retained in the designated location for at least one week, or until deficiencies are corrected, whichever is longer.
- If a condition is discovered during the pre-use inspection that adversely affects safety, the equipment must be taken out of service immediately. Deficiencies must be noted on the inspection checklist (SAF-19-02), reported and corrected.
- A visual inspection of the surrounding work site must be performed in the area where the work platform will be used. The ground surface where the work platform will be used must be inspected prior to starting the work. The ground surface needs to be solid and as level as possible.
- Obstacles, including pipes, racking, etc. must be noted prior to elevating the work platform. If requested by supervision and the EHS Specialist, additional PPE (including hardhats) may be required.
- Hazards that may create dangerous driving conditions (overhead power lines, holes, drop-offs, bumps, tools, debris, etc.) must be identified.

Fall Protection

- Fall protection must be used on all vehicle-mounted work platforms regardless of the presence of physical barriers (railings) around the perimeter of the equipment.
- Acceptable Fall Protection includes full-body harness and lanyard worn by the person and connected to a designated anchor point on the elevating equipment. The harness and lanyard must stop a fall with less than 800 pounds of fall-arresting force and prevent the person from hitting the floor below.
- When using a harness and lanyard, one end of the lanyard must be connected at the back of the harness and the other end must be connected to the manufacturer's designated anchor point on the work platform. Lanyards must NOT be secured to railings or other undesignated portions of the work platform because those components probably do not have the necessary strength to stop a fall.
- NEVER use a body belt in place of a full-body harness. A body belt is not designed for use as a personal fall-arresting device. Use of a body belt to stop a fall is likely to cause severe injury or death.
- Arch Electric associates are trained in the requirements of this program and in the proper use off personal fall arrest systems prior to working at a height more than four feet above the floor. Each associate who will use fall protection must be trained regardless of prior experience.
- In the event of a fall from a work platform, Supervision and the EHS Specialist must be notified.

Modifications to Vehicle Mounted Work Platforms

- Modifications or additions to a vehicle mounted work platform that could affect capacity and/or safe operation must not be performed without the manufacturer's prior written approval. If changes are made, capacity, operation, and maintenance instruction plates, tags, or decals must be changed accordingly.

General Operating Requirements

- Do not operate any equipment unless you are trained and authorized to do so.
- Portable Forklift Work Platform licenses must be recertified every three years.
- All ground (pot holes, excessive debris) and vehicle mounted work (live electrical lines) hazards must be eliminated before operating a vehicle mounted work platform at the site.
- Ensure proper PPE is ready to use for each specific job.
- Do not raise or lower the platform while moving.
- Never drive the vehicle with the platform in the elevated position.
- Always wear fall protection (safety harness) on boom supported elevated work platforms.
- Travel at safe speeds, never travel faster than conditions allow.
- Never lift the boom or platform if the unit is unstable.

- Vehicle mounted work platforms must not be used as cranes.
- Ensure the area around the vehicle mounted work platform and your path of travel are clear.
- Report all accidents, regardless of fault and severity, to supervision.
- Cordon off the area below where the overhead work is being performed.
- Never perform service on the work platform while the platform is elevated.
- Never exceed the manufactures load capacity.
- Never operate a vehicle mounted work platform within ten feet of power lines.

6.5 Safety Alerts, Signs, Tape and Barriers

- An aerial lift boom or basket must not be positioned above pedestrians or other workers.
- If an aerial lift is used in an area near pedestrian traffic, operators are required to isolate the work area by establishing a perimeter and safely diverting pedestrian traffic. Use signs, caution tape and barriers to create the perimeter of the work area.

6.6 Basket Use Requirements

- Basket floor must be slip resistant.
- A standard, 42-inch high guardrail around the perimeter, with midrail. Guardrail must withstand 200 lb lateral force and may be equipped with access gate that is hinged or cannot otherwise be removed.
- 4-inch high toe plate around the perimeter.
- An anchorage point affixed to the platform floor for attachment of fall protection devices.
- A chain or other means of securing the platform to the PIV.
- A tag or sign that prominently displays maximum gross load rating, weight of the empty platform and minimum required capacity of the PIV.
- Platform must be lowered for entry and exit.
- Mast must be vertical at all times and centered if the PIV is equipped with side-shift.
- PIV must be on firm and level footing.
- Mast controls are operated only at the request of the operator.
- The combined weight of the platform and contents including passengers should not exceed 50 percent of the PIV nameplate capacity.
- Occupants must remain on the platform floor.
- PIV operator MUST remain at the PIV controls when platform is elevated.

RETURN TO WORK

Introduction and Purpose

This program provides guidance for returning Arch Electric associates to work for both work-related and non-work-related injuries. The goal of this effort is to return associates to productive work within their medical restrictions as soon as possible, and minimize related costs.

Scope

This program applies to all associates at Arch Electric.

Definitions

AARJ – All Aspects of Regular Job

Restricted Duty, Physically Unable Rate of Pay

This rating indicates the Associate is unable to perform his or her regular job and will be paid the "physically unable" rate.

Regular Job, Regular Rate of Pay

This rating indicates that restrictions have been lifted on a previously injured Associate and he or she is fully able to perform their regular job.

All Aspects of Regular Job Within Restrictions as Outlined Below (Regular Rate of Pay)

This rating is used when the restrictions placed on an Associate still allows them to perform ***their entire*** regular job. If an Associate is unable to perform ***any*** work within their job classification because of a restriction, this rating cannot be used.

No Work

This rating is used when the Associate is completely disabled temporarily and unable to return to work in any capacity.

Restricted Duty, Regular Rate of Pay

This rating applies to Associates who work office-type jobs and who are able to perform that job even with restrictions. Generally, these associates are salaried or Administrative Non-Exempt.

Restrictions – Medical limitations for an associate's ability to perform work.

Restricted Duty (RD) – Work that falls within an associate's restrictions.

Program Responsibilities

Arch Electric Management and Supervision

- Provides the resources necessary to implement and maintain this program.
- Identify work opportunities for injured associates in their area(s).
- Work with the EHS Specialist to place injured associates in jobs outside the Division when appropriate.
- Supervise any restricted duty associates in their area(s).
- Provide feedback on Return-to-Work Program.

Arch Electric Associates

- Report all injuries to supervision in a timely manner.
- Provide Supervision all necessary paperwork from treating physician(s).
- Adhere to all assigned restrictions.
- Inform Supervision on restricted duty capabilities.
- Report for all scheduled medical appointments with treating physician(s).

Arch Electric EHS Specialist

- Work with Supervision to place restricted duty associates into productive jobs that are compatible with the associate's restrictions.
- Work with workers comp. to verify appropriate placement of restricted duty associates and timely return to regular job.
- Update OSHA log and other required documentation on status, and duration of restricted duty.
- Maintain and update this procedure annually.
- Assess the effectiveness of the Return-to-Work program as necessary.
- Provide training resources and orientation for new associates.
- Verify that associates are placed into appropriate jobs without compromising recovery.
- Notify the affected associate if work is (is not) available within restrictions.

Return-to-Work Procedure

Associate is injured and this injury results in temporary restrictions. The injury may or may not be work-related. However, refer to specific Human Resources documents for process and requirements for non-work-related issues (surgery, extended absences, etc.). Family Medical Leave Act (FMLA) and similar regulations are beyond the scope of this written program.

Prior to returning to work, the associate must notify Arch Electric. Arch Electric will complete a review and send the document to EHS and other supervision/Team Leaders.

EHS Specialist and the area Supervisor determine if work is available within the associate's restrictions. Supervisor contacts the associate with dates and times to report to work as appropriate. EHS follows up with the Associate's supervisor to confirm restrictions are being met.

The EHS Specialist tracks the Associates' work status while on light duty or restricted duty. The EHS Specialist records dates returned and duration of time on light or restricted duty for OSHA Recordkeeping purposes. The EHS Specialist notifies the associates Supervisor when the associate can work within the documented restrictions (AARJ).

Training

Arch Electric Supervision are informed of the requirements of this program as needed.

WALKING WORKING SURFACES

Introduction and Purpose

This program provides safety precautions to reduce safety issues with walking-working surfaces at Arch Electric.

Scope

This program applies to all Arch Electric location and covers horizontal or vertical surface where associates walk, work, or gain access to a work area or workplace location.

Definitions

Alternating tread-type stair: Type of stairway consisting of a series of treads that usually are attached to a center support in an alternating manner such that an associate(s) typically does not have both feet on the same level while using the stairway.

Duckboards: Portable or fixed device that spans a gap or compensates for a difference in elevation between a loading platform and a transport vehicle. Duckboards include, but are not limited to, bridge plates, dock plates, and dock levelers.

Fall hazard: Any condition on a walking-working surface that exposes an associate(s) to a risk of harm from a fall on the same level or to a lower level.

Fall protection: Equipment, device, or system that prevents an associate from falling from an elevation or mitigates the effect of such a fall.

Grab bar: means an individual horizontal or vertical handhold installed to provide access above the height of the ladder.

Guardrail system: A barrier erected along an unprotected or exposed side, edge, or other area of a walking, working surface to prevent associate(s) from falling to a lower level.

Handrail: A rail used to provide associate(s) with a handhold for support.

Hole: A gap or open space in a floor, roof, horizontal walking-working surface, or similar surface that is at least 2 inches in its least dimension.

Lower level: A surface or area to which an associate could fall. Examples include ground, floors, roofs, ramps, excavations, pits, tanks, materials, water, equipment, etc.

Maximum intended load: The total load (weight and force) of all associate(s), equipment, vehicles, tools, materials, and other loads that reasonably anticipates to be applied to a walking-working surface at any one time.

Open riser: The gap or space between treads of stairways that do not have upright or inclined members (risers).

Opening: A gap or open space in a wall, partition, vertical walking, working surface, or similar surface that is at least 30 inches high and at least 18 inches wide through which an associate can fall to a lower level.

Personal fall arrest system: System used to arrest an associate in a fall from a walking-working surface. Fall arrest systems consist of a body harness, anchorage, and connector. The means of connection may include a lanyard, deceleration device, lifeline, or a suitable combination of these.

Personal fall protection system: System (including all components) that uses to provide protection from falling (personal fall arrest systems, positioning systems, and travel restraint systems).

Platform: A walking-working surface that is elevated above the surrounding area.

Riser: The upright (vertical) or inclined member of a stair that is located at the back of a stair tread or platform and connects close to the front edge of the next higher tread, platform, or landing.

Rung, step, or cleat: The crosspiece of a ladder on which an associate(s) steps to climb up and down.

Stair rail or stair rail system: A barrier erected along the exposed or open side of stairways to prevent associate(s) from falling to a lower level.

Step bolt (pole step): A bolt or rung attached at intervals along a structural member used for foot placement and as a handhold when climbing or standing.

Toe-board: A low protective barrier that is designed to prevent materials, tools, and equipment from falling to a lower level, and protect associate(s) from falling.

Program Responsibilities

Arch Electric Management and Supervision

- Provide resources to implement and maintain the program.
- Enforce the program and correct deficiencies.
- Audit their respective areas during weekly housekeeping audits and correct deficiencies.

- Ensure contractors, visitors and vendors comply with the requirements of this program.

Arch Electric Associates

- Comply with Arch Electric Walking Working Surface requirements.
- Notify Team Leaders and Supervisions with questions concerning walking areas, need for fall protection, and potential hazards.
- Participate in housekeeping audits and submit work orders to remedy deficiencies.

Arch Electric EHS Specialist

- Maintain program policies, procedures, and training records.
- Periodically audit program for effectiveness.
- Spot check housekeeping audits to ensure they are completed accurately.
- Prepare and provide training materials for annual associate awareness training.
- Review written program annually and update as needed.
- Document completed training.

Program Requirements

Load Capacity: Walking-working surface must be able to support the maximum intended load for that surface. Any changes to equipment locations, machine cell upgrades, equipment moves, etc. must be documented during the Arch Electric Change Management Process. External resources should be used to determine load ratings and capacities when relocating heady equipment (machines, cranes/hoists, tanks, etc.) Findings must be documented in project file folder or similar.

Inspection and Maintenance: The EHS Specialist, Maintenance and/or supervision will review the condition and determine if the correction or repair must be guarded. If the hazard cannot be corrected immediately, the hazard may be guarded to prevent associates from using the walking-working surface until the hazard is corrected or repaired.

Hazardous Conditions: In the event of a spill inside the facility, every effort will be made to clean the release. If not, the EHS Specialist, Maintenance and/or supervision will assess and determine if additional measures (including barriers) are required. Spills outside of the facility are not in the scope of this program.

In the event of inclement weather, the EHS Specialist, Maintenance and/or supervision will contact the appropriate on site or offsite support to remedy the situation. Examples are ice on the ramp, snow accumulation in the parking lots, rain coming in the building, etc. All efforts will be made to notify associates of the hazards in Huddle Meetings and other similar means of communications (emails, safety alerts, etc.).

New Projects: The EHS Specialist reviews new projects as part of the Arch Electric Change Management Process. Walking-working surfaces are reviewed, and hazards assessed before the project is implemented. Once the project nears completion, the Ops Certs process is initiated, and walking-working surfaces are reviewed. If there are issues that must be resolved, the EHS Specialist cannot sign off on the Ops Certs form.

Housekeeping/Housekeeping Audits: Arch Electric audits various sites monthly. Team Leaders, Management, and Operations Support staff are responsible for audits. Non-compliance findings must be addressed.

Training

Associates are trained on several components of this program, including:

- Completing Housekeeping Audits
- Ops Certs Process.

FIRE PROTECTION

Purpose

Fire Prevention/Protection Policy is intended to provide compliance with all related regulation and standard safe work practice. The purpose of the policy is to prevent fires and to provide guidelines for action in the event that a fire does occur.

Fire prevention program combines the following policies:

- PPE Policy
- Electrical Safety Policy
- Emergency Action Plan

These policies encompass methods used for incidence avoidance, incident response and specialized training required in the event of a fire.

Issues addressed in the above policies include, but are not limited to:

- Evacuation Procedure
- Extinguisher Training
- Basic Process Safety Training (if applicable)
- Hot Work Safety Training (if applicable)
- Confined Space Entry Safety Training (if applicable)
- Emergency Life Support Training
- Respiratory Protective Devices Training (if applicable)
- Assured Grounding Programs

Policy

Employees shall be informed of the proper actions to take in the event of a fire. This includes, but is not limited to; notification and evacuation procedures. It is STRESSED that at no time does the task of fighting fire supersede an employee's primary duties of:

- Ensuring their own personal safety and the safety of others.
- Reporting the incident to the proper authority and ensuring personnel accountability for yourself and all subordinates at the jobsite, in accordance with company and client policy.

Procedure

All employees are responsible for good housekeeping practices to enhance fire prevention methods. Supervisors will be held accountable for the housekeeping of their job sites.

- If applicable, welding machine mufflers will be equipped with an approved spark arresting muffler.
- Only approved containers will be used during fueling operations. These shall be of the self-closing type.
- Flammable material shall be kept under the control. It shall be stored in compliance with applicable OSHA and client regulations. The quantity of flammable/combustible material shall be kept to a minimum on the job site.
- Welding, cutting and grinding sparks shall be contained.
- Hot work areas shall be kept wetted down, and a fire extinguisher and hose maintained on each jobsite.
- Oily rags shall be immediately disposed of in designated hazardous waste containers.
- No hot work is to be performed without a Hot Work Permit.
- All vehicle entry into process areas requires a permit or permission from the operator.
- Use bonding straps to discharge and prevent static charges during transfer of flammable liquids from one container to another.
- Report all spills or suspicious odors immediately.
- Fire extinguishers are to be kept in areas easily accessible to employees. Only approved fire extinguishers are to be used. They must have an inspection tag attached. Extinguishers are to be maintained in a fully charged, ready to operate state. Extinguishers are to be inspected before each use and documented annually. Training is provided to all employees who use or may use fire extinguishers.
- NEVER put yourself or others a risk while attempting to extinguish an incipient fire.
- DO NOT USE any fire hoses larger than 1-3/4", unless fully trained as an industrial firefighter.
- NEVER attempt to extinguish a pressurized-fuel fed fire.
- DO NOT direct a fire nozzle with a straight stream at any type of LPG fire. This action could extinguish the fire, producing an LPG vapor cloud capable of detonation.
- DO NOT USE fire monitors as the force can damage small equipment and certain high chrome alloy equipment cannot have water applied as cracking could occur.
- DO NOT APPLY water to any acid or caustic release as it can cause a violent reaction. Additionally, low concentration acids or caustics become extremely corrosive, causing an increasing leak condition.

In the Event of a Fire:

- Remain calm
- Only extinguish a fire when it is clearly within your abilities and the equipment available
- Know the location of the nearest alarm and how to activate the emergency system
- Know the evacuation routes and collection points
- If the fire cannot be extinguished, leave the area immediately and report to your evacuation area
- Await further instructions from the Incident Commander, or designated responsible personnel

Basic Fire Science

- **Heat Energy -** Can be produced by building up molecules (composition) or breaking apart (decomposition) by heat or a solution when materials are dissolved in a liquid, or by combustion.
- **Heat Transfer -** A law of physics states that heat tends to flow up from a hot substance or place to a cold substance or place. This is through conduction (transfer of heat through a medium such as metals) or through convection (transfer of heat with a medium-usually circulatory).
- **Fuels -** Those substances that will burn when heat is applied. The most common fuels are not pure elements such as carbon, but compounds and mixtures such as paper and wood.
- **Oxygen -** Makes up a major portion of the oceans and earth's crust and one-fifth of our atmosphere. Atmospheric oxygen is the major source of oxygen that supports combustion. Oxygen itself does not burn, however, without it, combustion is impossible. Normal burning is the combination of fuels with oxygen under the influence of heat.
- **Combustion -** A rapid oxidation or chemical combination accompanied by heat.
- **Oxidation -** The ability of materials to produce oxygen during a chemical reaction.
- **Spontaneous Combustion -** When oxidation is allowed to occur, enough oxygen is available, heat is produced, molecules become more energetic and combine with oxygen at an increasing rate, temperatures rise and visible heat (flames) are produced.

Classes of Fires

- **Class A -** Ordinary combustibles (wood/paper/textiles)
- **Class B -** Flammable liquids (gasoline/oils/grease)
- **Class C -** Live electric (wiring/generators/motors)
- **Class D -** Combustible metals (finely divided form/chips, turnings)
- **Class K –** Kitchen (oils/grease)

Types of Fire Extinguishers

- **Water -** extinguisher for ordinary combustible fires
- **Dry Chemical or CO2 -** extinguisher for electrical equipment fires and for flammable liquid fires
- **Multipurpose Dry Chemical -** extinguisher for ordinary combustible fires, liquid fires, and electrical equipment fires
- **Foam -** extinguishing agent for hydrocarbon fires

INCIDENT INVESTIGATION

Purpose

To provide employees with a consistent method of investigating all incidents. Incidents are defined as: all injuries and illnesses, near misses, motor vehicle and equipment damage incidents, non-occupational incidents, property damage and environmental incidents. This program when followed ensures accurate reporting and recording of all incidents to prevent future recurrence.

Policy

Employees are required to report all incidents immediately to their supervisor regardless of severity or size of incident.

Procedures

1. Employee Training on the Job
2. Encourage employees to report all work-related injuries/illnesses no matter how small or insignificant they may seem. It is our goal to keep the small things small.
3. Point out where the name and address of the company doctor is posted.
4. Point out where the names and phone numbers of the responsible supervisors to whom injuries should be reported after hours are posted.
5. 4. Explain how employees are to report injuries that occur off-the-job to their supervisor in addition to symptoms related to on-the-job or off-the-job injuries/illnesses that develop after hours.

Handling Accident/Illness Occurring on the Job

1. Primary responsibility for the Supervisor is to get appropriate medical care for the employees as soon as possible. Know ahead of time what you would do for a serious accident, minor accident, or a near miss incident.
2. Individual states have their own death or serious injury reporting requirements. Comply with the reporting requirements of the state in which an incident occurs. In California, employer's are required to report immediately by telephone or telegraph to the nearest District Office of the Division of Occupational Safety and Health any serious injury, illness, or death of an employee occurring in a place of employment or in connection with any employment. Immediately means as soon as practically possible but not longer than 8 hours after the employer knows or with diligent inquiry would have known of

the death or serious injury or illness. If the employer can demonstrate that exigent circumstances exist, the time frame for the report may be made no longer than 24 hours after the incident.

Serious Injuries Where Life and Limb is Endangered

1. Avoid any further injury by improper moving and handling. Use an ambulance to transport seriously injured employees.
2. Typically what will occur is that the emergency room doctors will treat and either refer the patient to the company doctor and/or has the company doctor admit the employee to the hospital. In some locations, the company doctor may choose to go to the emergency room and treat the injury himself.
3. Do a careful scene investigation. Remember that all serious accidents are subject to inspection by government agencies.
4. Notify your superintendent by phone as soon as possible.
5. Report to OSHA.

Minor Injuries Requiring Medical Treatment

1. If no on-site first aid station is provided, take the employee, or send him/her with another employee (unless the wounds are very minor), to the company doctor's office. After hours go to the predetermined hospital emergency room.
2. Obtain a "DOCTOR'S REPORT OF INDUSTRIAL INJURY/ILLNESS". This form will come back with his/her work status filled out and becomes his/her work release. Each follow-up visit requires a new form filled out.
3. Do a thorough scene investigation.

Minor Injuries Not Requiring Medical Attention

1. Listen to the employee carefully. Be sympathetic, concerned, fair, and accurate.
2. Investigate the incident! This may be a symptom of something very wrong in the work place, which, if caught early, could avoid a serious injury.
3. If you have suspicions, or are not completely satisfied, you have every right and a responsibility to send an employee to the Company Doctor. (Be sure to provide transportation to and from the doctor and on company time.)

Phases of an Investigation

Phase I - Communicating the Incident: As soon as you learn of an incident, you need to communicate up the chain of command.

Phase II - Planning: Before rushing into an investigation, a plan is necessary (see "Investigation Checklist and Plan" at the end of this section). Some thought should be given to the scope and content of the investigation. The planning process may take a few minutes for a small, routine incident. It may take several hours to weeks for a major crisis. Take as much time as is necessary to prepare for a thorough investigation. Keep in mind, however, that speed is important for getting all the information.

Phase III - Conducting: Working from the plan, the next step is to gather all the information. This means interviewing people, and gathering documents and evidence. The most important point is to be thorough. It also is important to work quickly and efficiently.

Phase IV - Reporting: In this phase, all of the information from the investigation is organized, analyzed, and reduced to a comprehensive report. The written report will be the record of the investigation. The written report and all materials should be submitted up the chain of command.

Phase V - Analysis and Conclusion: The report is reviewed and decisions are made as to cause, responsibility, correction, future prevention, and impact on policies and procedures.

Performing Incident Investigations

1. View the location and take pictures if possible. If no camera is available or client won't allow pictures to be taken, then draw a picture of the scene.
2. Interview all witnesses.
    - Interview as soon after the incident as possible. The longer the time span between the incident and the interview, the less clear is the recollection.
    - When interviewing people, maintain an open mind and self control. The interviewer's responsibility is to act like a reporter, and simply record what is said rather to assert an opinion or attempt to influence the witness.
    - Choose a place to conduct the interview free from distractions and in private. It is preferable to interview witnesses one at a time.
    - Know as much about the basic facts as you can before you begin the interviews.
    - Take notes of all interviews. Have the witnesses write a statement in their own words and sign the document.
    - Do not rush, and ask open ended questions. Remember to use "Who, What, Where, When, Why". Never end an interview without asking the witness "Is there anything else"?
3. Interview the injured employee. Use the same techniques as above for witnesses.

INVESTIGATION CHECKLIST AND PLAN		
Potential Witnesses (list on separate sheet):	Identified	Interviewed
Employees involved in the incident		
Employees close to the incident		
Employees involved with events prior to the incident		
Employees involved with events after the incident		
Employees of other contractors		
Client Employees		
Other:		

Documents:	Relevant	Obtained		Relevant	Obtained
Job Hazard Analysis			Personnel File		
Tailgate/Toolbox Talks			Safety Log		
Other Safety Meetings			Contract(s)		
Audits			Medical Reports		
Inspections			Doctor's First Report		
Work Order/Job Order			Training Records		
Permit			Other		
Time Sheets					
Other Evidence:					
Tools			Photographs		
Equipment			Drawings		
PPE/Clothing			Blue Prints		

INCIDENT REPORT **Attention:** This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.			
Employee		Male / Female	
Phone #		Date hired	
Street Address		Date of incident	
City		Time of incident	
State / Zip		Time employee began work	
Date of birth		Supervisor	
Site/Location (facility name) and Unit or Project:			
Name of physician or other health care professional:			
If treatment was given away from the worksite, where was it given?			
Was emp. treated in an emergency room?		Yes or No	
Was emp. hospitalized overnight as an in-patient?		Yes or No	

INCIDENT CLASSIFICATION					
First Aid		Medical Non-Disabling		Equipment Damage	
Near Miss		Restricted Work Case		Fire or Release	
Motor Vehicle Accident		Lost Time Case		Non-Occupational	

LOSS Apparent nature and extent of injury, damage or potential loss?		
INCIDENT Description of the incident (who, what, how, when, why and what was the employee doing just before the incident occurred)?		
PREVENTION Immediate action and future action to prevent recurrence?		
CORRECTIVE ACTIONS List who is responsible for ensuring corrective actions have been addressed and when they will be completed?		
Prepared By:	**Title:**	**Date:**

HOT WORKS

Purpose

The purpose of this policy is to establish cutting and welding safety procedures and to ensure that all cutting and welding operations are performed in the safest manner possible, and in compliance with applicable regulations.

Policy

All cutting and welding operations shall be performed in compliance with OSHA standards and all other applicable state, local and client regulations, policies, procedures and standard safe work practices. Welding is restricted to areas or situations where adequate fire prevention, welder protection and passerby protection can be assured.

Procedures

This safety standard is intended as a guide to safe practices in welding, burning, brazing and related operations. The precautions and protective measures outlined are recommended minimum requirements. Welders should exercise judgment in applying these precautionary measures in such matters as length of work periods, poor ventilation, unusual work locations, and specialized operations. Additional protective measures may be required in certain instances.

Training

- Fire Watch Training – At a minimum the fire watch will be trained to the following standards: A "Fire Watch" is a person specifically trained and assigned to warn others of hazards associated with flammable materials, and when capable to prevent incipient stage fires.
    - Ensure proper "Hot Work" permit is on site
    - Ensure permit is signed by all appropriate personnel
    - Ensure adequate means of access and egress are provided to the work site
    - Read and understand all permit provisions, and maintain the conditions of the permit at all times
    - Wear an identification vest (made of flame retardant material)
    - Maintain appropriate sewer drain coverage (if applicable)
    - Maintain a charged fire hose to the end nozzle, and/or a charged dry chemical fire extinguisher with current inspection tags
    - Maintain spark containment by using approved fire blankets

- Prevent the taking of samples, venting, or opening of piping or equipment in the immediate area of the hot work
- Must be able to communicate in English so that you can inform others in the event of emergency conditions
- Determine the exact location of firefighting equipment in the immediate area
- Ensure proper barricading and warning signs are used
- Continuously monitor the work area during and for 30 minutes after hot work has finished to ensure no smoldering embers or slag exist
- During actual hot work, keep area wet when possible
- Continuously monitor the work area and surrounding area for any unsafe conditions, or potentially hazardous conditions
- In the event of a hazardous condition, emergency, or changing environment, the fire watch will stop all work until it is safe to resume
- Never leave the work site unless the work has stopped, or until you are relieved by another employee with equal or greater training and knowledge
- Ensure surrounding conditions are inspected and precautions are taken with consideration given to wind direction
- Ensure equipment such as welding machines, hoses, tools, etc., are located so as not to impede access or egress, or access to firefighting equipment
- In the event of a fire - Remain calm
- Only extinguish a fire when it is clearly within your abilities and the equipment available
- Know the location of the nearest alarm and how to activate the emergency system
- Know the evacuation routes and collection points
- If the fire cannot be extinguished, leave the area immediately and report to your evacuation area
- Await further instructions from the Incident Commander, or designated responsible personnel

- Only trained and qualified personnel may operate or maintain welding, cutting or brazing equipment Welders/Cutters will be trained per this policy and will posses the appropriate certifications for their work scope.
- Craft who perform any of the functions covered by this policy will be required to complete training including:
  - A test or other method to determine competency
  - All training records shall be documented and kept on file with Human Resources

General Rules

Initial Assessment – Fire is a primary focus and the assessment for fire protection guide should be used:

A dedicated fire watch is required for all hot work. If the object to be cut, burned or brazed cannot be moved and if all fire hazards cannot be removed, then guards shall be used to confine the heat sparks and slag and to protect the immovable fire hazards. If these steps cannot be taken to prevent fire, then the hot work will be stopped until a safer alternative is available to perform the work safely.

Supervisor/qualified personnel will inspect the area prior to work beginning, and authorize the work. The competent person will be trained to perform his/her job functions and to identify substandard conditions/acts. The competent person shall ensure all oxygen-fuel gas supply equipment is suitable, safe to use, and in good working condition for the hot work.

Inspections and certification records will be kept for recordkeeping.

If	And	Then
The object to be welded, cut or heated can be moved	A fire-resistant, safe workspace is available	Welding, cutting or heating shall be done in that space.
The object to be welded, cut or heated cannot be moved	All fire hazards can be moved to a safe distance	Welding, cutting or heating can be done once fire hazards are taken to a safe place.
The object to be welded, cut or heated cannot be moved	All the fire hazards cannot be removed	Guards shall be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards.

1. Before doing any welding or burning, outside of an area approved for routine hot work, be certain the necessary Hot Work Permit has been issued. All hot work will be approved by the client and the site supervisor. The crew responsible for the equipment will ensue all is suitable and in good working order. All equipment is inspected prior to beginning work and all crew members using the equipment will be familiar with "American Welding Society Standard A6-1-1966". Any equipment that is not ready for service or needs repair shall be red-tagged and repaired by qualified personnel.
2. Whenever it is necessary for hoses, lines or cords to cross walkways or work areas, they must be strung overhead or protected by planks laid on both sides of the hose. All hoses, cord and leads and other welding equipment must be maintained in a safe and

serviceable condition, with no fraying or exposed copper permitted. They should be deployed in a manner that does not create tripping hazards.

3. Contain all sparks with fire blanketing.
4. Before each use, hose must be inspected for leaks, burns, worn places, loose connections, or other defects which may render the hose unfit for service. Hose burned by a flash back must be discarded.
5. Welding machine ground connections must be made on or as close as possible to the object being worked upon to assure a good ground and prevent damage to valves, pump bearings, etc.
6. Welding machine grounds shall not be made to handrails, stairs, or to projections from steel power or lighting towers, or on any active oil, gas, steam, air, or chemical line.
7. Temporary power lines to portable arc welding machines should be carried overhead whenever practical, or laid on the floor or ground suitably protected so that they cannot be damaged or interfere with safe passage.
8. Necessary precautions must be taken to protect against electrical shocks when working in wet or damp places.
9. In electric welding, all parts of the body should be covered to prevent skin burns from ultra-violet rays or molten metal. The feet and ankles are particularly vulnerable to burns, and care should be taken to see that they are properly protected.
10. Do not use ear cotton when welding. Sparks or slag may ignite the cotton.
11. Welding rod shall not be stored in its original container once the container has been opened. When an original container is opened, the rod shall be immediately transferred to either a rod oven or an approved container, such as the plastic “rod guard” container. The original container shall then be crushed and properly disposed of.
12. Full spark containment is required and any exposed equipment or small bore piping must be protected from damage. A trained fire watch must be present at all times hot work is in progress.
13. Two sets of Flash Back arrestors must be installed on oxyacetylene system; one set installed at regulators and one set at torch handle (unless torch is equipped with arrestors).
14. Welders must wear Z-87 Safety Glasses with side shields under their welder’s hoods.
15. Grinders are required to have OSHA approved guards in place at all times. Exceptions must be approved by the Safety Department.
16. Only pipe stands that are designed to prevent pinch points at the center tube locking washer, and a stop at the base of the center tube to prevent crushing type injuries shall be used.
17. All welding rigs must be in safe operating condition and be properly identified.
18. Welding rigs must have emergency brake set and transmission in park or low gear when parked. If there is any slope the wheels must be chocked. When exiting a welding rig, welders must wear all required PPE.

19. The work area must be kept clean and materials including used weld rod removed when job is complete.
20. All welding rigs shall have a fire extinguisher.
21. Approved spark arrestors are required on all welding machines.
22. Always inspect grinders before each use. Grinders must have ground fault circuit interrupters (GFCI's)
23. Welding hoods must be equipped with the proper shaded lens for protection against radiant energy. (according to chart)
24. Make sure all sewers, drains, pits, pipe trenches, confined spaces; enclosed spaces have been tested for flammable vapors and/or hydrocarbons. Cover all openings per client policy.

Filter Lens Shade Numbers for Protection against Radiant Energy

Shade Number	Welding Operation
10	Shielded metal arc welding 1/16, 3/32, 1/8, 5/32-in. diameter electrodes
11	Gas-shielded arc welding (nonferrous) 1/16, 3/32, 1/8, 5/32-in. diameter electrodes
12	Gas-shielded arc welding (ferrous) 1/16, 3/32, 1/8, 5/32-in. diameter electrodes
12	Shielded metal-arc welding 3/16, 7/32, 1/4-in. diameter electrodes
14	Shielded metal-arc welding 5/16, 3/8-in. diameter electrodes.
10 to 14	Atomic hydrogen welding
14	Carbon arc Welding
2	Soldering
3 or 4	Torch Brazing
4 or 5	Light cutting, up to 1 in.
4 or 5	Medium cutting, 1 in. to 6 in.
5 or 6	Heavy cutting, over 6 in.
4 or 5	Gas welding (light), up to 1/8-in.
5 or 6	Gas welding (medium), 1/8-in. to 1/2-in.
6 or 8	Gas welding (heavy), over 1/2-in.

Gas Cylinders

1. Compressed gas cylinders are to be shut-off at the bottle when not in use or unattended for short periods of time. At the end of the shift the bottles are to be shut off and gauges and hoses detached and properly stored and protective caps installed.
2. Compressed gas cylinders shall have gauges removed and be capped prior to transportation. Cylinders shall only be transported or stored in the up position.
3. Use approved storage racks or dollies to store compressed gas cylinders. Chain or #9 wire may also be used. Never use rope for this purpose.
4. On welding rigs compressed gas cylinders shall be securely stored in vertical racks.
5. Oxygen and acetylene cylinders must be stored at a distance of 20 feet apart or be separated by a fire wall that is 5 feet or higher and has a fire rating of 60 minutes or more. These cylinders must be kept at least 20 feet away from combustibles or separated by a fire wall.
6. Do not use a choker or chokers to haul cylinders.
7. Keep cylinders away from work so sparks, slag, or flame cannot reach them. If cylinders cannot be isolated, fire resistant shields must be provided for them.
8. Cylinders shall always have the gauges removed and cylinder caps installed prior to being moved.
9. Acetylene shall never be exposed to unalloyed copper except in a torch.
10. Compressed gas cylinders shall be equipped with connections that conform to ANSI B57.1-1965.
11. Cylinders shall be marked to identify contents.
12. No more than 15 psi of acetylene shall be used at any time.
13. Bottles shall be slightly opened then closed just prior to attachment of the regulator.
14. Torches shall be lighted by friction lighters, not matches or other hot work.
15. Welders must insure that lines have been adequately purged prior to working on them.
16. Equipment shall be inspected for leaks daily. Unserviceable/non-approved equipment may not be used.
17. All welders shall possess current certifications.
18. Hot work area shall be kept damp at all times.
19. Unattended/unused welding machines shall be turned off.
20. Fire Watches shall remain on site for 1/2 hour after job.
21. MOST IMPORTANTLY: NO HOT WORK PERMIT = NO WELDING.

Ventilation

The following are ventilation requirements for welding.

1. Ensure that adequate ventilation is provided for employees working with welding and cutting equipment. Confined space work will have a plan to address securing of cylinders, lifelines, and warning systems that will be utilized by the safety attendant (Fire Watch/Confined Space Attendant).
2. Ensure that contaminated air exhausted from a working space is discharged into the open air or otherwise clear of the source or intake air.
3. Do not use oxygen for ventilation, comfort cooling, blowing dust from clothing, or for cleaning a work area.
4. Ensure that all necessary precautions are taken to prevent the accumulation of gases when cutting torches are used.
5. Do not take compressed gas cylinders into confined areas.
6. Ventilation equipment consists of air siphons (air movers), and/or exhaust blower (copus air mover).

When using blowers or siphons to exhaust fumes, exhaust inlet must be kept as close as possible to the work. Air siphons use large amounts of compressed air. The following safety procedures shall be followed:

Keep connecting air hoses as short as possible.

- Do not attempt to operate more than one siphon off a single air hose or outlet.
- If used to exhaust a vessel, be sure to seal the bell of the inlet side around the manhole or vessel opening.
- A daily inspection of the safety screens' condition should be accomplished on the blowers.
- Repair or replace if broken. The use of a blower hinge is also recommended.

Planning Hot Work Welding

In planning or carrying out hot work, certain factors should be considered besides the obviously important hot work permit, gas test and hazard analysis. Those factors include, but are not limited to:

1. The base metal and its health effects. The MSDS on the metal is available and will address this issue.
2. The welding or burning process to be used and its special health problems, if any.
3. The location of the work: Is the work to be done in the open or in a confined space?
4. Ventilation required: Is special ventilation equipment needed?
5. Position of the work: Is the work overhead or below? Can it be positioned to allow fumes to be carried away without entering the welder's breathing zone?
6. Presence of other employees near the job: Is eye protection needed against ultraviolet radiation? Are other workers in the path of the welding fumes?

7. Cleanliness of the metal surface: Are harmful or flammable materials present beneath patches or in seams?
8. Respiratory protection: Are fume respirators adequate, or are air-supplied respirators needed? Protection must be appropriate to the circumstances and must meet the minimum requirement of the permit, but also may be upgraded.
9. Ensure adequate first aid supplies are available before beginning work. All injuries will be reported immediately.

Welding and Burning Safe Practices

The following information is the recommended minimum precautionary measure to be followed in performing the types of hot work listed in Table 13-1. If, in the opinion of the supervisor, additional protection is required for a particular welding or burning job, such added protective measures should be used.

Open Area includes most outside work, the mechanical shop (except vessels or partitioned areas inside the building) and well-ventilated large rooms, buildings or tanks. Confined Spaces include work areas such as inside small tanks, drums, towers, or other vessels, whether indoors or out, as well as small rooms, deep excavations, and manholes.

Table 13-1 - Welding and Burning Stick Electrode Welding

Electrode	Basic Elements	Byproducts	Electrode
AWS E-6010	Iron		AWS E-6010
AWS E-6011	Iron		AWS E-6011
AWS E-6012	Iron		AWS E-6012
AWS E-6013	Iron		AWS E-6013
AWS E-6020	Iron		AWS E-6020
E-316 Stainless 18-12	Chromium, Nickel, Iron	Chromium, Nickel	E-316 Stainless 18-12
E-310 Stainless 25-20	Chromium, Nickel, Iron	Chromium, Nickel	E-310 Stainless 25-20
e-308 Stainless 18-8	Chromium, Nickel, Iron	Chromium, Nickel	E-308 Stainless 18-8
E-610 12% Cr	Chromium, Iron	Chromium	E-610 12% Cr
E-502 5% Cr	Chromium, Iron		E-502 5% Cr
E-605 9% Cr	Chromium, Iron	Chromium Fluorides	E-605 9% Cr
E-7018 Low Hydrogen	Iron		E-7018 Low Hydrogen
E-8018 B-2 (1-1/4% Cr)	Chromium, Iron		E-8018 B-2 (1-1/4% Cr)
E-9018 B-3 (2-1/4% Cr)	Chromium, Iron		E-9018 B-3 (2-1/4% Cr)
E-8108 C-2 (3-1/2% Ni)	Nickel, Iron	Chromium	E-8108 C-2 (3-1/2% Ni)

Stoody 6 Eutectic 680 Inco-A Inconel 182 Monel 190 Ni-Rod 55 Carpenter 20	65% Cobalt, 45% Tungsten, 28% Chromium Cobalt High Chromium, Nickel 68% Nickel 65% Nickel 60% Nickel, 23% Copper 60% Nickel 36% Nickel, 20% Chromium	Chromium, Nickel Nickel Nickel Nickel, Copper Nickel	Stoody 6 Eutectic 680 Inco-A Inconel 182 Monel 190 Ni-Rod 55 Carpenter 20

Precautions:

A. No special precautions are needed in open or well-ventilated areas. Work in poorly ventilated areas will require respiratory protection. Work in confined spaces may require fume filter-type respirators or supplied air. Adhere to or upgrade permit requirements. Consult the Welding Supervisor.

B. Moderate amounts of fumes generated:
   1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.
   2. Work in confined spaces will require high efficiency particulate respirators.

C. Fumes and gases generated:
   1. Use exhaust blowers or air siphons to remove gases and fumes from breathing zone in open areas.
   2. Work in confined spaces will require air-supplied respirator.

D. Intense arc. Large amounts of metal fumes and gases generated:
   1. Provide adequate ventilation of work. Use fume exhausters to remove fumes and gases from breathing zone in open areas. Do not direct exhaust air toward other employees. Use fume filter-type respirators in open areas.
   2. In confined areas, adequate ventilation must be provided and air-supplied respirator must be worn.

E. Use only in metalizing hood. If necessary to metalize in other locations, use air-supplied respirator and protect other workers in the vicinity. Do not use any lead alloys in open shop area.

Table 13-1

Tungsten Arc Welding, Gas Shielded (Heliarc) (TIG)*

Rod	Basic Elements	Harmful Byproducts	Precautions
Evedur 1010	05.6% Copper Silicon	Copper, Ozone	C
Oxweld 372 Copper	98% Copper	Copper, Ozone	C
AWS ER 4043	Aluminum, Silicon	Ozone	C
AWS ER 5356	Magnesium, Aluminum	Ozone	C
Oxweld 28	18% Chromium, 8% Nickel, Iron	Chromium, Nickel Ozone	C
Steel	Steel	Ozone	C
1-1/4% Chromium	Chromium, Iron	Ozone	C
2-1/4% Chromium	Chromium, Iron	Ozone	C

*High levels of ultraviolet light produced. Avoid eye flash with side shield goggles. Avoid skin burns with proper clothing.

A. Fumes and gases generated:

1. Use exhaust blowers or air siphons to remove gases and fumes from breathing zone in open areas.
2. Work in poorly ventilated areas will require respiratory protection.
3. Work in confined spaces will require air-supplied respirator.

Short Arc Consumable Electrode Gas Shield (MIG)*

Wire	Basic Elements	Harmful Byproducts	Precautions*
18-8 Stainless	18% Chromium, 8 % Nickel, Steel	Chromium, Nickel, Ozone	B
25-20 Stainless	25% Chromium, 20% Nickel, Steel	Chromium, Nickel, Ozone	B
Oxweld 63	98% Copper	Copper, Ozone	B
Airco 110	98% Copper	Copper, Ozone	B
Oxweld 62	91.5% Copper, Aluminum	Copper, Ozone	B
Type 316 Stainless	18% Chromium, 13% Nickel, Steel	Copper, Nickel, Ozone	B
Aluminum	Aluminum	Ozone	B
Hastelloy B	Nickel, Molybdenum	Nickel, Ozone	B
Inconel 62	Chromium, Nickel	Nickel, Ozone	B
Oxweld 65	Iron		

*High levels of ultraviolet light produced. Avoid eye flash with side shield goggles. Avoid skin burns with proper clothing.

B. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.
2. Work in confined spaces or poorly ventilated areas will require high efficiency particulate respirators.

Acetylene Welding and Brazing

Wire	Basic Elements	Harmful Byproducts	Precautions
Hastelloy D	Silicon, 90% Nickel	Nickel	A
Oxweld 5M	Copper, Zinc, Tin	Copper, Zinc	B
1 Oxweld	Steel		A
Aluminum	Aluminum		A
Everdur 1010	Copper, Silicon	Copper	A
Arcosil J	56% Silver, 22% Copper 17% zinc, 5% Tin	Copper, Zinc	B
Oxweld 28	18% Chromium, 8% Nickel, Steel	Chromium, Nickel	B
18-8 Stainless		Chromium, Nickel	B
Easy-Flo	18% Chromium, 8% Nickel, Steel	Copper, Cadmium Zinc	B
Sil-Fos	45% Silver, 15% Copper 25% Cadmium, 16% Zinc	Copper	B
Oxweld 372	15% silver, 80% Copper 5% Phosphorus	Copper	B
Colmonoy 6	98% Copper	Cobalt, Chromium	B
Chromium Stoodite Borod	65% Cobalt, 28% Chromium Tungsten Iron, 30% Chromium Tungsten Carbide, Iron	Chromium	B

No special precautions are needed in open or well-ventilated areas. Work in confined spaces or poorly ventilated areas may require fume filter-type respirators. Consult the mechanical welding and metals supervisor.

A. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.
2. Work in confined spaces will require high efficiency particulate respirators.

Silver Soldering and Soldering

Rod, Wire	Basic Elements	Harmful Byproducts	Precautions*
1801 Super	Silver, Copper, Cadmium, Zinc	Copper, Cadmium, Zinc	B
1602	Silver, Copper, Tin	Copper	B
18 FC	Copper, Tin Zinc	Copper, Zinc	B
16 FC	Silver Copper, Nickel	Copper, Nickel	B
15 Phoson	Silver Copper Phosphorous	Copper	B
11 Allstate	Copper, Zinc, Nickel	Copper, Zinc, Nickel	B

B. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.
2. Work in confined spaces will require high efficiency particulate respirators.

*Air Arc Cutting and Gouging (Carbon Rod)**

Material Worker	Basic Elements	Harmful Byproducts	Precautions*
Steel	Iron	Iron Oxides	D
Cast Iron	Iron	Iron Oxides	D
Monel	Copper, Nickel	Copper, Nickel	D
Stainless Steels	Chromium Nickel, Iron	Chromium, Nickel	D
Chrome Steels	Chromium, Iron	Chromium	D
Brass	Copper, Zinc	Copper, Zinc	D
Copper	Copper	Copper	D
Aluminum	Aluminum	Nickel Oxides	D
High Nickel	Nickel	Nickel Oxides	D

TRENCHING AND EXCAVATING

Scope and Application

This policy sets forth the official practices required for excavations made by Arch Inc employees on property owned by Arch Inc.

Definitions

Benching means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent person means one who can identify existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. All competent persons must complete the 4-hour Physical Plant trenching and shoring class, successfully pass the exam, and be certified for successful completion of the class. A competent person should have and be able to demonstrate the following:

Training, Experience, and Knowledge of

- soil analysis,
- use of protective systems, and
- requirements of 29 CFR 1926 Subpart P.

Ability to Detect

- conditions that could result in cave-ins,
- failures in protective systems,
- hazardous atmospheres, and
- other hazards including those associated with confined spaces.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Registered professional engineer means a person who is registered as a professional engineer.

Shield (shield system) means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees with the structure. Shields can be permanent structure or can be designed to be portable and moved along as work progresses. Also known as trench box or trench shield.

Shoring (shoring system) means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sloping (sloping system) means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Trench (trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less, the excavation is also considered to be a trench.

General Requirements

- All excavations shall be made in accordance with the rules, regulations, requirements, and guidelines set forth in 29 CFR 1926.650, .651, and
- .652; the Occupational Safety and Health Administration's standard on
- Excavations, except where otherwise noted below.

Procedures

A competent person shall be placed in charge of all excavations. Underground utilities must be located and marked before excavation begins. Employees are not allowed in the excavation while heavy equipment is digging.

Inspections

The competent person shall conduct inspections:

- Daily and before the start of each shift by using the DAILY EXCAVATION CHECKLIST found at the end of this chapter
- As dictated by the work being done in the trench. After every rain storm.
- After other events that could increase hazards, such as snowstorm, windstorm, thaw, earthquake, dramatic change in weather, etc.

- When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.
- When there is a change in the size, location, or placement of the spoil pile. When there is any indication of change or movement in adjacent structures.
- (For excavations 4 feet or greater in depth, a trench inspection form shall be filled out for each inspection.)

Soil Types

Type A - Most stable: clay, silty clay, and hardpan (resists penetration). No soil is Type

A if it is fissured, is subject to vibration of any type, has previously been disturbed, or has seeping water.

Type B - Medium stability: silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C; soils that meet the requirements of Type A soil but are fissured or subject to vibration.

Type C - Least stable: gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock, and soil from which water is freely seeping.

Layered geological strata (where soils are configured in layers) - The soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e. where a Type C soil rests on top of stable rock.

Testing Methods

The competent person in charge of the excavation shall be responsible for determining whether the soil is Type B or C. The competent person shall use a visual test coupled with one or more manual tests.

Visual test

In addition to checking the items on the trench inspection form, the competent person should perform a visual test to evaluate the conditions around the site. In a visual test, the entire excavation site is observed, including the soil adjacent to the site and the soil being excavated. The competent person also checks for any signs of vibration.

During the visual test, the competent person should check for crack-line openings along the failure zone that would indicate tension cracks, look for existing utilities that indicate that the soil has been previously disturbed, and observe the open side of the excavation for indications of layered geologic structuring.

This person should also look for signs of bulging, boiling, or sloughing, as well as for signs of surface water seeping from the sides of the excavation or from the water table.

In addition, the area adjacent to the excavation should be checked for signs of foundations or other intrusions into the failure zone, and the evaluator should check for surcharging and the spoil distance from the edge of the excavation.

Manual Tests

Thumb penetration test- Attempt to press the thumb firmly into the soil in question.

If the thumb penetrates no further than the length of the nail, it is probably Type B soil. If the thumb penetrates the full length of the thumb, it is Type C. It should be noted that the thumb penetration test is the least accurate testing method.

Dry strength test- Take a sample of dry soil. If it crumbles freely or with moderate pressure into individual grains it is considered granular (Type C). Dry soil that falls into clumps that subsequently break into smaller clumps (and the smaller clumps can only be broken with difficulty) it is probably clay in combination with gravel, sand, or silt (Type B).

Plasticity or Wet Thread Test- Take a moist sample of the soil. Mold it into a ball and then attempt to roll it into a thin thread approximately 1/8 inch in diameter by two inches in length. If the soil sample does not break when held by one end, it may be considered Type B.

A pocket penetrometer, shearvane, or torvane may also be used to determine the unconfined compression strength of soils.

Spoil

Temporary spoil shall be placed no closer than 2 feet from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. This distance should not be measured from the crown of the spoil deposit. This distance requirement ensures that loose rock or soil from the temporary spoil will not fall on employees in the trench.

Spoil should be placed so that it channels rainwater and other run-off water away from the excavation. Spoil should be placed so that it cannot accidentally run, slide, or fall back into the excavation.

Permanent spoil should be placed some distance from the excavation.

Surface Crossing of Trenches

Surface crossing of trenches should not be made unless absolutely necessary. However, if necessary, they are only permitted under the following conditions:

Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.

Walkways or bridges must: have a minimum clear width of 20 inches, be fitted with standard rails, and extend a minimum of 24 inches past the surface edge of the trench.

Ingress and Egress

Trenches 4 feet or more in depth shall be provided with a fixed means of egress. Spacing between ladders or other means of egress must be such that a worker will not have to travel more than 25 feet laterally to the nearest means of egress.

Ladders must be secured and extend a minimum of 36 inches above the landing.

Metal ladders should be used with caution, particularly when electric utilities are present.

Exposure to Vehicles

Employees exposed to vehicular traffic shall be provided with and required to wear reflective vests or other suitable garments marked with or made of reflectorized or high- visibility materials.

Trained flag persons, signs, signals, and barricades shall be used when necessary.

Exposure to Falling Loads

All employees on an excavation site must wear hard hats. Employees are not allowed to work under raised loads.

Employees are not allowed to work under loads being lifted or moved by heavy equipment used for digging or lifting.

Employees are required to stand away from equipment that is being loaded or unloaded to avoid being struck by falling materials or spillage.

Equipment operators or truck drivers may remain in their equipment during loading and unloading if the equipment is properly equipped with a cab shield or adequate canopy.

Warning Systems for Mobile Equipment

The following steps should be taken to prevent vehicles from accidentally falling into the trench:

- Barricades must be installed where necessary,

- Hand or mechanical signals must be used as required,
- Stop logs must be installed if there is danger of vehicles falling into the trench.
- Soil should be graded away from the excavation; this will assist in vehicle control and channeling of run-off water.
- Trenches left open overnight shall be fenced and barricaded

Hazardous Atmospheres and Confined Spaces

Employees shall not be permitted to work in hazardous and/or toxic atmospheres. Such atmospheres include those with:

- less than 19.5% oxygen,
- a combustible gas concentration greater than 20% of the lower flammable limit, and,
- concentrations of hazardous substance that exceed those specified in the Threshold Limit Values for airborne contaminants established by the ACGIH.

All operations involving such atmospheres must be conducted in accordance with OSHA requirements for occupational health and environmental controls for personal protective equipment and for lifesaving equipment. Engineering controls (such as ventilation) and respiratory equipment may be required.

Testing for Atmospheric Contaminants

If there is any possibility that the trench or excavation could contain a hazardous atmosphere, atmospheric testing must be conducted prior to entry. Conditions that might warrant atmospheric testing would be if the excavation was made in a landfill area or if the excavation was crossed by, was adjacent to, or contained pipelines containing a hazardous material (for example, natural gas lines).

Testing should be conducted before employees enter the trench and should be done regularly to ensure that the trench remains safe. The frequency of testing should be increased if equipment is operating in the trench.

Testing for Atmospheric Contaminants (continued)

Testing frequency should also be increased if welding, cutting, or burning is done in the trench.

Employees required to wear respiratory protection must be trained, fit-tested, and enrolled in a respiratory protection program.

Some trenches qualify as confined spaces. When this occurs, compliance with the

COMPANY NAME HERE Confined Space Program is also required.

Standing Water and Water Accumulation

Methods for controlling standing water and water accumulation must be provided and should consist of the following if employees must work in the excavation:

- Use of special support or shield systems approved by a registered professional engineer. Water removal equipment, such as well pointing, used and monitored by a competent person.
- Safety harnesses and lifelines used in conformance with 29 CFR 1926.104. Employees removed from the trench during rainstorms
- Trenches carefully inspected by a competent person after each rain and before employees are permitted to re-enter the trench.

Benching, Sloping, Shoring, and Shielding Requirements

All excavations or trenches 4 feet or greater in depth shall be appropriately benched, shored, or sloped according to the procedures and requirements set forth in OSHA's Excavation standard, 29 CFR 1926.650, .651, and .652.

Excavations or trenches 20 feet deep or greater must have a protective system designed by a registered professional engineer.

Excavations under the base of footing of a foundation or wall requires a support system designed by a registered professional engineer.

Sidewalks and pavement shall not be undermined unless a support system or another method of protection is provided to protect employees from their possible collapse.

Sloping

Maximum allowable slopes for excavations less than 20' based on soil type and angle to the horizontal are as follows:

Soil Type	Height/depth ratio	Slope angle
Type B	1:1	45 degrees
Type C	1 1/2:1	34 degrees

A 10-foot-deep trench in Type B soil would have to be sloped to a 45-degree angle, or sloped 10 feet back in both directions. Total distance across a 10-foot-deep trench would be 20 feet, plus the width of the bottom of the trench itself. In Type C soil, the trench would be sloped at

a 34-degree angle, or 15 feet back in both directions for at least 30 feet across, plus the width of the bottom of the trench itself.

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1 1/2:1.

Benching

There are two basic types of benching, single and multiple, which can be used in conjunction with sloping.

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

In Type B soil, the vertical height of the benches must not exceed 4 feet. Benches must be below the maximum allowable slope for that soil type. In other words, a 10-foot deep trench in Type B soil must be benched back 10 feet in each direction,

with the maximum of a 45-degree angle. Benching is not allowed in Type C soil.

DAILY EXCAVATION Date:
Project Name: Approximate:
Temp.:
Project Location:
Approximate Wind:
Direction:
Job Number:
Safety Rep:
Excavation Depth and Width:
Protective System Used Activities in Excavation:
Competent Person:

LADDER SAFETY

Purpose

The Ladder Safety Policy is intended to provide employees with safe guidelines for the use of portable ladders, while complying with applicable Regulatory Compliance Standards.

Policy

Under no circumstances are portable ladders to be used unless conditions are considered safe, secure and in compliance and company procedures and safe work practices.

Procedures

1. The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited. All rungs, cleats, and steps will be parallel, level and uniformly spaced when the ladder is being used. All ladders will be inspected prior to use by a competent person. When ladders with such defects are discovered they must be immediately removed from service and tagged as such.
2. Employees will face the ladder and will not carry material or tools in their hands while ascending or descending.
3. Ladders will not be loaded beyond the maximum intended load for which they were built or beyond the manufacturer's rated capacity.
4. All ladders shall be placed on secure footing, and the area around the top and bottom will be kept clear of work materials, tools and debris.
5. Planks will not be used on the top step of stepladders.
6. Portable ladders will be placed and used at a pitch that places the horizontal distance, from the top support to the foot of the ladder, at about one-quarter of the working length of the ladder. Ladders will not be used in a horizontal position as a platform, runway or scaffold.
7. Ladders shall not be placed in front of doors, unless door is blocked open, and/or a barricade or guard is provided.
8. Ladders shall not be placed on scaffold, boxes, boards, barrels, or other unstable bases.
9. Ladders shall not be spliced together.
10. Employees will not stand on the topcap or the step below the topcap of a stepladder.
11. Any ladder splashed with caustic or acid shall not be used until thoroughly cleaned and inspected for possible corrosive damage.
12. There shall be ample clearance and clear access at the top and bottom of portable ladders.

13. Portable rung ladders shall only be used with the metal supports on the under-side.
14. No ladder shall be used to gain access to a roof unless it extends at least 3 feet above the point of highest support with the building. Side rails must extend not less than 36” above any landing. When this is not practical, grab rails will be provided to facilitate employee movement to and from the point of access.
15. Portable metal ladders will not be used for electrical work or where they may contact electrical conductors.
16. All ladders shall be equipped with non-slip bases when a hazard of slipping exists.
17. All ladders will be tied off on top, blocked or otherwise secured to prevent movement before work is performed from them.
18. All ladders must have a minimum width of 12 inches. All ladders must have a distance of 12" between rungs.
19. The company prefers not to use or issue chain ladders, however if a client provides or mandates chain ladder usage, a thorough pre-use inspection of the ladder(s) must be performed. When there is a need for this type of ladder, wire rope ladders are preferred.
20. Stepladders shall not exceed 20 feet in length.
21. Extension ladders shall be equipped with positive stops.
22. Ladders shall be maintained in good condition.
23. Only one employee is to work on or climb a ladder at the same time.
24. All work done from a ladder shall be within an individual’s normal reach and with no overextending allowed.
25. All work done from a ladder that exposes a worker to a fall potential of 6 feet or more requires the worker to wear a harness and be tied off per the Fall Protection Policy. Employees are not permitted to stand or work off of the top three rungs or cleats of a ladder unless there are members of the structure that provide a firm handhold, or the employee is protected by personal fall protection.

PPE

Purpose

The purpose of the Personal Protective Equipment (PPE) Program is to develop and implement the procedures for the identification, use, care and maintenance of PPE required to be used by employees for the prevention of illness and injury.

All employees are required to follow the minimum procedures outlined in this program. Any deviations from this program must be immediately brought to the attention of the Program Administrator.

Scope

This policy applies to the use of PPE at Arch Inc and related facilities and operations. This program is integrated into our organization's written safety and health program and is a collaborative effort that includes all employees. The Program Administrator is responsible for the program's implementation, management, training and recordkeeping requirements.

Program Responsibilities

Management. The management Arch Inc is committed to the safety and health of its workers. Management supports the efforts of the PPE Program Administrator by pledging financial and leadership support for the identification of hazards and implementation of appropriate PPE for those hazards. Management will regularly communicate with employees about this program.

Program Administrator. The Program Administrator reports directly to upper management and is responsible for the hazard assessments, implementation, training and administration of the PPE program. The Program Administrator will monitor the results of the program to determine additional areas of focus as needed. The Program Administrator will also:

- Select and purchase PPE
- Review, update and conduct PPE hazard assessments whenever:
- A job or process changes
- New equipment is used or added
- There has been an accident
- A supervisor or employee requests it
- Maintain records on hazard assessments
- Maintain records on PPE assignments and training
- Provide training, guidance, and assistance to supervisors and employees on the proper use, care and cleaning of approved PPE

- Periodically re-evaluate the suitability of previously-selected PPE
- Review, update and evaluate the overall effectiveness of PPE use, training, policies and program

Supervisors. Supervisors have the primary responsibility for implementing and enforcing PPE use in their work area, including, but not limited to:

- Providing appropriate PPE and making it available to employees
- Ensuring that employees are trained on the proper use, care, storage and cleaning of PPE
- Ensuring that PPE training certification and evaluation forms are signed and in the employee's file
- Ensuring that employees properly use and maintain their PPE
- Notifying the Program Administrator when new hazards are introduced or when processes are added or changed
- Ensuring that defective or damaged PPE is immediately disposed of and replaced

Employees. The PPE user is responsible for following the requirements of the PPE program, including, but not limited to:

- Properly wearing PPE as required
- Attending required training sessions
- Properly caring for, cleaning, storing, maintaining and inspecting PPE as required
- Following program policies and rules
- Informing the supervisor of the need to repair or replace PPE

Employees who repeatedly disregard and do not follow PPE procedures and rules will face disciplinary action up to and including termination.

General Requirements

Appropriate PPE is required to be worn at all times when employees are exposed to hazards that cannot be eliminated through the use of preferred elimination, substitution, engineering or administrative controls.

The workplace will be evaluated and all uncontrolled hazards will be identified at least two times a year based on changes to the workforce and workplace operations. Assessments will include, but are not limited to, the following items:

- Torso and abdominal protection
- Eye and face protection
- Head protection
- Foot protection
- Leg protection

- Hand protection
- Hearing protection (Separate written program)
- Respiratory protection (Separate written program)
- Fall protection (Separate written program)

NOTE: PPE hazard assessment instructions are located in Appendix A. Hazard assessment forms are included in Appendix B.

PPE appropriate for the identified hazards will be identified, purchased and provided to all employees exposed to those hazards. All PPE will be properly fit to each employee before relying on it as a protective measure.

Employees will be continually trained, formally and informally, on the types of PPE necessary for the workplace hazards and its limitations. Training will also include the proper way to wear, use and maintain the PPE.

PPE Program Implementation

The following implementation steps will be used for this program:

Conduct and document PPE assessment for each work task, assignment or location (see form in Appendix B)

- Select appropriate PPE based on hazard assessment
- Communicate PPE selection decisions to employees
- Provide PPE free of charge to all affected employees (obtain, purchase, rent, etc.)
- Train each affected employee
- Test employee understanding*
- Document training and employee testing results
- Retrain as necessary
- Enforce PPE requirements

*Essential functions for all tasks/assignments where PPE is required.

Employee Training

General Training

Before any employee is allowed to perform work in areas requiring PPE, they must first receive training in the proper use and care of the PPE they will be using. Periodic retraining will be offered to PPE users as identified by the lack of knowledge or the improper use of PPE, after changes in work tasks or at the supervisor's request. The training will include, at a minimum, the following subjects:

- Arch Inc requirement that PPE be worn at all times during identified tasks or in areas requiring PPE
- When it is necessary to wear PPE
- What PPE is necessary
- How to properly put on, take off, adjust and wear PPE
- The limitations of the PPE
- The proper care, maintenance, useful life and disposal of the PPE

Eye and Face Protection

Each affected employee will:

- Use appropriate eye and face protection equipment when exposed to hazards from flying objects or particles, molten metal, fumes, chemical liquids, gases, vapors, dusts, acids, caustics, and other potentially injurious chemical or physical hazards.
- Use appropriate eye protection equipment with filter lenses that have a shade number appropriate for the work being performed when exposed to an eye hazard from potentially injurious light radiation.
- When wearing prescription lenses while engaged in operations that involve eye hazards, wear eye protection that incorporates the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the prescription lenses or the protective lenses.

Foot Protection

Each affected employee will wear protective footwear when working in areas where there is danger of objects falling on or rolling across the foot, piercing the sole, and where the feet are exposed to electrical or chemical hazards. Foot protection will comply with appropriate ANSI standards.

Hand and Body Protection

The Program Administrator will select and require employees to use appropriate hand protection when employees' hands are exposed to hazards from cuts, abrasions, punctures, chemical or thermal burns, harmful temperature extremes, vibration and skin absorption of harmful substances.

Head Protection

Each affected employee will wear appropriate protective head gear (hard hats, bump caps, etc.) when working in areas where there is a potential for injury to the head from falling objects, impact hazards, extreme temperatures or high UV levels.

Hearing Protection

The Program Administrator will select and require employees to wear appropriate hearing protection in environments where noise levels equal or exceed the OSHA Occupational Noise Exposure Standard (OSHA 29 CFR 1910.95) 8-hour time weighted average (TWA) of 85 dBA. See Hearing Protection Program for details.

Retraining

The need for retraining will be indicated when:

- An employee's work habits or knowledge indicate a lack of necessary understanding, motivation or skills required to properly use the PPE
- New equipment is installed that requires new or different PPE
- Changes in the workplace make previous training obsolete
- Changes in the types of PPE to be used make previous training obsolete
- Upon supervisor requests

ACCESS TO MEDICAL RECORDS

Purpose

The purpose of this section is to provide employees and their designated representatives a right of access to relevant exposure and medical records in order to fulfill responsibilities under the Occupational Safety and Health Act. Access by employees and their representatives, is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease.

Scope

This section applies to all employee exposure and medical records, and analyses thereof, made or maintained in any manner, including an in-house or contractual basis. The Company shall assure that the preservation and access requirements of this section are complied with regardless of the manner in which records are made or maintained.

Content

1. Notification
2. Record Keeping
3. Access
4. Transfer of records
5. References

Notification

Upon initial employment employees will be briefed and at least annually thereafter, informed via a bulletin board posting of the following:

a. The existence, location and availability of employee records for exposure to toxic substances or harmful physical agents.
b. The person responsible for maintaining and providing access to the records. Contact your Resources Manager or Safety Representative to initiate this request.
c. The employee right of access to those records.
d. The entire section pertaining to the Access to Employee Exposure and Medical Records is available for employee review by contacting the Safety Representative.

Record Keeping

The Human Resources Manager is responsible for maintaining and providing access to employees' medical records. These records are kept separately from other employee records.

The medical records of employees who have worked for less than (1) year for the employer need not be retained beyond the term of employment if they are provided to the employee upon the termination of employment.

Employee exposure records shall be maintained for the duration of employment and for 30 years thereafter and should include the following:

a. Environmental (workplace) monitoring including personal, area, grab, swipe (wipe over a designated area), etc. type samples.
b. Biological monitoring—level of chemical in the blood, urine, hair, fingernails, etc.
c. Material safety data sheets or a chemical inventory or any other record which reveals where and when used and the identify (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.

Access

Each employee or designated representative has the right to request access to his/her records. The company shall assure that access is provided in a reasonable time, place, and manner.

The employee may access his/her records by making a request to the Human Resources Manager or Safety Representative. The company will release an employee's medical records only if the employee has given specific, written consent *(see Attachment A)*.

If the company cannot reasonably provide access to the record within fifteen (15) working days, the company shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

In the case of an original X-ray, the employer may restrict access to on-site examination or make other suitable arrangements for the temporary loan of the X-ray.

Records or copies will be provided at no cost to the employee.

a. Whenever a record has been previously provided without cost to an employee or designated representative, the company may charge reasonable, non-discriminatory administrative costs (i.e., search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record.

b. No charge for an initial request for a copy of new information that has been added to a record which was previously provided.
c. No charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.

Transfer of records

Whenever the company ceases to do business, the company shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records.

Whenever the company ceases to do business and there is no successor employer to receive and maintain the records subject to this standard, the company shall notify affected employees of their rights of access to records at least three (3) months prior to the cessation of business.

ATTACHMENT A

Authorization letter for the release of employee medical record information to a designated representative

I, _____, (full name of worker/patient) hereby authorize _____ (individual or organization holding the medical records) to release to _____ (individual or organization authorized to receive the medical information), the following medical information from my personal medical records:

_____

_____

_____

(Describe generally the information desired to be released).

I give my permission for this medical information to be used for the following purpose:

_____

_____

But I do not give permission for any other use or re-disclosure of this information.

(Note: Several extra lines are provided below so that you can place additional restrictions on this authorization letter if you want to. You may, however, leave these lines blank. On the other hand, you may want to (1) specify a particular expiration date for this letter (if less than one year); (2) describe medical information to be created in the future that you intend to be covered by this authorization letter; or (3) describe portions of the medical information in your records which you do not intend to be released as a result of this letter.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

Full name of Employee or Legal Representative Date

_____

Signature of Employee or Legal Representative Date

FIRST AID

Purpose

Employees must be provided with timely, appropriate first aid treatment. This program is the basis for meeting this expectation.This program applies to all employees, visitors and contractors under company responsibility.

First Aid And Medical Treatment

Arch provides a First Aid Kit on the premises. It is there for employee's use in the treatment of minor scratches, burns, headaches, nausea, etc. All employees shall know the location of the First Aid Kit and shall notify their supervisor if they need to use the First Aid Kit.

If an employee has a work-related injury or illnesses that requires professional medical assistance, they shall notify their supervisor and let him/her know before they receive this assistance. If they fail to notify their supervisor, they may be ineligible for Worker's Compensation, benefits to pay for doctor's bills, and/or lost wages.

Arch will ensure designated first aiders have a valid certificate in first aid training from an authorized organization, and shall be contacted to render first aid, as necessary.

The EHS Manager shall inspect First Aid Kits before the kits are sent out to each job and on a weekly basis to insure that they are filled and complete

First Aid Procedures And Instructions

Minor First Aid Treatment

First aid kits are stored in the vehicles. If an employee sustains an injury or are involved in an accident requiring minor first aid treatment, they shall:

- Inform their supervisor.
- Administer first aid treatment to the injury or wound.
- If a first aid kit is used, indicate usage on the accident investigation report.
- Access to a first aid kit is not intended to be a substitute for medical attention.
- Provide details for the completion of the accident investigation report.

Non-Emergency Medical Treatment

For non-emergency work-related injuries requiring professional medical assistance,

management must first authorize treatment. If an employee sustains an injury requiring treatment other than first aid, they shall:

- Inform their supervisor.
- Proceed to the posted medical facility. The supervisor will assist with transportation, if necessary.
- Provide details for the completion of the accident investigation report.

Employees shall use the nearest wash facility or eyewash station in the event an employee accidentally spills or splashes injurious chemicals or liquids on their clothing or body. The employee will also notify the Supervisor as soon as possible.

Emergency Medical Treatment

If an employee sustains a severe injury requiring emergency treatment:

- Call for help and seek assistance from a co-worker.
- Use the emergency telephone numbers and instructions posted next to the telephone in your work area to request assistance and transportation to the local hospital emergency room.
- Provide details for the completion of the accident investigation report.

First Aid Training

Each designated first aider will receive training and instructions from his or her supervisor on the following Arch first aid procedures. All designated first aiders will have a valid certificate in first aid training from an authorized organization, and shall be contacted to render first aid.

Wounds

Minor: Cuts, lacerations, abrasions, or punctures-

- Wash the wound using soap and water; rinse it well.
- Cover the wound using clean dressing.

Major: Large, deep and bleeding

- Stop the bleeding by pressing directly on the wound, using a bandage or cloth.
- Keep pressure on the wound until medical help arrives.

Broken Bones

- Do not move the victim unless it is absolutely necessary.
- If the victim must be moved, "splint" the injured area. Use a board, cardboard, or rolled

newspaper as a splint.

Burns

Thermal (Heat)

- Rinse the burned area, without scrubbing it, and immerse it in cold water; do not use ice water.
    - Blot dry the area and cover it using sterile gauze or a clean cloth.

Chemical

- Flush the exposed area with cool water immediately for 15 to 20 minutes.

Eye Injury

Small particles

- Do not rub your eyes.
- Use the corner of a soft clean cloth to draw particles out, or hold the eyelids open and flush the eyes continuously with water.
- Large or stuck particles
- If a particle is stuck in the eye, do not attempt to remove it.
- Cover both eyes with bandage.

Chemical

- Immediately irrigate the eyes and under the eyelids, with water, for 30 minutes.

Neck and Spine Injury

If the victim appears to have injured his or her neck or spine, or is unable to move his or her arm or leg, do not attempt to move the victim unless it is absolutely necessary.

Heat Exhaustion

- Loosen the victim's tight clothing.
- Give the victim "sips" of cool water.
- Make the victim lie down in a cooler place with the feet raised.

Prevention

- Be prepared and use good judgment.

HAZARD IDENTIFICATION

Purpose

The purpose of the Hazard Analysis is to provide a method for a supervisor and his/her crew to inspect an upcoming job, identify potential hazards related to that job, and to arrive at agreement on the development of a Safe Work Plan for completing their assignment.

Policy

Once the client/owner has issued a permit, it is each Arch employee's responsibility to ensure that the Safe Work Plan for the work he/she is about to do is properly developed. After receiving a valid work permit from the client/owner and before starting a job, each crew shall review the permit requirements and perform a thorough Hazard Analysis. The Hazard Analysis process serves as Arch Safe Work Plan. As such, by completing the process and signing on the back of the form, employees are indicating that they are prepared to accomplish the assigned task efficiently and safely.

In the event conditions change, the Hazard Analysis Form must be updated. Potential hazards, including those specific to the task and those general to the work area, must be discussed and a plan formulated to eliminate or minimize identified hazards. Each person on the crew must understand his/her role relating to the tasks at hand. When a new worker is assigned to a job in progress, the Hazard Analysis must be reviewed with this person and he/she must sign the form before beginning work.

Procedure

1. Once the client/owner work permit has been issued, the assigned crew shall conduct a thorough Hazard Analysis session at the job site, which includes, but is not limited to:
2. Walking the job and reviewing all elements of the assignment. The supervisor shall identify all equipment that is to be worked on.
3. Identifying existing and/or potential hazards and take appropriate action to eliminate or minimize identified hazards; reaching agreement on the safest plan to complete the assigned task. Each person on the crew must thoroughly understand their role in the upcoming tasks.
4. Evaluating PPE requirements and upgrading permit required PPE or providing additional PPE whenever necessary to provide maximum level of employee protection.
5. Ensuring that all workers know and are properly trained for their assignment(s).
6. Posting the completed form(s) along with the work permit in a conspicuous place in the work area. In the event it is not possible to post the form(s), they shall be kept readily

available at the job site. The forms shall be kept in a manner that protects them from weather damage.

7. Whenever possible the supervisor shall be involved in the Hazard Analysis Session. However, there are times when this is not possible. Should the supervisor find that he/she will not be available, he/she shall assign a competent person to lead the session. As soon as practical following the beginning of a job, the supervisor shall review all Hazard Analysis Forms of crews assigned to him/her and sign the back of the form in the section provided.

General Instructions

- Print and make sure the form is legible/readable.
- Involve the entire crew in the process. The more eyes and experience used to identify hazards, the better.
- Whenever possible, the completed Hazard Analysis should be reviewed for proper completion and signed by the designated lead person, foreman, supervisor or Safety dept. representative **before** the work is started. If this is not possible, the form should be reviewed as soon as practical.
- When the form (s) is completed, it must be posted & readily available at the job site.

SUBCONTRACTOR MANAGEMENT

Policy

Subcontractors for Company Associates work sites shall be selected and managed in a manner consistent with the overall Company Associates safety objectives, policies, and procedures embodied in the other sections of this manual.

Purpose

To set forth a basis for the selection of safe subcontractors and to set forth procedures to assure that the subcontractor's safety activities are equal to or exceed those of Company Associates.

Scope

Applies to all Company Associates work sites, i.e. Company offices, client job sites, etc., that have occasion to use subcontractors.

Definitions

Experience Modification Rate (EMR) is a term related to Workers' Compensation

insurance and means a factor developed by measuring the difference between an employer's actual past claim experience and the expected or actual experience of the industry classification of the employer. Depending on the workers compensation program in which the subcontractor participates, the EMR may be determined by a single state entity or a multi-state agency such as the National Council on Compensation Insurance (NCCI). The EMR is based on a point scale where 1.0 means average or expected losses for that type of industry classification. EMR's below 1.0 means below average loss history and EMR's above 1.0 mean above-average loss history.

Hours of Exposure means the total number of hours that all of a company's employees are exposed to occupational injuries or illnesses during a normal work year. Salaried and hourly employees are included. Straight-time and over-time hours are included.

Subcontractor for purposes of this section, means a person or business, which has a standard subcontract agreement with Company Associates, as an "independent contractor" (not an employee), to provide some portion of the fieldwork on a project for Company Associates.

REQUIREMENTS

Subcontractor Selection

Form 5-1.1 of Appendix 5-1 is a Pre-Qualification Questionnaire that shall be used to capture the information noted within this section. It is required that safety performance be considered initially, and annually thereafter, in the selection of subcontractors, using the following criteria:

Experience Modification Rate ("EMR")

Prospective subcontractors shall be required to furnish their EMR for the past three years. This information should come directly from the subcontractor's broker. An EMR greater than 1.0 can indicate an employer with a high frequency and/or severity of workers compensation claims. In the event of an EMR greater than 1.0, a more detailed evaluation of their safety program is required by the Branch Safety Officer.

OSHA Log

Prospective subcontractors shall be required to submit copies of OSHA logs (or equivalent summary data) for the previous three years and applicable hours of exposure. Incident frequency and severity rates should be examined and compared for acceptability with:

- Comparable incident rates for relevant Company Associates
- work sites (if available)
  - Industry average incident rates for their Standard
  - Industrial Code (SIC or NAICS code) as published by the Bureau of Labor Statistics
  - An incident rate specified by the Company Associates
  - Branch Safety Officer or Regional Safety Coordinator

Evaluation of Subcontractor Safety Program

The prospective subcontractor shall demonstrate that his program meets or exceeds industry standards. The following areas are a minimum that shall be addressed by the subcontractor:

- The program should be industry specific, not generic, and should be responsive to the exposures prevalent in the industry and anticipated on the prospective project
- There should be elements of supervisor accountability for safety, accidents, and claim costs Safety meetings should be held regularly, with documentation as to the subject, who attended, and a review of past losses
- Safety audits (inspections) should be conducted by the subcontractor on a regular basis. Audit results should be documented to identify deficiencies and corrective action taken

- The program should provide for employee safety training, including the documentation thereof

OSHA Citations

The prospective subcontractor shall be required to provide information (reason, corrective action, and fines) regarding OSHA citations during the past three years. A history of frequent violations, infrequent but repeated violations, or violations applicable to the work to be performed would warrant further investigation.

Pre-Job Planning

The understanding of Company Associates and the subcontractor on important issues should be written and signed by both parties as part of the subcontract agreement and scope of work. Examples of such issues would be:

- Provision of tools and equipment and inspection thereof
- Performance in accordance with OSHA and other regulatory bodies
- Provision of all necessary PPE, training on its use, and enforcement of
- usage at the worksite
- Responsibility for housekeeping and debris removal efforts
- Responsibility for utility mark out, maintenance, and protection of traffic
- on underground and road projects during the project

Typical Actions Recommended During Performance of Work

Include subcontractors in the following safety activities:

- Manager Audits
- Safety Meetings
- Training Sessions
- Safety Audits
- Work Observations
- Job Safety Analysis Systems
- Injury Intervention Processes
- Root Cause Analysis
- Client-Required Program

HAND TOOLS

Purpose

There are various types of tools and equipment used in the workplace for many different purposes. Examples include, but are not limited to, portable hand tools, power tools, pneumatic tools, and powder-actuated tools.

The purpose of this policy is to provide employees with appropriate knowledge relating to the care and use of tools and equipment and to protect employees from hazards associated with improper use of tools and equipment and defective and poorly maintained tools and equipment.

Policy

Only trained and/or experienced employees may use/operate tools or equipment. Tools and equipment shall not be modified and they are to be used only for their designed purpose. It shall be the responsibility of the employee to inspect tools and equipment prior to use and to use all tools and equipment in a safe manner. Employees observed abusing, altering, modifying or misusing tools or equipment shall be subject to disciplinary action. Employees shall wear all appropriate personal protective equipment while using tools and equipment. Additionally if a tool or piece of equipment is found to be defective, the tool/equipment shall be red-tagged, taken out of service until it can be replaced or repaired by a qualified person.

It shall be the responsibility Project Manager or Site Superintendent to designate a competent person who will be assigned to be responsible for testing/inspecting and repairing all tools and equipment. All periodic inspections, maintenance and repairs of tools or equipment shall be documented.

Procedure

General Tool Safety

Many serious injuries have resulted from the improper use of tools and equipment. Many of these injuries could have been prevented if the following rules were followed:

Inspection and Maintenance

All tools shall be identified and inventoried either individually or by group.

All tools in the inventory shall have a documented inspection at least once every six months. In addition to these periodic documented inspections all tools shall be inspected prior to issue and upon return by the tool room attendants and prior to each use by the user.

All tools will be kept in good working condition with no modifications.

All periodic inspections and all maintenance & repairs shall be documented. Completed forms shall be kept in a binder in the tool room or tool trailer for one year. The binder shall contain a copy of the inspection checklist for the type for tools and/or equipment being inspected.

- **Selection**

  Use the right tool for the task instead of trying to make the wrong one fit.

- **Use**

  Keep control of yourself, the tool, and the job. When applying force with a tool, remember that it may slip, break, or just suddenly do its job. Watch your hands and your balance (body mechanics) to avoid injury.

  Vibration Absorbing Gloves are to be made available to workers using pneumatic impact guns or other vibrating equipment. These gloves are required PPE for worker's operating heavy vibrating tools (i.e. jack hammers, 90 guns, impact guns etc.). The use of these gloves are designed to dampen vibration, dissipate impact and absorb shock, they can assist in the prevention of cumulative trauma injury often associated with operating this type of equipment. They only work if you use them.

  Select the right protective equipment for the task and use it properly.

  Do not use tools and equipment that you have not been trained to use.

- **Care**

  Take proper care of your tools and equipment. Keep them stored where they will not get damaged and will not present a hazard.

  Check your tools and equipment prior to use for defects, wear, or damage. Immediately remove from service and tag any defective tools. Damaged tools shall be turned into the tool room for repair or replacement.

- **Supervision**

  Supervisors shall be responsible for ensuring that employees are trained before using a specific tool. Watch your employees at work. Ask them about their immediate assignment and take an interest in finding the safest way to do the job. Then follow up to insure that the tools and equipment in your area are being used safely.

Hand Tool Safety

1. Hand tools shall only be used for the purpose for which they are intended.
2. All appropriate PPE will be worn while using hand tools.
3. Wrenches, including adjustable, pipe and socket shall not be used when jaws are sprung to the point of slippage.
4. Pipe wrench parts (i.e., jaws) are not to be removed and used for anything other than the manufactured use.
5. The use of snipes and cheater bars or double wrenching to gain leverage **is prohibited.**
6. Always use tool holder while using hammer and knocker wrenches.
7. Hand tools shall be tagged and removed from service if any of the following defects are present:
   - Impact tools, such as hammers, flange wedges chisels, drift pins, pin bars and knocker wrenches with visible signs of mushrooming, cracking or bending.
   - Wooden handle tools, such as hammers, picks, shovels, and brooms with visible sign of cracking, loosening or splintering of the handle.
   - Wrenches, such as adjustable, combo and pipe with visible signs of bending, cracking, defective handles or other defects that impair their strength.

Electrical Power Tool Safety

1. All appropriate PPE will be worn while using power tools.
2. Be sure that the proper permit has been obtained prior to use of electrical power tools.
3. GFCI's are to be used with all portable electric equipment. GFCI's are to be inspected and tested prior to each use.
4. **Do not** connect electrical power unless the operating switch is turned off.
5. Employee shall avoid loose fitting clothing when operating power tools.
6. The power source on tools shall be physically disconnected prior to attempting any repairs or attachment replacement.
7. Protective guards on power tools **shall not** be removed, altered or modified.
8. Trigger/switch locks on power tools are prohibited.
9. All electrical tools and power cords must be inspected per the Electrical Equipment Safety and Inspection Policy.
10. Electrical tools and power cords must display the current inspection color code for the current inspection period to it being placed in service.
11. Electrical tools **shall not** be hoisted or carried by their power cords.
12. Cords are tripping hazards. Route them so as to minimize interference in walkways. Overhead is preferred.

13. Electrical power tools shall be tagged and removed from service if any of the following defects are present:

- Electrical power tool cord does not have current inspection color code.
- Power cord is frayed, cut or damaged. The use of electrical tape to cover damage to cords **is prohibited**.
- Defective or faulty on/off switches.
- Loose or defective components

Air Power Tool Safety

1. All hoses exceeding 1/2" inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
2. Chicago fittings shall be pinned.
3. Attachments on air tools shall be secured by retainer pins and rings.
4. **Do not** connect air unless the operating switch is turned off.
5. **Do not** disconnect tool until air supply is shut off and air pressure is bled off.
6. Air power tools **shall not** be hoisted or carried by their hoses.
7. Hoses are tripping hazards. Route them so as to minimize interference in walkways. Overhead is preferred.
8. Air power tools shall be tagged and removed from service if any of the following defects are present:

    - Air power tools, such as air power grinders, impact wrenches, German hacksaws with visible signs of deformities in the body of the tool, improperly functioning actuator, bent or deformed blades, or any signs of obvious damage to the air supply line fittings.
    - Hoses must be visually inspected for cracking, signs of aging, worn or damaged connecting fittings, or any other obvious deformities, such as blistering or bulges.

Powder Actuated Tool Safety

1. Only employees who have received an approved training course and license for the particular tool to be used may operate powder-actuated tools.
2. Tool room personnel shall not issue powder-actuated tools unless the person requesting the tool can provide a current license for that tool.
3. Powder-actuated tools shall be tested prior to use to ensure all safeties are functioning.
4. The fastener **shall not** be loaded until ready for the shot. The tool **shall not** be left unattended unless it is unloaded.
5. **Never** point either an empty or loaded tool at any person.
6. Keep both hands and feet clear of the open-end of the barrel.

7. In the event of a misfire, the operator shall hold the tool firmly against the work surface for a period of 30 seconds and then follow manufacturer's instructions.
8. Personnel, other than the operator of the tool, must stay clear of the area where the tool is being used.
9. Operators of powder-actuated tools shall wear goggles for eye protection while operating these tools.
10. A sign at least 8 x 10 inches, using boldface type no less than 1 inch in height, shall be posted within 50 feet of the area where the tool is being used. The sign shall bear the following wording:

Caution

POWDER-ACTUATED TOOL IN USE

Powder-actuated tools shall be tagged and removed from service if any of the following defects are present:

- Tool has visible signs of worn or damaged parts.
- Missing or malfunctioning parts or accessories.
- Missing operator's instruction manual or missing power load and fastener chart.
- Tool misfires more than one time during use.

Abrasive Wheel Machinery

Abrasive wheels shall be used only on machines provided with safety guards as defined:

- The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard.
- Grinding machines shall be equipped with flanges
- Abrasive wheel machinery guards shall meet the design specifications of the American National Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, ANSI B7.1-1970, which is incorporated by reference as specified in Sec. 1910.6.
- Never exceed the maximum wheel speed RPM. (every when is marked) Check the speed marked on the wheel and compare it to the speed on the grinder.
- When installing the wheel, check for cracks and defects. Ensure mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.

SCAFFOLDING

Purpose

It is the Company's purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for scaffold work. These procedures should be reviewed and updated as needed to comply with new regulations, new best practices in scaffolding, and as business practices demands.

Application

This general scaffold plan applies to:

- All employees who perform work while on a scaffold.
- All employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds.

General Procedures

Capacity

- Each scaffold and scaffold component we use will support, without failure, its own weight and at least four times the maximum intended load applied or transmitted to it.
- When we use non-adjustable suspension scaffolds, each suspension rope, including connecting hardware, will support, without failure, at least six times the maximum intended load applied or transmitted to that rope.
- Direct connections to roofs and floors, and counterweights used to balance adjustable suspension scaffolds, shall be capable of resisting at least 4 times the tipping moment imposed by the scaffold operating at the rated load of the hoist, or 1.5 (minimum) times the tipping moment imposed by the scaffold operating at the stall load of the hoist, whichever is greater.
- Each suspension rope, including connecting hardware, used on non-adjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope.
- The stall load of any scaffold hoist shall not exceed 3 times its rated load.

Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.

Platform Construction

Platform – Decks

- Use wooden and metal decks according to job requirements, standards, regulations and manufacturer's instructions.
- Only cleat planks at the ends to prevent lengthwise movement. Wiring down planks can also prevent movement, provided wire does not create a tripping hazard. Where planks overlap, rest the cleated end on the support. Do not use cleats elsewhere on the plank to prevent splitting.
- Ensure that adjoining planks are of uniform thickness for an even platform.
- Lay planks side by side across the full width of the scaffold.
- Check scaffold planks for large knots, worm holes, steeply sloping grain at the edges, spike knots, and splits. Splits wider than 10 mm (3/8 in), lengthwise closer than 75 mm (3 in.) to the edge of the plank, or lengthwise longer than ½ the length of the plank are not acceptable. Discard immediately any planks showing these or other defects.
- Check hooks and hardware of prefabricated platform units regularly for looseness, distortion and cracks. Damage can occur if the platforms are dropped or thrown.
- Clean ice, snow, oil and grease off planks. Platform decks should be slip-resistant and should not accumulate water.
- Inspect planks on a regular basis while on the scaffold. Weather, rot, and general use can deteriorate the planks.
- Do not jump on the planks to test their strength. Jumping can cause undetectable damage.
- Ensure that all working platforms are about 500 mm (20 in.) minimum in width.
- Use a minimum of 50 mm (2 in.) x 250 mm (10 in.) Number 1 Grade spruce-pine-fir (SPF) planking or better.
- Overlap or extend planking 150 mm (6 in.) to 300 mm (12 in.) and cleat at each end to prevent planking from slipping and blowing off.
- Support planks at intervals not exceeding 3m (10 ft) for light work and 2.1 m (7 ft.) for heavy work (bricklaying, masonry).
- Check with officials in your local jurisdiction as recommendations may vary.
- Stack planks on a firm level surface to prevent warping.
- Band the ends of the boards. Do not paint as the paint can conceal defects.
- Do not use scaffold planks as a base to stack materials, or as ramps or temporary roadways.

Supported Scaffolds

- Refer to safety regulations and standards for design and assembly requirements.
- Choose the right scaffold system for the job.
- Erect all scaffold parts according to the manufacturer's instructions.
- Select scaffold according to:

    - height required
    - type and duration of work
    - range of weather conditions
    - weight of workers, materials and equipment
    - location
    - requirements for pedestrian traffic
- Erect scaffold on a base that will support all the loads that will be applied including materials and equipment.
- Make sure the backfill is compact and level. Replace mud and soft soil with gravel or crushed stone.
- Provide adequate sills for scaffold posts and use base plates.
- Set scaffold feet centrally on mudsills consisting of 50x250 mm (2x10 in.) planks. Sills should extend at least 610 mm (2 ft.) beyond the scaffold base and be long enough to extend under at least two scaffold feet.
- Install scaffold with jackscrews (adjusting screws). They allow for minor adjustments to help keep scaffold plumb and level.
- Take extra precautions when erecting scaffold on frozen ground. Thawing soil can become water-soaked and lose its ability to bear weight.
- Brace both sides of every frame for the vertical plane. Install horizontal bracing at the joint of every third tier of frames. This bracing is often attached to the point where the scaffold is tied to the structure.
- Do not force braces to fit. Level the scaffold until a proper fit can be made easily.
- Use coupling devices to join frames to prevent the joints from pulling apart.
- Do not use nails or other devices in the place of proper retention parts as recommended by the manufacturer.
- Tie or brace the scaffold to a solid structure as appropriate.
- Use a debris net, catch platform or similar structure where appropriate to catch falling objects.
- Do not allow the ratio of scaffold height to base width to exceed 3 to 1 unless the scaffold is:
    - tied into a structure
    - stabilized by guy wires
    - secured by outriggers or stabilizers to maintain the ratio

Suspension Scaffolds

- Ensure that platform is installed and maintained according to job requirements, safety regulations, standards and the manufacturer's specifications.
- Inspect all equipment before erecting and before each shift.
- Use a separate safety harness attached to an independent life line for each worker. Maintain lanyard attachment at highest point possible.
- Ensure that suspended platform roof beams and attachments are secure.
- Ensure that the roof or parapet wall is structurally sound to support either outriggers or cornice

hooks.

- Check for kinked or damaged ropes.
- Secure all ropes at anchor ends.
- Ensure that all safety equipment, stops, override switches and brakes function properly.
- Prevent contact between welding or grinding equipment and wire safety or suspension ropes.
- Secure hand tools to the platform.
- Ensure that power source is secured and properly grounded.
- Secure platform when not in use.
- Ensure that guardrails and toe boards are in place.
- Extend suspension ropes completely to the ground or terminate with wire rope clips to prevent the stage from running off the end of the ropes.
- Test by raising the fully loaded platform a few feet off the ground before going aloft.
- Do not exceed platform load capacity.
- Do not enter or leave the platform other than at ground level or at other safe access points.
- Do not allow electric cables or connections to lie in gutters or other areas where water can collect.
- Do not work near exposed electrical circuits or equipment.
- Do not join platforms unless they are designed for this purpose.
- Do not use damaged or defective equipment.
- Do not alter, substitute or remove components of platform.
- Do not use life line for raising or lowering tools or materials.
- Do not move work platform unless all workers on it are protected by individual safety belts and lines.

Rolling Scaffold

- Assemble the rolling scaffold according to manufacturer's instructions.

- Ensure that the surface on which the scaffold is moved is level and without holes or obstructions.
- Brace all rolling scaffolds horizontally and diagonally.
- Cleat or secure all planks.
- Prevent joints from separating.
- Secure access ladders.
- Make sure the platform has appropriate guardrails (hand, mid, toe).
- Ensure that each wheel or castor is equipped with brakes to prevent rolling and swiveling.
- Lock the caster brakes before climbing onto scaffold.
- Secure or remove all material, equipment and personnel from platform before moving it.
- Push towards the base when moving.
- Use the built-in access ladders to reach the platform.
- Refer to safety regulations for height stability requirements.

- Do not stay on the scaffold when it is being moved. If a worker must remain on the scaffold, make sure the worker is secured to the building (not the scaffold) with appropriate safety harness and lanyard.
- Do not try to move a rolling scaffold without enough help. Watch out for slopes, holes, debris, and overhead obstructions.
- Do not extend adjusting screws more than the manufacturer recommends.
- Do not allow the working platform height to exceed three times the base width, unless it is guyed and equipped with outriggers or otherwise stabilized.
- Do not use powered devices to move scaffolds.
- Do not lean access ladders against rolling scaffolds.
- Do not over-reach from the scaffold.
- Do not climb using the frame.

Fall Protection Plan

Fall protection planning is critical to the safety and well being of our employees. Our fall protection plan follows certain requirements that are different depending on the type of scaffold we are using. In this plan we address fall protection for our scaffold erectors and dismantlers separately. One fact never changes. We know we must provide fall protection for any employee on a scaffold more than 10 feet above a lower level.

Working Employees

This fall protection plan for our working employees is for the following type(s) of scaffold(s):

- Single- or two-point adjustable suspension scaffold-We will protect each employee on our single- or two-point adjustable suspension scaffolds by a personal fall arrest system. Our personal fall arrest systems:
    - Meet the requirements of your local jurisdiction
    - Are attached by lanyard to a vertical lifeline, horizontal lifeline, or scaffold structural member.

NOTE: Vertical lifelines shall not be used when overhead components, such as overhead protection or additional platform levels, are part of a single-point or two-point adjustable suspension scaffold.

When vertical lifelines are used, they shall be fastened to a fixed safe point of anchorage, shall be independent of the scaffold, and shall be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but do not include standpipes, vents, other piping systems, electrical conduit, outrigger beams, or counterweights.

When horizontal lifelines are used, they shall be secured to two or more structural members of the scaffold, or they may be looped around both suspension and independent suspension lines

(on scaffolds so equipped) above the hoist and brake attached to the end of the scaffold. Horizontal lifelines shall not be attached only to the suspension ropes.

When lanyards are connected to horizontal lifelines or structural members on a single-point or two-point adjustable suspension scaffold, the scaffold shall be equipped with additional independent support lines and automatic locking devices capable of stopping the fall of the scaffold in the event one or both of the suspension ropes fail. The independent support lines shall be equal in number and strength to the suspension ropes.

Vertical lifelines, independent support lines, and suspension ropes shall not be attached to each other, nor shall they be attached to or use the same point of anchorage, nor shall they be attached to the same point on the scaffold or personal fall arrest system.

Using Scaffolds

Site preparation, scaffold erection, fall protection, and gaining access to the working platform are only some of the requirements for scaffold work. While this all takes concentration and safe work practices, the most dangerous time can be when employees are concentrating on their work and not particularly aware of the hazards of working from scaffolds. It is critical that employees who use scaffolds be trained, among other things, in the recognition of the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. Our competent person will inspect all scaffolds and scaffold components for visible defects before each work shift, and after any occurrence that could affect a scaffold's structural integrity. However, in addition to that, all users of scaffolds in this company will know and understand the following safety rules:

- Scaffolds and scaffold components will never be loaded in excess of their maximum intended loads or rated capacities.
- Debris must not be allowed to accumulate on platforms.
- Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.
- Any part of a scaffold damaged or weakened such that its strength is less than that required by paragraph (a) of this section shall be immediately tagged out, repaired or replaced, braced to meet those provisions, or removed from service until repaired. An example of tag used in tagging out scaffolding equipment is provided at the back of this program.
- Scaffolds shall not be moved horizontally while employees are on them, unless they have been designed by a registered professional engineer specifically for such movement or, for mobile scaffolds.
- The clearance between scaffolds and power lines shall be as follows: Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines.
- Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or

alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.

- Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.
- Where swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.
- Suspension ropes supporting adjustable suspension scaffolds shall be of a diameter large enough to provide sufficient surface area for the functioning of brake and hoist mechanisms.
- Suspension ropes shall be shielded from heat-producing processes. When acids or other corrosive substances are used on a scaffold, the ropes shall be shielded, treated to protect against the corrosive substances, or shall be of a material that will not be damaged by the substance being used.
- Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.
- Debris shall not be allowed to accumulate on platforms.
- Makeshift devices, such as but not limited to boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.
- Ladders shall not be used on scaffolds to increase the working level height of employees, except on large area scaffolds where employers have satisfied the following criteria:
- When the ladder is placed against a structure which is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder;
- The platform units shall be secured to the scaffold to prevent their movement;
- The ladder legs shall be on the same platform or other means shall be provided to stabilize the ladder against unequal platform deflection, and
- The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.
- Platforms shall not deflect more than 1/60 of the span when loaded.
- To reduce the possibility of welding current arcing through the suspension wire rope when performing welding from suspended scaffolds, the following precautions shall be taken, as applicable:
- An insulated thimble shall be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding shall be insulated;
- The suspension wire rope shall be covered with insulating material extending at least 4 feet (1.2 m) above the hoist. If there is a tail line below the hoist, it shall be insulated to prevent contact with the platform. The portion of the tail line that hangs free below the scaffold shall be guided or retained, or both, so that it does not become grounded;
- Each hoist shall be covered with insulated protective covers;
- In addition to a work lead attachment required by the welding process, a grounding conductor

shall be connected from the scaffold to the structure. The size of this conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the work piece;

- If the scaffold grounding lead is disconnected at any time, the welding machine shall be shut off; and
- An active welding rod or uninsulated welding lead shall not be allowed to contact the scaffold or its suspension system.

Prohibited Practices

The following practices will never be tolerated in this company:

- Scaffold components manufactured by different manufacturers will never be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained.
- Unstable objects will never be used to support scaffolds or platform units. Footings must be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.
- Crossbraces will never be used as a means of access.

Duties of Competent and Qualified Persons

Only qualified and competent personnel are allowed to modify scaffolding systems. Non-qualified personnel may create more hazards. If modifications are attempted by non-qualified personnel they will be subject to disciplinary action up to and including termination of employment.

Tagging

Tags must be placed at each point of entry to the scaffold. This includes access points from ground level and any access points from the structure with which the scaffold is being used.

Doing so ensures that workers are aware of the status and condition of the scaffold, regardless of where they access it. Whatever their colour, tags must include:

a. the duty rating of the scaffold
b. the date on which the scaffold was last inspected
c. the name of the competent worker who inspected the scaffold,
d. any precautions to be taken while working on the scaffold, and
e. the expiry date of the tag.

Scaffolds must be inspected prior to initial use and at least every 21 calendar days thereafter while workers work from the scaffold or materials are stored on it. A scaffold that is erected but not immediately put into service, or not used for more than 21 consecutive calendar days,

must be tagged with a red tag until inspected by a competent worker. A scaffold sitting idle may be exposed to weather or other circumstances that could make it unsafe for use. Inspection, just prior to the scaffold being put into service, confirms that it is safe for workers to use.

The tags let workers know that a particular scaffold is safe for use, that a potential or unusual hazard is present, or the scaffold is unsafe for use. The yellow tag is required to describe any precautions to be taken while working on the scaffold. A scaffold being modified on a particular level requires a yellow tag. The tag alerts workers climbing onto the scaffold of the modification work and any special precautions that might affect them.

Colour of Inspection Tag	Wording to Appear on Tag
Green	"Safe for Use" or similar wording
Yellow	"Caution: Potential or Unusual Hazard" or similar wording
Red	"Unsafe for Use" or similar wording

Training

Recognizing the need for training for employees who: (1) perform work while on scaffolds, (2) are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds, and (3) have lost the requisite proficiency, training is one of the highest priority of this program.

Employees Who Use Scaffolds

Our employees who perform work on scaffolds will be trained by a qualified person to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training will include the following areas as applicable:

- The nature of and the correct procedures for dealing with electrical hazards.
- The nature of and the correct procedures for erecting, maintaining, and disassembling the fall protection and falling object protection systems used.
- The proper use of the scaffold, and the proper handling of materials on the scaffold.
- The maximum intended load and the load-carrying capacities of the scaffolds used.
- Tagging of scaffolds.
- Any other pertinent requirements of the local standards and regulations.

Employees Who Erect, Disassemble, Move, Operate, Repair, Maintain, or Inspect Scaffolds

Our employees who erect, disassemble, move, operate, repair, maintain, or inspect scaffolds will be trained by our competent person to recognize the hazards associated with the work being

done. The training will include the following toAVETTA as applicable:

- The nature of scaffold hazards.
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
- The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
- Tagging of scaffolds.
- Any other pertinent requirements of this subpart.

Employees Who Need Retraining

When we have reason to believe that one of our employees lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, we will retrain the employee so that the requisite proficiency is regained. Retraining will be done in at least the following situations:

- Where changes at the worksite present a hazard about which the employee has not been previously trained.
- Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained.
- Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

EMERGENCY ACTION PLAN

Purpose

This procedure establishes minimum procedures for responding to various emergencies in our facility.

Scope

This procedure applies to all our company employees, all contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

Responsibilities

- Management is responsible for plan development and periodic review of this plan. Management is also responsible for appropriate employee training.
- Management and supervisors are responsible for enforcement of this program.
- Employees shall comply with all procedures outlined in this policy.
- Contractors and vendors shall comply with all procedures outlined in this policy.

Definitions

911 Notification System: Method that is used by our facility to call outside emergency services (police, fire, EMS)

Contractor: A non-company employee being paid to perform work in our facility.

Defensive Action: Response to a chemical spill or release that does not require personal protective equipment or hazardous material response training. Examples are: closing an open valve, placing absorbent material in front of a running spill or closing a door.

Emergency: An unplanned event that could jeopardize the safety of people or property in our facility. An emergency can originate on our site or off-site: either can impact the people and property within our facility.

Emergency Coordinator: A staff member who is responsible for decision making during the initial phase of an emergency (generally this stage is defined by: discovery, activating the alarm, evacuation, employee accounting, initial response by off-site emergency services, etc.) An Emergency Coordinator will be assigned whenever the facility is operating.

Evacuation Location: The location that employees, visitors and contractors report to following an evacuation.

Vendor: A non-company employee being paid to perform a service in our facility.

Visitor/Contractor Log: A written log maintained at the entrance for visitors, contractors and vendors. Each non-employee is required to sign-in upon entering our facility and sign-out when leaving.

Procedure

Overview

All actions taken during an emergency will serve to protect the life and safety of employees, contractors, visitors and our facility neighbors. To the extent possible, we will minimize damage to property and the environment. Our emergency response activity will never knowingly jeopardize the safety of any individual.

Evacuation Routes and Maps

All evacuation exit routes are permanent and are maintained as accessible and passable at all times. Evacuation maps are posted at various locations throughout our facility. These maps reflect the location of the evacuation routes, exits and evacuation destination locations. Appendix A contains copies of these maps.

Accounting for Personnel

Employee roster sheets will be used for personnel accounting following an evacuation. Supervisors or designees will be responsible for using the roster sheets to accomplish a head count immediately following evacuation. Visitor, Contractor and Vender Logs will be used to account for individuals in these groups. Individuals who have disabilities that may impair their ability to evacuate will be encouraged to discuss the issue with Human Resources or another member of management. Necessary arrangements will be made confidentially to assist with evacuation.

Contractors, Vendors and Visitors

Contractors, vendors and visitors should evacuate to the outdoor area adjacent to the door through which they entered and signed the Visitor/Contractor Log. The receptionist or an alternate will perform the head count. During severe weather evacuations contractors, vendors and visitors should evacuate to the Shelter area assigned to their host.

Emergency Alarm System and Emergency Services Notification

In the event of an emergency the following methods can be used to communicate:

- Word of mouth
- Air horn

Fire Emergency

Employees discovering a fire will take the following action:

1. Alert others in the area who are at risk and notify a member of management
2. Initiate the fire alarm procedure
3. Turn off involved equipment
4. Consider using a fire extinguisher, *if trained and authorized to do so*
5. Evacuate

Upon being alerted of a fire evacuation, all employees, visitors, contractors and vendors will:

1. Turn off equipment (if safe to do so)
2. Walk in an orderly and quiet manner to the exit closest to you not blocked by fire, smoke or other hazards and exit the building
3. Do not delay evacuation or re-enter hazardous areas to retrieve personal possessions such as keys, coats purses, or lunches
4. Report to designated fire Evacuation Location for head count.
5. Stay together with their assigned group until further instructions are given
6. The facility will not be reoccupied until approved by the fire department

Note: The supervisor or other designated employee will be the last to exit the department. S/he will check lavatories and other cut-off rooms to assure evacuation and will close doors upon leaving.

Medical Emergency

In the event of a medical emergency the following actions will be taken:

1. Notify 911
2. Evaluate scene safety-if there is any concern all personnel should stay at a safe distance
3. Do not move the ill/injured person (unless s/he is in danger from their surroundings)
4. Avoid all contact with blood and other bodily fluids (never attempt to provide first aid unless you are trained and equipped to do so)
5. A calm employee may stay with the ill/injured person to provide comfort
6. The supervisor will assign at least two employees to wait for the EMS responders at the parking lot entrance and guide the responders to the scene of the emergency
7. All uninvolved personnel should clear the area

8. If there has been any blood or bodily fluid release, trained personnel will clean and sanitize the area after the emergency phase has concluded

Severe Weather

A weather alert radio is monitored in our facility at all times. In the event that a warning is issued for our facility the following actions will be taken:

1. Turn off equipment (if safe to do so)
2. Walk in an orderly and quiet manner to the designated severe weather Evacuation Location.
3. A head count will be conducted to account for all personnel
4. When the severe weather warning expires personnel will be released from the shelter

Note: The supervisor or other designated employee will be the last to exit the department. S/he will check lavatories and other cut-off rooms to assure evacuation and will close doors upon leaving.

Hazardous Chemical Spill or Release

Hazardous chemical spills or releases can be

Electrical Utility Failure

In the event of an electrical failure the following procedure will be followed:

1. If the failure is in a partial area of the facility notify a supervisor or member of management
2. Turn off equipment using normal controls
3. Expect sudden equipment restart-stay away from the point of operation and other moving surfaces
4. Do not attempt to move around dark areas-supervisors will use flashlights to guide employees to a safe area to wait for power restoration
5. After power is restored follow supervisor’s directions for equipment restart

Workplace Violence

Workplace violence will be handled as follows:

1. Any employee who witnesses a violent act, threat of violence or is otherwise concerned should report it to a member of management
2. If immediate action is necessary, s/he will:

- advise personnel most at risk to take shelter behind closed doors or to evacuate to other areas of the facility
- contact emergency services or delegate another person to do so
- notify the Emergency Coordinator who will evaluate the situation, meet the police, expand the evacuation and coordinate a head count

3. If immediate action is not deemed necessary, the member of management will notify the Emergency Coordinator of the incident. The Emergency Coordinator will begin an immediate investigation and evaluate the threat to personnel.

Emergency Duties

Emergency Coordinator

1. Verify that necessary Emergency Services have been notified
2. Coordinate the employee accounting procedure in the case of evacuation emergency
3. Meet responding Emergency Service units and:
   - issue a situation report
   - keep in contact to provide needed information
   - advise them of evacuation status (during evacuation emergencies)
4. Issue updated instructions to personnel as necessary taking into account comfort of evacuees, duration of the evacuation, time of day, etc.
5. Coordinate incidents of workplace violence

Supervisors

1. Assist with responding to all emergencies and communicate emergency instructions to employees
2. Communicate facts surrounding an emergency occurring in their area to the Emergency Coordinator
3. Develop plans to assist employees with disabilities to evacuate safely
4. Verify all employees are evacuated before leaving
5. Perform the head count procedure to account for all employees and communicate missing personnel to the Emergency Coordinator
6. Be the initial contact and coordinator for incidents involving workplace violence

Critical Operations Duties

Employees who are required to remain behind during evacuation, or who are assigned special response duties, will be fully trained and equipped to ensure their safety and readiness.

Training

At a minimum, training will be conducted:

- Upon hire
- When this plan changes
- When employee duties change
- Yearly

Training will consist of:

1. Methods of alerting employees of an emergency
2. Employee duties upon discovering an emergency
3. Evacuation routes and Evacuation Locations
4. Procedures to be followed upon notification of emergency
5. Special Critical Operations duties assigned to employees

SHORT SERVICE EMPLOYEE PROGRAM

Purpose / Scope

Arch, recognizes that, despite pre-assignment safety and job orientations, newly hired employees do not have the same kind of recent work and safety experience with Arch as longer-term employees. These short-service employees may be more vulnerable to accidents and injuries at work specifically because of their unfamiliarity with work situations and environments, as well as potential hazards and abnormal operating conditions.

Additionally, employees who have short service with Arch are not as experienced with safe work procedures as personnel who have longer service with Arch and first-hand safety and work experiences in their current job assignment.

This policy has been established to provide short-service employees with specific safety, supervisory, organizational and job site supplemental support. This support includes methods of visual recognition of a short-service employee on a job site or work location, and a process of mentoring for these individuals to help them gain experience and familiarity in their work assignments and job site environment.

Definitions

Short Service Employee - An employee or subcontractor employee with less than six months' experience in the same job or with his present employer.

Mentor - An experienced employee, who has been assigned to help and work with a new Short Service Employee by his supervisor.

Responsibilities

Project Superintendent- The Project Superintendent is responsible for implementing and enforcing this procedure. Making subcontractors aware of the requirements set forth in this procedure.

Foreman- The foreman is responsible for insuring workers are adhering to this procedure.

Safety Specialist- The Safety Specialist is responsible for monitoring compliance with this procedure.

Employees- Employees are responsible for following the requirements of this program.

Monitoring Short Service Employees at the Job Site

Arch shall monitor its employees, including Short Service Employee personnel, for safety awareness.

General

Supervisors will assure that all new, transferred and temporary employees have been through Arch Safety Orientation and have a complete knowledge of the expectations for their job function.

Supervisors will identify all employees and temporary personnel with less than 180 days of service, or those employees they desire to return to a mentoring status for improvement in job and/or safety performance. Any

Short Service Employee experiencing an OSHA Recordable injury during the initial 180 days will repeat the mentoring program or shall be dismissed for poor performance.

Managers and the Safety Department will randomly audit for process compliance. This will involve interviewing employees in the Short Service Employee program (documentation is not required).

Mentoring Provisions and Process for Short Service Employees

Mentors will set the proper safety example for any Short Service Employee assigned them. Arch must have in place some form of mentoring process, acceptable to the operator, designed to provide guidance and development for Short Service Employee personnel. A mentor can only be assigned one Short Service Employee per crew and the mentor must be onsite with the Short Service Employee to be able to monitor the Short Service Employee.

Short Service Employee Identification

Short Service Employee participants will wear high visibility orange or a Short Service Employee decal to help identify them.

Crew Makeup and Restrictions

A single person crew cannot be a Short Service Employee and crew sizes of less than five shall have no more than one Short Service Employee.

Notification and Communication Proces for Short Service Employees

Prior to the job mobilization Arch will communicate/notify the client project coordinator, contractor contact or on-site supervisor for all jobs containing Short Service Employee. The project coordinator, contractor contact or on- site supervisor will determine approval status of the crew makeup.

Mentors will converse daily with those persons assigned to them, preferably at the start of the day. This will be in addition to other tailgate or daily safety meetings held in the work area.

Summary

The safety and well-being of our employees is our prime concern. This can be achieved through proper monitoring and procedures for Short Service Employees. We encourage our employees to establish and maintain a safe working environment. This program is intended to help our employees become educated and maintain a better lifestyle.

Lighting Standards & Types (Illumination)

In OSHA standard 1926.56(a), the minimum foot-candles for each area of operation are outlined. These include ramps, runways, storage areas, and work sites. Their requirements break down as follows:

- Five foot-candles – General construction area lighting.
- Three foot-candles – Concrete placement, excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance.
- Five foot-candles – Indoors: warehouses, corridors, hallways, and exit ways.
- Five foot-candles – Tunnels, shafts, and general underground work areas. Exceptions apply: for shaft and tunnel heading, ten foot-candles is the requirement for mucking, drilling and scaling. Bureau of Mines-approved cap lights are also acceptable.
- Ten foot-candles – In general shops or construction plants such as screening plants, batch plants, carpenter shops, mechanical and electrical equipment rooms, rigging lofts, active storerooms, mess halls, and indoor toilets and workrooms.
- Thirty foot-candles – first aid stations, infirmaries, and offices.

For industrial areas not covered by the OSHA standards, construction managers can refer to the American National Standard A11. 1-2965, R1970. This includes industrial lighting for warehouses, shipyards, loading docks, and other such circumstances.

While there is no one implementation or solution for construction lighting, there are ideal fixtures depending on the kind of work being conducted.

Light Towers

Light towers are versatile, capable of covering a wide area, and are the most common lighting application in construction sites. They typically consist of an adjustable mast, a generator, and a group of lighting components at the top that can rotate 360 degrees from as high as 30 feet.

In recent developments, solar-powered light towers last as long as 36 hours and work without generators, making them simple to relocate.

High Mast Lights

As opposed to temporary fixtures, these are semi-permanent installations. A light pole—as much as 100 feet tall—supports a luminaire ring, typically composed of four to eight lights covering a large area.

Nite Lights

Nite lights are another recent development approved for construction sites. They consist of metal halide lamps running at 400 watts covered by a diffusing cloth, creating a softer effect while providing sufficient lighting levels.

Balloon Lights

Balloon lights typically apply to workstations or mount onto equipment or vehicles. The lights have air or helium-inflated covers made of light-diffusing material placed on stands.

LED Lighting

LEDs have transformed the lighting industry. They have a longer lifespan, are more efficient, and are better for the environment. Since standard, CFL lighting is cheaply-made, worksite lighting has traditionally served as disposable equipment after job completion. It costs in terms of labor and waste, with only 20 percent on-average salvageable.

LED lighting, however, is designed as a reusable asset. It saves on energy, material, and labor for each project, leading to decreased charges for temporary lighting per project. Good sets can last five years, running around the clock.

Moving to LED can result in an aggregate savings of thousands of dollars. On top of that, electricity rates continue to rise while onsite lighting runs nonstop, night and day. Logistics play a part as well. LEDs cover more area at an 80 percent lower rate of consumption.

Again, lower rates for the developer means more work for the contractor. Standard string lighting is extra work to install and difficult to keep and reuse. Furthermore, incandescent and CFL bulbs continually need replacing, resulting in dedicated labor costs and wasted materials.

One LED light, however, covers the same area as a 250-foot stretch of string lights, which reduces installation and maintenance logistics from 25 lights to one. Some designs are plug and play, which means less wiring work. They're also easy to relocate, so they move with changes in jobsite configuration instead of getting in the way.

With the potential to reduce energy consumption by 60 to 90 percent, LEDs are one of the best options for a cost-effective reduction in CO2 emissions. LED floodlights, specifically, can provide optimal visibility for an otherwise dim construction site. Their illumination spans between 50 to 120 degrees of light, creating a large beam that can cover a vast area.

Thus, the efficacy of worksite lighting comes down not only to the fixture-type but the bulb-type. With tall, ample fixtures boasting LED light bulbs scattered throughout your construction site, it should be fairly easy to meet OSHA illumination standards.

WORKING ALONE

Purpose

The purpose of this Standard Operating Procedure (SOP) is to promote worker awareness and facilitate worker safety while working alone.

Town of KingsviIle management, in consultation with the worker who will be working alone and the Joint Health and Safety Committee, will:

- Assess the conditions or circumstances under which the worker is required to work alone; and
- Develop and document a plan respecting the methods to be taken to ensure, so far as is reasonably practicable, the safety, health and welfare of the worker at that workplace, including a means of providing emergency assistance.

Related Documents

Workplace Violence and Harassment Policy Workplace Violence and Harassment Program

Definitions

Working Alone - the performance of any work function by a worker who:

i. Is the only worker at that workplace; and
ii. Is not directly supervised by his or her Employer, or another person designated as a Supervisor by his or her Employer.

The definition of "workers working alone" has been written in such a manner as to indicate that the regulation will apply to virtually all workers who are performing a job function and are not in the presence of their Employer, another person in a Supervisory capacity designated by the same Employer, or another worker directly associated with the same Employer, at the particular workplace location and during the same time period the working alone job function is being performed.

Workplace Violence and Harassment Risk Assessment - the analysis of the risks and hazards and the establishment of a corrective action plan to effectively manage work place risks to life safety and / or the environment. The assessment must clearly identify individuals responsible for required actions.

Effective Means of Communications - radio, telephone, or other electronic communication device.

Critical Injury – an injury of a serious nature that:

- places life in jeopardy;
- produces unconsciousness;
- results in substantial loss of blood;
- involves the fracture of a leg or arm but not a finger or toe;
- involves the amputation of a leg, arm, hand or foot but not a finger or toe;
- consists of burns to a major portion of the body; or
- causes the loss of sight in an eye.

Procedure

Responsibilities

Employer Responsibilities

Supervisors and Manager responsibilities include:

- Identify risks or hazards associated with the work to be performed (hazard assessment) or the environment where the work is to be done.
- Conduct and document a job hazard analysis/ hazard assessment for each specific type of work.
- Communicate the results of the hazard assessment to all affected workers and others conducting similar work.
- Provide written procedures for workers required to work alone. This should eliminate or minimize identified risks.
- Develop effective methods of communication for workers who may require emergency assistance.
- Document when working alone is permitted and / or prohibited and ensure this is effectively communicated to all workers.
- Schedule potentially hazardous work for times when supervisors and appropriate help will be available.
- Where possible, provide adequate staffing (for example: buddy system) for hazardous tasks performed during off-hours or at remote locations.

Employee Responsibilities

Employee responsibilities include:

- Participate in the working alone hazard evaluation and risk management decisions with the supervisor or manager.
- Follow safe work procedures and safe work practices at all times.
- Maintain regular communication as directed by supervisor or manager.

Procedures

Safety plans must be developed for all workers that are to work alone as part of their required duties and will include the following:

- An assessment of all work areas for potential health and safety hazards.
- Identify how hazards can be eliminated or controlled.
- Identify effective means of communication available including an emergency contact system for the worker in the event of an emergency.
- Specify procedures when working alone and effectively communicate the procedures to all affected workers.

Prohibited Work

Working alone is always prohibited when the work involves any one of the following:

- Confined space entry.
- An installation, equipment, or conductor operating at a nominal voltage of 300 volts or more, except while testing equipment or troubleshooting.
- Electrical systems rated at more than 750 volts.
- A portable ladder that exceeds 6 meters in length and is not securely fastened.
- Work with a ladder that is likely to be endangered by traffic.
- The use of fall arrest equipment.
- Machine and power tools that could cause critical injury.
- Quick-acting acutely toxic material as described by the Material Safety Data Sheet.
- Use of supplied air respiratory equipment or self-contained breathing apparatus.
- Use of a vehicle, crane or similar equipment near a live power line where it is possible for any part of the equipment or its load to make contact with the live power line.
- A vehicle, crane, mobile equipment or similar material handling equipment where the operator does not have full view of the intended path of travel.
- Welding operation where a fire watcher is required.
- Tasks which, based on the risk assessment conducted by the Supervisor in consultation with the worker and Joint Health and Safety Committee are deemed to require more than one person.

Training

Training will be conducted based on an as needed basis based on the job position.

Evaluation

A review of adherence to this policy will be conducted by the Joint Health and Safety Committee as determined necessary through workplace inspections.

VOLUNTARY RESPIRATOR USE

Guidelines for Voluntary Respirator Use

Respirators provide effective protection against air contaminants when they are selected and worn correctly. Respirators may be used even when exposures are below the exposure limits to provide an additional level of comfort and protection. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard. If you are provided a respirator for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator can be used safely.

You should do the following:

- Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding limitations of the respirator. If you have questions, ask your supervisor, or your EHS Specialist.
- Make sure the respirator you are provided or have selected for yourself is certified to protect against the contaminants for which you will use it. In the US, the National Institute of Occupational Safety and Health (NIOSH) certify respirators. A label or statement of certification should appear on the respirator or its packaging. It will tell you what the respirator is designed for and how much it will protect you.
- Use your respirator only for its intended and approved purpose. Do not wear your respirator into atmospheres with hazards that it was not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors or oxygen deficiency.
- Keep track of your respirator so that you do not mistakenly use someone else's respirator.
- Do not use a dirty or damaged respirator. Obtain a replacement.
- When you are finished wearing your respirator, store it properly for future use or dispose it in a waste container immediately. DO NOT leave it lying on a bench or equipment, lying in a locker or toolbox, or hanging from a nail or shop equipment. Place it in a clean sealed container or throw it out immediately.
- Do not try to make repairs to a disposable dust respirator. If it is damaged, throw it out and get anothe.
- For respirators with two straps, wear the lower strap below the ears and around the back of the neck. Wear the upper strap above the ears and over the crown of the head. This will ensure proper tension on the facepiece and a good fit.
- Do not wear the upper strap of a respirator over a hardhat or any other head covering. Wear it directly on the head and wear the head covering over the strap.
- Adjust the respirator straps for a snug and comfortable fit. Do not leave the straps loose. Similarly, the straps should not be tightened to the point that the respirator becomes uncomfortable.

SAMPLE STOP WORK AUTHORITY PROGRAM

Purpose

The purpose Arch Electric, Inc's Stop Work Authority (SWA) Program is to provide employees and contract workers with the responsibility and obligation to stop work when a perceived unsafe condition or behavior may result in an unwanted event. Arch Electric, Inc considers no activity to be so urgent or important that its standards for environmental protection, safety or health may be compromised. Employees and contract workers have the right and responsibility not to perform tasks or activities they feel pose undue risk to themselves, co-workers or the environment. Stop work actions take precedence over all other priorities and procedures.

It's Arch Electric, Inc's policy that:

- All employees, contractors and employees of contractors have the authority and obligation to stop any task or work when the control of health, safety and environmental (HSE) risks are not clearly established or understood.
- No work will resume until all SWA issues and concerns have been adequately resolved.
- No form of retribution or intimidation directed at any employee exercising their stop work authority will be tolerated.

Scope

This program applies to all Arch Electric, Inc employees and contract workers at Arch Electric, Inc job sites.

Stop Work Authority Roles and Responsibilities

- Arch Electric, Inc employees and contract workers—employees and contract workers are responsible for initiating stop work intervention when appropriate, supporting the intervention of others, reporting all stop work actions and assisting in the investigation of SWA matters.
- Foremen, supervisors and managers—Foremen, supervisors and managers should promote a culture where SWA is exercised freely, work to investigate and address SWA concerns and ensure all SWA concerns are addressed before work resumes. These individuals ensure all necessary stop work follow-up is completed and that all stop work reports are filed and reviewed.
- Safety directors—Safety directors provide training on workplace HSE risks. They also provide training materials, support employees, maintain associated documentation and monitor compliance of the SWA program. All SWAs concerns will be documented by the safety director to assess trends and share lessons learned.

- Senior management—Senior management creates a culture that promotes SWA, allows SWA to be exercised freely, establishes clear expectations and responsibilities, resolves SWA conflicts when they arise and holds accountable anyone who chooses not to comply with established SWA policies. They also hold employees and contractors accountable for full compliance with the SWA program. All stop work reports will be reviewed by senior management.

Stop Work Authority Procedures

SWA is executed using a several-step process that generally includes **STOP, NOTIFY, INVESTIGATE, CORRECT, RESUME, FOLLOW UP and DOCUMENT**. While situations may differ, the following steps should be the framework for all SWA interventions.

1. **Stop work**—When a person identifies a perceived unsafe condition, act, error, omission or lack of understanding, a SWA intervention shall be immediately initiated with the person(s) potentially at risk. Once a stop work intervention has been initiated, all work must stop immediately. If the supervisor is readily available and the affected person(s), equipment or environment is not in imminent danger, coordinate the stop work action through the supervisor. The stop work action should be clearly identified as a stop work action and initiated in a noncombative manner directly with those at risk. Stop work interventions should be initiated in a positive manner by briefly introducing yourself and starting a conversation with the phrase "I am using my stop work authority because." Using this phrase will clarify the user's intent and set expectations as detailed in this procedure.
2. **Notify**—Notify all affected personnel and supervisors of the stop work action. If necessary, stop work activities that are associated with the work area in question. Make the area(s) as safe as possible by removing personnel and stabilizing the situation.
3. **Investigate**—Once the work is stopped and all affected personnel and supervisors are notified, the issue will be investigated to determine the cause of the unsafe condition, act, error, omission or lack of understanding and potential ways to correct the issue.
4. **Correct issues**—If all parties come to an agreement that the condition or behavior is safe to proceed without modifications, then resume work. If it is determined and agreed that the stop work issue is valid, then every attempt should be made to resolve the issue to the satisfaction of all affected persons before work is restarted. This may require modifications of the working environment or the introduction of new controls. If the stop work issue cannot be resolved immediately, suspend work until a proper resolution is achieved. When opinions differ as to the validity of the stop work issue or adequacy of the resolution actions, EHS makes the final determination.
5. **Resume operations**—The affected area(s) will be reopened for work by personnel with restart authority. All affected employees and contractors will be notified of what

corrective actions were implemented and that work will recommence. No work will resume until all issues and concerns have been addressed.

6. **Conduct follow-ups**—The desired outcome of any SWA intervention is to address safety concerns to the satisfaction of all involved persons/parties prior to resuming work. While most issues can be resolved in a timely fashion, occasionally additional investigation and corrective actions may be required to identify and address root causes of the safety concern. SWA interventions that require additional investigation or follow-up will be handled utilizing Arch Electric, Inc's existing protocols and procedures for examining HSE risks.
7. **Document**—All SWA interventions initiated under the authority of this program shall be documented on Arch Electric, Inc's "Stop Work Authority Reporting Form." Reports should include as much detail about the intervention as reasonably possible. At minimum, all reports should include the following information:
    a. Date of the SWA intervention;
    b. Employee(s)/worker(s) involved;
    c. Description of the unsafe condition or hazard that triggered the SWA intervention;
    d. Corrective action used to correct the condition or hazard, if applied; and
    e. Remaining unsafe conditions or hazards that must be addressed.

All SWA incident report forms will be reviewed by Arch Electric, Inc's safety directors and senior management to ensure compliance with this program, determine the quality of intervention, identify and address workplace hazards, and identify opportunities for improving the program. All SWA incident reports will be maintained by Arch Electric, Inc for a minimum of one year.

Stop Work Authority Training

Training regarding this SWA program will be conducted as part of all new employee and contractor orientations. This training will include education on:

- The importance of SWA
- The benefits of SWA
- Arch Electric, Inc's commitment to SWA
- SWA roles and responsibilities
- The contents of this program and SWA procedures

Stop Work Authority Reporting

Stop Work Intervention Information

Supervisor	Date of Stop Work	Customer Name
Project Name/Description:		

Workers Involved

First Name	Last Name	Job Title	Contact Info

Description Of The Event Or Perceived Stop Work Condition

Corrective Action Taken/How Recurrence Will Be Prevented

Remaining Unsafe Conditions Or Hazards That Must Be Addressed

Management Evaluation (Prevention/Quality Of Intervention/Follow-Up/Improvement)

Submitted By:

Reviewed By:

Today's Date:

Revision Record

Date	Change	By
7/6/2022	Updated to meet Avetta Standards	Kevin Demerath (EHS)
9/16/2022	Updated to meet Avetta Standards	Kevin Demerath (EHS)

WELCOME

We are proud of our solar electrical contracting firm and are hopeful that you will do your part to ensure Arch O&M continues to be successful. Because we are genuinely concerned for our employees, their personal and professional growth and development, their security and that of their families, we will do all that we can to support you in your efforts.

Nothing is more important to our success than the dedication and effort of our team members. Operating practices, material and techniques can all be copied by our competition, but they cannot duplicate the pride, enthusiasm, and commitment of our people. This is the margin of difference that gives us our competitive advantage enjoyed by no other solar electrical contractor. To those who are newcomers, we welcome you and trust you will find your work with us stimulating and fulfilling. To those who have been with us for a period of time, we hope you are finding the challenges rewarding.

Our Mission

To educate, inspire and empower current and future generations to choose a clean, sustainable form of energy.

Our Vision

Universal access to affordable renewable energy.

Our Values

1. Creating a safe work environment to ensure that our team members make it home to their family.
2. Respecting each other, the customer, and the environment.
3. Educating communities, municipalities, and leaders about renewable energy.
4. Embracing change to pursue growth, learning, and technology improvements.
5. Pursuing excellence in our craftsmanship and work ethic.

Our company philosophy is really ingrained in the way we live. Our customers see that not only do we install solar, we actually live that life as well.

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EMPLOYEE HANDBOOK

Welcome to Arch O&M

In an effort to introduce ourselves and make our employment relationship as beneficial as possible, we've developed this employee guide to provide you with a source of information about payroll, privileges, benefits, procedures, along with a few general business practices. Be sure to put this handbook in a safe place so you can use it as a quick reference for employment information.

For simplicity of terminology, Arch O&M will be referred to as the "Company", or Company. All of the preceding terms are interchangeable.

Purpose of this Handbook

This handbook has been prepared solely for the guidance and orientation of our employees.

Just as employees may leave a job for any reason without legal obligations, we also reserve the right to terminate employees for any reason we deem necessary. None of the benefits or policies in this handbook is intended by reason of their publication to present any rights or privileges to anyone to be or remain employed by Arch O&M.

The contents of this employee handbook are presented as a matter of information only and are not intended to encompass all Company rules, policies, or procedures. The information, policies and procedures described here are subject to change, with or without notice by Arch O&M. All verbal promises and/or modifications to this statement are not effective unless delivered in writing and authorized by Ed Zinthefer, president.

Open Door Policy

Arch O&M is proud to have an environment of mutual trust and respect with our employees and will continually work to preserve that environment.

We are committed to maintaining an employee relations climate, which promotes personal development and achievement. Our success is founded on the skills and efforts of our employees, and we are dedicated to treating our employees fairly. We will strive to provide good working conditions, competitive wages, and benefits, and above all, the respect that each individual employee deserves. We believe in open and direct communication, which permits resolution of employee problems in an atmosphere of mutual trust and respect. Therefore, we believe that a union is not necessary to protect the best interests of employees.

We ask each employee to please use our open-door policy and afford us the opportunity to show each of you our sincerity, prior to turning to a third-party source. We greatly value your ability to work with employees individually without the burdensome and complicated rules associated with third party representation. Remember the best approach is to direct approach leading to an understanding by all concerned.

This Handbook is Not a Contract of Employment

No employee of Arch O&M has the authority to enter into a written or oral contract with any other employee. Nothing contained in this handbook is intended to alter this fact. Only written contracts of employment executed by Ed Zinthefer will be recognized by Arch O&M.

EMPLOYMENT PHILOSOPHY

Representing the Company

When in the field or away from the Company premise on Company business, you have a special responsibility as a representative of the Company to project the image that we want our customers to see. Your behavior is looked upon as the Company's behavior and your appearance projects the Company image. We ask that you display the highest standards of integrity as well as professional behavior and language during normal business hours on and off site.

Our image is also projected through your attire; therefore, we expect you to adhere to our Company Dress Code defined as:

Office Personnel

Arch O&M expects employees to dress appropriately in business attire of casual nature. Our work environment for employees encourages employees to dress comfortably for work. Please do not wear anything that other employees might find offensive or that might make coworkers uncomfortable. It includes clothing with profane language statements or clothing that promotes causes that include, but are not limited to, politics, religion, sexuality, race, age, gender and ethnicity.

Our goal is to provide a workplace environment that is comfortable and inclusive for all employees. We expect that your business attire, although casual, will exhibit common sense and professionalism. A casual office dress code is less restrictive than business casual, but that doesn't mean you should dress as casually as you would outside of work. To maintain a professional look while wearing casual clothing, look for button-downs, polos, sweaters, cardigans, plain or patterned t-shirts etc. Arch branded clothing is always welcomed (sweatshirts Fridays only). Open-toed shoes are permitted.

However, overly casual shoes, like flip-flops or crocs are not allowed. No open-toed shoes are permitted in the warehouse at any time.

Employees are expected to demonstrate good judgment and professional taste. We will deal with employees who wear business attire that is inappropriate in this workplace on an individual basis rather than subjecting all employees to a more stringent dress code for appropriate business attire.

Field Personnel

Employees will wear clothing that is serviceable and in good condition. I.e. free from rips and holes. Clothing will be free from obscenity or anything profane in nature. Shirts must have sleeves, cut off sleeves are prohibited on all Arch O&M jobsites. Clothing is recommended to be of cotton for additional arc flash protection.

Employer provided orange shirts & outer garments embroidered with Company name and logo will be worn. Pants, Hi-Vis and Leather Boots (over the ankle) with Safety Toes are all required when on the jobsites.

Employees are expected to keep ready and available clothing adequate for weather conditions of the season. Be prepared to work in different settings and have attire suitable for all situations, to the best of your ability.

Jewelry Dress Code

While working in the field, all metal and natural material (i.e. rope, cord, braided paracord, etc.) is prohibited. This includes but is not limited to ear piercings, nose piercings, eyebrow piercings, necklaces, bracelets, rings, watches. This does not include medical alert jewelry, but Arch Electric, Inc requires that the medical alert jewelry be breakaway in style and be tucked into the shirt as to not be dangling and loose fitting. Arch O&M recommends finding a silicon alternative to the medical alert jewelry. Plastic/silicon jewelry is permitted (i.e. piercing holders, silicon wedding bands, etc.) in lieu of these items so long as they are not loose fitting.

Employee Suggestion Program

Employees, who actually perform the various jobs, normally are the people who have the best ideas on how to make a job easier and more efficient. In light of this, we encourage our employees to take an active part in helping Arch O&M to become more efficient in the services that we provide to our clients.

If you have any suggestions or ideas that you believe to be worth looking into, please discuss these ideas with management.

Equal Employment Opportunity

Arch O&M is an equal opportunity employer for all employees and applicants. It is our Company's policy to seek and employ the best qualified personnel in all positions, to provide equal opportunity for advancement to all employees, including upgrading, promotion and training, and to administer these activities in a manner which will not discriminate against or give preference to any person because of race, color, religion, age, sex, national origin, handicap, ancestry, sexual orientation, marital status or arrest or conviction record, or any other

discriminatory basis prohibited by state or federal law. All employees are required to have a proof of identify and authorization to work in the United States

Further, we are committed to providing a work environment in which employees are treated with courtesy, respect, and dignity. As part of this commitment, our Company will not tolerate any form of harassment, verbal or physical, regarding an individual's race, sex, national origin or any other protected characteristics. Therefore, all employees are encouraged to bring any concerns or complaints in this regard to the attention of the President (Ed Zinthefer), Business Operations Manager, and/or EmPower HR by submitting a written complaint.

All complaints of sexual harassment, or harassment of any kind, will be investigated promptly and, where necessary, immediate, and appropriate action will be taken to stop and remedy any such conduct. Any supervisor, agent or employee found in violation of this policy will be subject to disciplinary action, including discharge.

ANTI-HARASSMENT AND NON-DISCRIMINATION POLICY

Statement of Policy

It is the policy and practice of Arch O&M to provide and promote equal employment opportunities for all applicants and employees. Arch O&M is firmly committed to maintaining a workplace based on our collective values that stress the quality of our products and services, the importance of teamwork, and the need for all employees to treat each other with dignity, fairness, and respect.

Therefore, it is the responsibility of all employees to ensure that the concepts of equal employment opportunity, non-harassment, and non-discrimination are understood, abided by, and carried out by everyone.

Prohibition on Discrimination and Harassment

It is the policy of Arch O&M to hire, train, promote, compensate, and administer all employment practices without regard to race, color, sex, sexual orientation, age, veteran status, marital status, religion, medical condition, national origin, disability unrelated to the ability to perform essential job functions, or non-account of membership in any protected category under federal, state, or local laws. Harassment of employees or applicants because they are member or affiliated with members of any of the foregoing protected groups is also prohibited and will not be tolerated. Arch Electric will take appropriate measures to response to any such incidents that are reported. Every good faith effort will be taken by Arch O&M to fulfill the objectives of this policy.

Arch O&M believes that every employee has the right to work in an environment totally free of harassment and discriminatory conduct, joking, or epithets. Such behavior does not advance the purposes of our Company; it is also morally wrong and may subject the Company to legal exposure in certain circumstances. Toward that end, our policy sets a standard that is higher than what federal, state, and local laws may require, as it forbids discrimination or harassing conduct of any kind described in this policy even if the conduct does not rise to the level of a violation of applicable law. Consequently, any employee who engages in these types of prohibited conduct will be subject to disciplinary action, up to and including termination.

Conduct Constituting Prohibited Sexual or Discriminatory

Harassment

Sexual harassment (due to one's gender) is one of the forms of harassment forbidden by this policy. Arch O&M prohibits sex-related conduct regardless of whether it amounts to unlawful sexual harassment, as such conduct is deemed to be inconsistent with the Company's policy of promoting tolerance, respect, and dignity in the workplace.

For example, and without compiling an exhaustive list, the following are illustrative of conduct that Arch O&M condemns and prohibits under this policy regardless of whether the conduct is based on gender or results in an adverse employment action and regardless of whether the conduct is severe or pervasive enough to create an unlawful hostile environment:

- It is prohibited for any person to condition a benefit such as a certain salary or promotion on the granting of sexual favors or the establishment or continuance of a personal relationship, orto imply to an employee that an award of such a benefit is conditioned upon the granting of sexual favors or the establishment or continuance of a personal relationship.
- It is also prohibited for any employee to state or imply that another employee's performance is attributable in whole or in part to the employee's sex or membership in any protected-group categories under federal, state or local laws:
- It is also prohibited for any employee to state or imply that a fellow employee's promotion inthe corporation hierarchy has resulted from the granting of a sexual favor or relationship.
- It is also prohibited for any person to engage in any type of conduct that has the effect of unreasonably interfering with another employee's work or creates an intimidating hostile or offensive work environment.

As an employee of Arch O&M, you should be aware that the issue of whether behavior

constitutes harassment or discriminatory conduct might depend on how that behavior is viewed by the employee who is subjected to the behavior. Any employee who initiates or persists in such prohibited behavior assumes the risk of violating this policy in the event that the person who is the object of the behavior views it as offensive; accordingly, such an employee may be subject to discipline even if his or her conduct might not have been intended as offensive.

Conduct Constituting Sexual or Discriminatory Conduct, Joking, or Epithets

For example, and without compiling an exhaustive list, the following are illustrative of conduct that Arch O&M condemns and prohibits under this policy:

It is prohibited for any employee to bring any item to the work premises for purposes of an offensive sexual or discriminatory joke or epithet (a defamatory or abusive word or phrase):

- It is also prohibited for any employee to use Company property, documents, or e-mail or voicemail systems for purposes of an offensive sexual or discriminatory joke or epithet;
- It is also prohibited for any employee to deface Company property or the personal property of anyone else for the purposes of an offensive sexual or discriminatory joke or epithet:
- It is also prohibited for any employee to utter or utilize any offensive sexual or discriminatory jokes, epithets, or horseplay of a sexual overtones at work, or when referring to or about any other person, be they an employee or a non-employee;
- It is also prohibited for any employee to harass anyone else due to their sex, sexual orientation, race, color, ethnic background, age, national origin, religion, marital status, disability, or other protected-group status; and
- It is also prohibited for any employee to bring to or display in the workplace any materials having an offensive content (such as pornography or due to a demeaning reference to another's protected group status), or to circulate or disseminate any such materials through the Company's internal mail or email systems.

Application of The Policy to Non-Company Employees

This policy also applies to the dealings of any employee with non-employees such as vendors, clients, and members of the public. Furthermore, the policy also applies to individuals who do business with our organization, who are present on the facility’s premises, on client sites, at Company functions, or who interact with any employee of the facility while the employee is on-duty.

Procedure Upon Occurrence of Prohibited Conduct

Employees who believe they have been subjected or exposed to discrimination or harassment prohibited by this policy have the right to have any such activity terminated immediately. Every employee has a role in preventing discrimination and harassment. Every employee must avoid any conduct that reasonably could be interpreted as discrimination or harassment under this policy, and every employee should indicate when another person’s conduct in the workplace is unwelcome. In addition, every employee should endeavor to protect other employees from discrimination and harassment. Employees are expected and encouraged to inform others in the

workplace whenever their conduct is unwelcome, offensive, inappropriate, or in poor taste. Therefore, employees are required to come forward promptly and report any problems pursuant to this policy before the alleged offending behavior becomes severe or pervasive. In addition, employees should come forward with complaints about alleged problems or violations of the Company's policy at any time. Complaints need not be limited to someone who was the target of the alleged offending conduct. Anyone who has observed an alleged violation of the policy is also encouraged to report it to the Company.

Reporting Procedures

If an employee experiences or witnesses any conduct that he or she believes is inconsistent with the policy, Arch O&M expects the employee to notify immediately, in writing, Site Mngmt, Business Operations Manager, President (Ed Zinthefer) and/or EmPower HR.

All complaints shall be treated in a confidential manner to the extent possible. Upon receipt of a complaint or in circumstances where the Company becomes aware of alleged offending conduct, a prompt, thorough, and impartial investigation shall be made concerning any alleged offending conduct. IF the investigation leads to a determination that an individual engaged in conduct in violation of the Company's policy, appropriate corrective action will be taken immediately, including the possible termination of the offending party. In investigating complaints under this policy, the Company may impose discipline for inappropriate conduct that comes to the Company's attention, without regard to whether the conduct constitutes a violation of law.

Prohibition on Retaliation

Arch O&M will not tolerate adverse treatment of any employee because he or she reports harassment or discrimination, or provides information related to such complaints. As this policy strictly prohibits retaliation of any form against anyone who complains of alleged violations of this policy, the prohibition against retaliation also applies to any employee involved in or cooperating with any investigation of alleged offending conduct under this policy. Thus, a supervisor is prohibited from making any personnel decision or taking any other adverse action against an employee because the employee complained or cooperated in good faith with an investigation of alleged conduct prohibited by this policy. Any acts or retaliation will be considered a violation of this policy, and corrective action will be taken immediately, including the possible termination of any individual who engages in retaliation of any form.

EMPLOYMENT PRACTICES

Employment Eligibility Verification

The Immigration Reform Act of 1987 requires all employers to verify employment eligibility of all individuals in a form approved by the Attorney General. You will be asked to provide the required identification for the Company to complete its portion of the I-9 (Employment Eligibility Verification) form. The completed form must be kept on file by the Company.

Reference Checks

As a normal course of business, your past employers and other references that you supply to Arch O&M may be contacted to verify all information that you have written on your application and provided during the interview process for accuracy. Falsification of any of this information is immediate grounds for dismissal.

Each employee will also be asked to complete a Federal Form W-4 and a State of Wisconsin Form W-4.

Outside Employment

Employees at Arch O&M are not allowed to hold a second job outside of their employment with a competitor of Arch O&M. It may be possible that under certain circumstances, a regular part-time employee may hold two jobs at the same time. We must ask, however, that your responsibility to Arch O&M, as your principal employer, come first. Due to the varying workload there are many occasions where there will be conflict between our needs and the needs of the second job; at that point we require that the needs of Arch O&M come first. All cases will be evaluated on anindividual basis and management reserves the right of final approval. The following procedures must be followed:

Any employee who is seeking an outside job must notify the Business Operations Manager or President (Ed Zinthefer) for final approval as to where they will be working. This must be requested prior to accepting a second job.

Rehiring of Former Employees

Arch O&M is open to the rehiring of former employees. You will be considered on the same basis as other applicants with the knowledge of and experience with the Company being considered.

Employment Classification

Employees are classified by the position to which they are assigned and by their normally scheduled hours of work. This classification may change if assignments or work hours are altered, either at the request of the employee or the Company. The level of benefits granted to an employee is based upon classification.

Full-Time: An employee who is regularly scheduled to work 30 or more hours per week is considered full-time.

Part-Time: An employee who is regularly scheduled to work less than 30 hours per week is considered part-time. Part-time employees are not eligible for company benefits.

Temporary/Seasonal: Employees who are employed for a specific period of time (i.e. Construction Season). Temporary employees can work any number of hours in a pay week. Temporary employees are not eligible for Company benefits.

Exempt/Non-Exempt Employees

"Exempt" or "non-exempt" status of employment is determined by a law known as the U.S. Fair Labor Standards Act of 1938 (FLSA). Employees are informed of their "exempt" or "non-exempt" status when they are offered a job assignment or change job assignments. Generally, "exempt" employees are those employees engaged in executive, managerial, administrative, professional, and outside sales jobs involving the exercise of discretion and use of independent judgment. "Exempt" employees (sometimes referred to as salaried employees) are not covered by the FLSA and are not entitled to overtime pay. Exempt employees may be asked to work more than 8 hours per day, weekends, at home or to travel. This is considered as a normal condition of employment and has already been considered in their compensation. "Non-exempt" employees (sometimes referred to as hourly employees) are paid by the hour and pay fluctuates according to the number of hours worked. When non-exempt travel to shows, seminars or other Company required events, they will be compensated according to the FLSA laws.

Non-exempt Employee Electronic Communications Policy

Employees of Arch O&M may perform job duties using a variety of electronic communications depending on the nature of the work and responsibilities involved. Use of such devices is considered time worked and is permitted only during your normally scheduled work hours and defined workplace, unless it has been authorized in advance by your supervisor. If you have to use such a device during non-scheduled work hours and you are unable to get prior approval from your supervisor, you need to advise your supervisor of this as soon as possible, and state the reason for the use, the time of day, date, and length of time spent using the device.

In order to best comply with this policy, it is recommended that you do not check for, read, send or respond to work-related e-mails outside of your normal work schedule unless specifically authorized based on your job duties or you have been directed by management to do so. Employees who fail to follow this policy will be subject to discipline.

Carrying of Weapons

The Company does not prohibit the carrying of concealed weapons by any employee who has a license to do so while on Company property. Any employee who carries a concealed weapon in the workplace must notify the president, Edward Zinthefer, and must show the appropriate

license to carry the concealed weapon. Any employee who carries a concealed weapon in the workplace must keep the weapon within his or her possession at all times. Employees are not allowed to leave such weapons unattended, for example in a desk drawer, and are not allowed to give the weapon to any other individual. While individuals who have a license to carry a concealed weapon are allowed to keep such a weapon in their personal vehicles, the weapons must be kept in a locked and secure location in the vehicle.

Weapons allowed to be carried concealed include handguns, knives, electric weapons, and billy clubs. Weapons that are prohibited include any other type of gun besides a handgun, explosives, and other items with the potential to inflict harm. Appropriate disciplinary action, up to and including termination, will be taken against any employee who violates this policy.

No employee is allowed to carry any weapon in the workplace or on Company business while drinking alcohol, while under the influence of alcohol or drugs, or while taking any medication that may impair an employee's motor skills or judgment.

Time and Wages

A "Week" is the employer's established regular reoccurring period of 7 consecutive days. Arch O&M "Week" is from Sunday to Saturday. As an Employer it may be necessary to change the employees schedule to prevent them from working overtime.

All hours worked in excess of 40 hours in the work week will be paid at time and one-half the regular rate of pay. Paid time off and Education are not included in overtime calculations and paid at the regular rate of pay. Some public works construction projects require daily overtime and overtime on certain holidays. Other than in those situations, though, overtime is not required for work performed on a particular day of the week-only after 40 hours in a workweek.

All work performed on the following holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, and Christmas Day, will be paid for at regular rate of pay (overtime if in excess of 40 hours in the work week) plus 8 hours holiday. Whenever said days fall on a Sunday, the

succeeding Monday will be the legal holiday, and whenever said days fall on a Saturday, the preceding Friday will be the legal holiday. However, holidays that fall on weekends will not mandate the Friday/Monday as a nonwork day.

The workday will begin between 6:00 A.M. and 8 A.M. and shall consist of eight (8) consecutive hours of work with one-half (1/2) hour for unpaid lunch scheduled at the midpoint of the workday. If the 30- minute unpaid lunch is not desired, a single paid break consisting of not more than 15 minutes per 4-6 hour shift may be taken. Starting time or length of workday shall not be altered for the sole reason of obtaining overtime pay.

Flexibility of Hours

The management of Arch O&M wants to be employee and family oriented so we will allow some flexibility with policies and procedures with respect to hours worked. However, we are a service-oriented business and our customers as well as co-workers require a certain degree of structure to each employee's schedule.

Timekeeping

Employees will be required to account for all time on a daily basis. Employees are paid for time recorded on the timesheet, not any personal time taken during the day. Raises and bonuses will depend heavily on an employees' integrity regarding accuracy of time keeping.

Any irregularity or falsification of time worked will be considered as a serious violation of Company rules and could be grounds for termination.

Time for the previous work week must be submitted prior to 8:00am Monday morning.

Overtime

All overtime must be approved in advance by Management.

Payday

All employees of Arch O&M receive pay weekly, but this is subject to change to bi-weekly payroll.

A pay period begins on Sunday and goes through the following Saturday. Monday 8am is close of the pay period and payday is Wednesday.

While direct deposit is strongly encouraged, it is not mandatory.

Attendance and Punctuality

Even the most efficient worker is of less value when he/she is late or absent from work. Since we are a service organization, it is essential that all jobs be completed as quickly as possible so that our customers' needs can be quickly satisfied in the shortest possible time.

If you are running late for whatever reason, you are required to notify management as to the status of your schedule for that day.

Performance Improvement Plan (PIP)

A performance improvement plan is a tool to give an employee with performance deficiencies the opportunity to succeed. It may be used to address failures to meet specific job goals or to amend behavior related concerns.

A performance improvement plan has three basic goals: 1) to bring employee performance or behavior into compliance with company standards and expectations 2) to encourage other employees to succeed under the standards of ethics and behavior the company has established, and 3) create a comprehensive paper trail to outline the good-faith process the company went through to handle the problem, in case termination is the final outcome.

Payroll Deductions and Personal Status

Federal Income Tax, Social Security, State and Local Income Tax will be withheld from your paycheck. The amount of Federal and State Income Tax withheld is calculated from the status and number of exemptions claimed on your W-4 Form. If there are any changes in marital status or exemptions, you must contact EmPower HR to fill out a new W-4 Form.

Also, deductions for insurance premiums while on a lay off, leave of absence, friend of the court, etc. can be arranged by contacting EmPower HR.

If any of your personal information changes (marital status, address, phone number, etc.), it is the employee's responsibility to update your PRISM and inform management as soon as possible so that your employee file can be kept up to date.

Resignation / Termination of Employment

We hope your relationship with us will be productive and harmonious. We recognize, however, that either you or the Company may terminate the employment relationship at any time, for any, or for no reason. If you decide to leave, we would appreciate at least a two-week written notice to Managment, Business Operations Manager, President (Ed Zinthefer) of the Company so that we can find a replacement. Our Company, our clientele and your fellow employees will appreciate it.

All Company property, customer information, manuals, and any other property of the Company, must be returned.

Arch O&M, at its sole discretion, will purchase employee tools on behalf of the employee. The cost of these tools is not to exceed $400, and the employee's paycheck will have a minimum weekly deduction of $25 for the advanced expenditure. Upon termination of employment for any reason, an employee must reimburse the Company if they have any unpaid advances or will return the tools to the Company within 24 hours of resignation/termination and the tools must be determined by the Company to be in good condition. The Company maintains the right to retrieve unpaid advances or unreturned property, at cost, from the final paycheck.

Accrued paid time off will be paid if the employee gives and works a two-week notice. Any employee who fails to give two weeks' notice, or fails to work through the entire two-week notice, will forfeit any available accrued paid time off. An employee who resigns or who is terminated will receive his/her final paycheck on his/her next regularly scheduled payday.

An exit interview may be conducted for Company informational purposes.

Binding Arbitration Agreement

I also hereby agree that any dispute for any claims I may have in connection with the termination of my employment will be subject to binding arbitration pursuant to the rules of the American Arbitration Association.

I further agree that I must bring any claim I may have within six months of my termination, and that the losing party in the arbitration will pay all costs associated with that arbitration.

EMPLOYEE BENEFITS

PTO – Hourly Employees

Paid Time Off (PTO) is an all-purpose time-off policy for eligible employees to use for vacation, sick leave, unpaid holidays and personal business. It combines these traditional paid days off into one flexible policy. Employees are required to use any accrued, but unused PTO before any unpaid time-off is granted. Unpaid time above & beyond granted PTO is subject to management approval.

Scheduling of PTO must be made with the advance approval of your supervisor. Three weeks or more notice is required for 40 or more consecutive hours of PTO used and two weeks' notice is required for less than 40 consecutive hours of PTO. Please be aware that PTO may be denied based on scheduling needs, therefore, employees are encouraged to turn in their requests as soon as possible. Requests for PTO may be denied by the supervisor if another employee has already scheduled PTO at the time you request it or if there are other business conflicts with the requested time.

Unless otherwise agreed in writing, full-time employees will accrue PTO upon date of hire, but can be first utilized after working 60 days with Arch O&M.

Some PTO date shuffling may be necessary to make sure that the Company is adequately staffed at all times. If there is a PTO scheduling conflict, scheduling is determined based on who made the PTO date request first and then by seniority.

An employee's annual amount of PTO is based upon completed anniversary years of service with the Company, with the service period beginning on the date of hire. Annual PTO amounts are as follows:

Consecutive Years of Service	PTO Pay Max (based on 2080 hrs Annually)	Accrual Factor
Year 1 – 4	48 hours	.023/hour
Year 5 +	88 hours	.046/hour

PTO time will be granted to eligible employees on their anniversary date of each year. PTO time does roll over year to year and unused time may NOT be paid out at termination of employment (see Resignation / Termination of Employment).

When a holiday occurs on a working day during an employee's PTO, the holiday is not counted as a day of PTO.

PTO– Salaried Employees

Salaried employees are expected to work an average of 40-50 hours per week or an average of 2,200 hours per year.

Salaried employees may be allowed to use their professional discretion as to the amount of PTO time used, as long as the quality and timeliness of Arch O&M services to customers is not compromised. Please note that excessive time off could result in a reduction of base salary.

The following guidelines will be in place for extended absences greater than 2 weeks in duration and/or vacation accumulation of greater than 30 days.

In the event of such an extended absence either for vacation, national guard/military reserve duty, personal health problems etc. the employee should discuss fair compensation with their immediate supervisor. In such cases a potential compromise is that the employee be compensated on an hourly rate based on the time/contribution they are able to make during the extended absence. Factors that affect the arrangement will include a. the amount of time the employee is able to contribute during the extended absence b. the Arch electric work requirements for the employee during the planned absence c. the employee's financial situation.

Arch O&M financial situation.

It not possible to generate policy that is applicable in every situation which is why it is critical to discuss with your immediate supervisor prior to the departure if possible.

Holiday Pay

Arch O&M recognizes six (6) paid holidays each year. They are as follows:

- New Year's Day
- Labor Day
- Memorial Day Thanksgiving
- July 4th
- Christmas

Full-time employees are eligible for Holiday Pay after the 60-day probation period as follows:

Full-time employees will receive eight (8) hours pay for each holiday while they are actively employed. You must work, or have pre-approved PTO, the scheduled workday prior to the holiday as well as the next scheduled workday following the holiday to receive the holiday pay. Part-Time and Temporary and employees are not eligible for Holiday pay.

Holiday pay will be paid at your current hourly rate of pay. Holiday pay is not included in overtime calculations.

INSURANCE AND BENEFIT PROGRAMS

Arch O&M offers a comprehensive benefit plan to full-time employees. Benefits for eligible employees become effective on the first day of the month following 60 days of employment.

Benefits include Medical, Dental, Life, and Short and Long Term Disability Insurance. A 401(K) Plan is also available (see page 17).

We reserve the right to amend or terminate any of these programs or to require or increase employee premium contributions toward any benefits at the Company's discretion.

While some of the benefit programs we offer may require you to contribute to the cost, many programs are fully paid by the Company. The benefits offered to a full-time employee cost us a substantial amount. Therefore, when you look at your total compensation, be sure to also consider Arch O&M contributions to your benefits.

Medical, Vision and Dental Insurance

Benefits are eligible to full-time employees (working more than 30 hours per week), the first of the month following 60 days of continuous employment. You will receive detailed information about your benefit options upon onboarding. Employees must refer to the appropriate plan documents for eligibility procedures and plan provisions concerning benefit programs. Naturally, it is the legal documents that must be followed in the administration of these plans, and these plan documents will govern in the event any discrepancy exists. Do not hesitate to contact EmPower HR for informationregarding any of our benefit programs.

State Continuance

The Consolidated Omnibus Budget Reconciliation Act (COBRA) provides the opportunity for eligible and their beneficiaries to continue health insurance coverage under the Company health plan when a "qualifying event" could result in the loss of eligibility. Qualifying events include resignation, termination of employment, death of an employee, reduction in hours, a leave of absence, divorce or legal separation, entitlement to Medicare, or where a dependent child no longer meets eligibility requirements. Contact EmPower HR to learn more about your COBRA rights.

Short- and Long-Term Disability and Life Insurance

Disability and life benefits require full-time employment of more than 30 hours on average worked per week and become available first of the month following 60 days of employment.

Disability Coverage: Full-time employees are provided with company paid short-term disability (STD) and long-term disability (LTD) coverage to assist with financial needs should they need to leave work due to a serious illness or non-work related injury.

Life and AD&D Coverage: Full-time employees are provided with company paid life and accidental death and dismemberment (AD&D) in the amount of $50,000.

Your company provided health benefits can continue at the same level and under the same conditions as prior to the leave until the end of the month following four weeks of leave. Example: if your leave begins on August 15th, your coverage will only stay active through September 30. You are responsible for payment of your portion of the insurance premium while on personal leave. If your benefits need to end due to the length of your leave, or you fail to pay your premium payment in a timely manner, the company will provide you with information about your rights under COBRA.

401(K) Plan

Full-time employees are eligible for participating in the 401(k) Plan, the first quarter after 90 days of eligibility requirement. Arch O&M at its sole discretion, makes a matching contribution each pay period after the 1 year period of service.

Arch O&M believes it is very important to help eligible employees save for their retirement. To this end, each year, Arch O&M reviews this benefit. You will receive detailed information about your benefit options approximately 45 days before your eligibility date.

The employee is responsible for any fees associated with the withdrawal from the Company 401(k) plan.

Jury and Witness Duty

Jury duty is an individual civic responsibility and if a Full-Time hourly employee is called for jury duty, time off to complete this service will be provided, and that employee will not be paid the difference between his/her regular compensation at Arch O&M and the compensation received while on “Jury Duty”.

Military Service

Arch O&M complies with federal and state laws regarding the rights of employee who enter active duty. If an employee is called into active duty and meets all legal requirements, Arch O&M will allow the needed time off to fulfill this commitment as provided by law. (For extended leave please see PTO-Salaried Employees page 16)

Seminars and Continuing Education

It is the responsibility of each employee to maintain and keep track of proper credentials necessary to participate in the electrical trade and or job position.

It is the employee's responsibility to complete and pay for any continuing education for credentials. Arch O&M will reimburse pay for the tuition portion of the apprentice's education upon receipt. Upon termination of apprenticeship and/or employment prior to completion, for any reason, an employee must return any reimbursed tuition to the Company. Arch O&M maintains the right to retrieve any tuition paid by the Company, from the final paycheck. If reimbursed tuition expenses exceed the value of the final paycheck, the apprentice is personally responsible for reimbursement to the Company.

If an employee has Company paid education, the employee agrees to reimburse the following percentages based on years of employment after graduation:

Years of employment completed Percentage of tuition cost to be returned to Company

1	80%
2	60%
3	40%
4	20%
5	0%

Continuing education is provided to encourage employees to maintain high professional and personal development standards. Continuing education costs and or stipends can be reimbursed upon successful completion with proof of receipt and written agreement from management.

Continuing education policies are subject to change. Factors that affect the arrangement will include a. the Arch O&M work requirements b. the employees financial situation c. Arch O&M financial situation.

Unemployment Compensation

In the event workload availability is not sufficient to provide continued employment, you will need to call into the Unemployment Office in the early part of the following week, to register that you will be on a "lay-off status". If during that week of reported "lay off status", work becomes available or mandatory, the wages earned during this week must be reported at the completion of this work week. **You must report all work, hours, and wages regardless of the amount. Failure to do this may result in overpayment of benefits and penalties, including prosecution**.

For current information, visit their website at http://dwd.wisconsin.gov/uiben/services.htm or call to speak to one of the Department of Workforce Development staff.

Filing Weekly Claims for Receiving a Benefit Check

You must call every week to file for a benefit check. An unemployment week starts on Sunday and ends on Saturday. Call after the week is over or go online at https://dwd.wisconsin.gov/ui/ . A recorded voice will answer your call.

Madison	608-261-9990
Milwaukee	414-438-5395
Toll-Free	1-800-978-7887

Sunday	9:00 AM – Midnight
Monday - Friday	Available 24 Hours
Saturday	9:00 AM - 2:30 PM

HEALTH AND SAFETY

Arch O&M is very concerned that our employees are working in as safe and as healthy of an environment as we can provide. As employees we must make a conscious effort to be aware of safety and health procedures, as well as hazards, at all times. Our goal is to avoid accidents altogether. The following are our safety regulations that must be complied with:

- All injuries, no matter how slight, must be reported immediately to management.
- All unsafe conditions or practices must be reported immediately to your supervisor.
- All work areas must be kept clean and free of hazards. Safety is no accident.
- Horseplay and practical jokes are prohibited, as they often lead to injury.
- When lifting, bend knees and keep the back straight. If the item is too heavy get help before proceeding.

Safety Equipment

Eye and head protection will be provided and must be worn during work hours. Leather boots that cover your ankle are required to be worn during work hours. (Refer to Dress Code on page 6) Please note steel tip and hard sole leather boots may be required on some jobsites.

Arch O&M will provide either a pair of safety glasses or goggles (the kind that go over prescription glass frames). These are to be taken care of by each person and kept in usable condition. Arch O&M will provide a new pair (if needed) every year. If an employee damages glasses beyond repair before this time it is their responsibility for replacement.

Arc Flash PPE will be provided, to qualified technicians, by Arch O&M and is the employee's responsibility to maintain. If any PPE equipment damage is experienced and it has been determined that equipment neglect, or improper use is the cause, employee will be responsible for PPE repair or replacement. It is the responsibility of the employee to recognize and protect oneself according to the standards laid out in NFPA70E AND OSHA mandates. Failure to follow these guidelines could result in personal injury and or disciplinary action. It is the responsibility of the Employee to maintain and keep track of what is in the kit. If you lose or misplace an item, it will be the Employee's responsibility to replace. Arch O&M will replace items that are worn out due to normal use but, not for improper usage.

Each employee will be provided one OSHA approved hard hat which will be worn at all times and jobs unless management has exempted their use in written notice.

Arch O&M Lockout/Tag-out Kit. It is the employee responsibility to understand how this equipment is to be used and understand that it is the responsibility to protect yourself and others by using this kit.

Failure to use the lockout tag out as outlined in OSHA regulation and employee safety handbook could result in injury, death, or disciplinary action.

Hearing protection will be worn in areas where sound levels may exceed 85 decibels. Ground rule – if you can talk to someone standing 3 feet away in a normal voice and understand completely the noise level is below 90 decibels.

Each employee will be issued approved fall protection equipment in accordance with OSHA 1926.501/1910.28. It is the responsibility of employees to be educated and aware of the varying environments of work and protect yourself accordingly.

Jobs shall be completed in a safe and legal workman like manner. Employees may be penalized for failure to comply with safety and NEC standards.

Safety Enforcement

OSHA Enforcement and Compliance is at its peak at this time in our economy. Arch O&M as a company has 5 values that we stand by and number one is creating a safe work environment to ensure that our team members make it home to their family. There is nothing more important to stress than SAFETY, SAFETY, SAFETY.

A safe and healthy workplace not only protects workers from injury and illness, it can also lower injury/illness costs, reduce absenteeism and turnover, increase productivity and quality, and raise employee morale. In other words, safety is good for business. Plus, protecting workers is the right thing to do.

In order to make a commitment of making safety the number one importance in the field, we have developed an action plan for safety negligence. Any of the below scenarios depending on violation severity or malicious nature could immediately result in suspension or termination. In addition, an individual with a safety related PIP recorded is no longer identified as a “competent person” as identified by OSHA. ONLY a “competent person” can be in any form of leadership position.

Within a one year time frame (after a year from the incident, it drops off your record).

- First Safety Warning in a Year = Written PIP
- Second Safety Warning in a Year = Written PIP
- Third Safety Warning in a Year = 3 Day Unpaid Suspension
- Fourth Safety Warning in a Year = Termination

As simple or small as safety side shields, all the way to not wearing a harness; we need to come together and educate and motivate all of those around us to choose SAFETY as their #1 and together we will all be successful.

Vehicle and Driver Safety Policy

The purpose of this Policy is to ensure the safety of those individuals who drive Company vehicles. Vehicle accidents are costly to our Company, but more importantly, they may result in injury to you or others. It is the driver's responsibility to operate all vehicles in a safe manner and to drive defensively to prevent injuries and property damage. As such the Company endorses all applicable state motor vehicle regulations relating to driver responsibility. The Company expects each driver to drive in a safe and courteous manner pursuant to the following safety rules and submit driving/driver documents as required.

Driver Eligibility

- Drivers must have a valid driver's license for the type of vehicle to be operated and keep the license(s) with them at all times while driving.
- Drivers must have a valid CDL Class B Tier 1 for any vehicles in excess of 26,001 lbs to be operated and keep the license(s) with them at all times while driving.
- All employees driving personal vehicles to any jobsite, are required to carry an individual auto insurance policy and be able to provide proof of such insurance upon request.
- Company vehicles are to be driven by authorized employees ONLY, except in emergencies, or in case of repair testing by a mechanic.
- Any employee who has a driver's license revoked or suspended shall immediately notify the president (Ed Zinthefer), Business Operations Manager and/or a Company director and discontinue operation of the Company vehicle. Failure to do so may result in disciplinary action including dismissal.
- All accidents involving Company vehicles, regardless of severity, must be reported to the police and to president (Ed Zinthefer), Business Operations Manager and/or a Company director. Failing to stop after an accident and/or failure to report an accident may result in disciplinary action, including dismissal.
- The use of a Company vehicle while under the influence of intoxicants and other drugs is forbidden and is sufficient cause for discipline, including dismissal.
- All drivers and passengers operating or riding in Company vehicles must wear seat belts.
- Drivers are responsible for the security of Company vehicles being used by them. The vehicle engine must be shut off, ignition keys removed, and vehicle doors locked whenever the vehicle is left unattended. Puck locks and ladder security will be provided by Arch O&M and is the required to be utilized by drivers.
- Use of handheld mobile phones while driving is strictly prohibited. This includes all functions of the device including, but not limited to, phone calls, text messaging/SMS, email, MMS, Internet use, camera use, etc.
- Passengers making or taking calls for the driver is permissible provided the interaction does not affect the driver's performance.

- The use of headsets or hands-free devices while driving is permissible as long as the device does not cause distraction or interfere with the driver's ability to drive safely.
- Drivers are permitted to use handheld mobile telephone, if necessary, to communicate withlaw enforcement or other emergency services.
- Arch O&M is not responsible for any traffic violations or parking tickets acquired by violation of city ordinance, state or federal laws regarding your driving habits and operation of your motor vehicle. Any ticket issued is the employee's responsibility, even if the ticket is issued while conducting business for Arch O&M.
- Company owned equipment is to be operated by authorized and safety trained employees ONLY, except in emergencies or in case of repair testing by a mechanic.

Accident Procedures

All accidents or moving violations must be reported to the company by the end of the employee's shift or within 24 hours. The reporting requirement applies if the accident or moving violation took place in either a business or a personal vehicle.

If an employee sustains physical damage to a company vehicle as a result of their negligence, the employee is responsible for reimbursing the company for the comprehensive and collision coverage deductible, not to exceed $500, payable within 30 days.

Preventative Maintenance

To retain the safety and integrity of the company vehicle, the company will conduct routine motor vehicle maintenance according to manufacturer specifications. Employees are required to conduct a visual pre-trip vehicle inspection, which includes reviewing tires, windshield wipers, brakes, mirrors and lights, and report any needed repairs to their supervisor immediately.

Tools

Employees are responsible for purchase of and maintaining hand tools, test equipment, and reference material typical of the electrical trade.

Arch O&M will replace employee owned cutting tools, bits, etc consumed on the job. It is the employee responsibility to prove it is unserviceable before replacement.

Arch O&M will provide necessary power tools, lift equipment, and specialized equipment with prior approval.

Maintenance of Arch O&M equipment on the job is the employee responsibility. Equipment and tools found to be damaged by employee negligence may justify disciplinary action.

Travel Policy

It is the responsibility of each employee to provide his or her own transportation to and from work. When a Company vehicle is made available, and if an employee is offered transportation to and from a job via a company vehicle, no mileage reimbursement would be due to the employee if they choose to forego the company-provided transportation. Employees will be able to receive their hourly rate in excess of 1 hour each way (as calculated using the shortest route by Google Maps). If necessary, notification will be made by your supervisor to meet at the warehouse to load tools or materials. If you are not asked to load materials, you are considered a rider only and may not clock in until you exceed 1-hour of travel. If you were asked to load by your supervisor, you will login at that time to begin your shift for the day.

When traveling to a jobsite with a personal vehicle that is more than 70 miles from the corporate office or employee's residence, the Company will reimburse employees for mileage in excess of 70 miles, each way (as calculated using the shortest route by Google Maps) in addition to being paid your hourly rate after the 1-hour threshold. It is the employee's responsibility to keep track of their mileage on their JSA that will be paid out weekly. Mileage rate reimbursement is subject to change. Likewise, mileage will not be paid if the jobsite is within 70 miles of the employee's home. Mileage for out-of-town projects where employees do not commute on a daily basis will be considered on an individual basis at the beginning of the project, and also needs to have written approval from the Project Manager or corporate leadership.

Any exceptions to the travel policy needs to be documented and approved by Arch O&M management, Business Operations Manager or Ed Zinthefer.

Lodging

Double occupancy is required for Arch O&M to authorize payment on the room (Room and Tax Only). Singe Occupancy requires the employee to pay for their own room and Arch O&M will reimburse half of the negotiated rate of a double occupancy stay. Single Occupancy reimbursement will be received on the following weeks' paycheck with proof of receipt.

Any exceptions to the lodging policy needs to be documented and approved by Arch O&M management, Business Operations Manager or Ed Zinthefer.

GOOD HOUSEKEEPING

Whatever area you may work in, you are responsible to do your part in keeping our work areas as clean, neat, and organized as possible. Your fellow workers and customers expect and deserve your best efforts in this area.

Smoking Policy

The Company maintains a smoke and tobacco free office. No smoking or other use of tobacco products (including, but not limited to Vapes, cigarettes, pipes, cigars, snuff, or chewing tobacco) is permitted in any part of the building or in vehicles owned, leased, or rented by the Company.

Employees may smoke outside in designated areas during breaks. When smoking or otherwise using tobacco or similar products in designated outside areas, do not leave cigarette butts, fire hazards or other traces of litter or tobacco use on the ground or anywhere else. No additional breaks beyond those allowed under the Company's break policy may be taken for the purpose of using tobacco or similar products. If tobacco or similar products are utilized it is required that the individual user dispose of any litter leaving no trace of butts, spit or tobacco pouches on site. Use of tobacco or similar products while off duty or on authorized breaks shall not interfere with the employee's work, fitness for duty, or professional appearance to clients and the public in general.

In addition to Arch O&M smoking policy it is required to understand and conform to the smoking or tobacco use policies of our clients when working at a client's site.

Language

Offensive language is never appropriate in the workplace. You should show your fellow employees the same type of consideration as you would expect to be shown.

Telephone Calls

Discretion should be used in making or receiving personal phone calls during business hours. Keep all personal calls brief. Your personal long distance and toll calls are your financial responsibility.

Company cell phones are business phones so limit your calls to ensure that our customers can be assured of our commitment to them on the job. In the event that the cell phone is lost, stolen or damaged due to negligence or carelessness, it will be the responsibility of the employee to replace the phone at their expense.

Company and Personal Property

Arch O&M cannot assume responsibility for any loss of money or personal property of employees or contract service personnel. If articles of money or personal belongings are missing, notify management immediately. Any articles found should be turned in to management. Valuable personal items should not be left in areas where theft might occur. If safety protocols are in use ArchO&M will assist with replacement costs. If theft occured due to negligence, it is the employees responsibility for replacement.

Violations of vehicular nature either in personal or Company vehicular equipment is the sole responsibility of the offender to include parking or moving violations.

Theft of property belonging to the Company or any employee will be investigated, which may include searching Company premises and property. If, in the opinion of the Company, an employee is responsible for or involved in the theft, that employee will be subject to severe disciplinary action, up to and including discharge for a first violation.

We cannot guarantee the safety or replacement of personal property in the workplace.

Other Emergency Business Closures or Delayed Openings

In the event of some other type of emergency business closure or delayed opening (i.e. natural or national disaster, building closure, etc.,), you will receive a phone call or phone message from your supervisor instructing you what to do.

STANDARDS WE LIVE BY

As a member of Arch O&M staff, it is everyone's responsibility to maintain a neat, clean, orderly, and pleasant atmosphere for all employees.

Progressive Discipline (Performance Improvement Plan)

This corrective action program is designed to encourage individuals rather than punish them. Corrective action may take the form of: (1) verbal warning; (2) written warning; and/or (3) termination. Based on the severity of the incident, as determined by management, the oral warning and/or written warning may be bypassed, and the employee terminated. The Company reserves the right to add to, modify or eliminate any rule when circumstances require a change.

Rules of Conduct

Most of our employees never violate any Company rules or give Arch O&M any reason to terminate their employment. Unfortunately, there are employees in any organization who from time to time must be terminated.

Obviously, it is impossible to list every single action which might cause harm to the Company, our clients or employees. The following is a list of some, but not all, of the acts that can result in termination:

THIS LIST IS PROVIDED FOR YOUR INFORMATION ONLY AND IN NO WAY SHOULD IT BE CONSTRUED AS THE ONLY REASONS FOR TERMINATION.

- Committing or attempting to commit deliberate damage to Company property or facilities, or the unauthorized use of Company property or facilities.
- Disorderly conduct; striking another employee or client; use of abusive language; possessing, using, buying or selling drugs or alcohol or being under the influence of alcohol or drugs while at work.
- Tampering with the Company time systems or falsifying time worked. Page 25 Arch Electric

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- Removing, sending, e-mailing or furnishing to unauthorized person(s), Company records or information verbal, written, electronic or magnetic.
- Violating the "Company's" anti-discrimination policy.
- Indulging in any type of harassment towards any other employee or client.
- Obtaining employment on the basis of false or misleading information; falsification of application.

- Allowing unauthorized person(s) access to our facilities.
- Removal of any Company property, or the property of another employee or client without prior permission from Management.
- Removing salvaged copper or steel from a job without management approval.
- Working for another electrical contracting firm or operating your own electrical contracting firm, while an employee of Arch Electric.
- Insubordination: The refusal to perform all job requirements or services as outlined by the Company.
- Sleeping or dozing on the job.
- Doing non-work activities during Company time.
- Theft, embezzlement, fraud, and misappropriation of Company property or funds or any other acts of dishonesty.
- Tardiness and absenteeism.
- Behaving in a manner that shows disregard of acceptable standards of the quality and quantity of work.
- Falsification of any Company records, reports, or documents.
- Abuse or waste of tools, equipment, supplies, materials, or products.
- Employees shall not restrict production or interfere with others in the performance of their jobs.

Electronic Communications Usage and Policy

The Company has established a policy with regard to access and disclosure of electronic mail messages created, sent, or received by Company employees using the Company's electronic mail system as well as the internet access provided by the Company.

The Company intends to honor the policies set forth below but must reserve the right to change them at any time as may be required under the circumstances.

- The Company maintains an electronic mail system and an internet connection. These services are provided by the Company to assist in the conduct of business within the Company.
- The electronic mail system hardware and internet service hardware is Company property. Additionally, all messages composed, sent or received on the electronic mail system are and remain the property of the Company. They are not the private property of any employee.
- The use of electronic mail system as well as the internet service is reserved solely for the conduct of business at the Company. It may not be used for personal business during business hours.
- The electronic mail system or internet service may not be used to solicit or proselytize for commercial ventures, religious or political causes, outside organizations, or other non-jobrelated solicitations.

- The electronic mail system or the internet service is not to be used to create or view any offensive or disruptive messages. Among those which are considered offensive are any messages which contain sexual implications, racial slurs, gender-specific comments, or any other comment that offensively addresses someone's age, sexual orientation, religious or political beliefs, national origin, or disability.
- The electronic mail system should not be used to send (upload) or receive (download) copyrighted materials, trade secrets, proprietary financial information, or similar materials without prior authorization.
- The Company reserves and intends to exercise the right to review, audit, intercept, access and disclose all messages created, received, or sent over the electronic mail system for any purpose. The contents of electronic mail properly obtained for legitimate business purposes may be disclosed within the Company without the permission of the employee. The Company will also be monitoring the web sites employees visit on the internet system with monitoring software.
- The confidentiality of any message should not be assumed. Even when a message is erased, it is still possible to retrieve and read the message. Further, the use of passwords for security does not guarantee confidentiality. All passwords must be disclosed to the Company or they are invalid and cannot be used.
- Notwithstanding the Company's right to retrieve and read any electronic mail messages, such messages should be treated as confidential by other employees and accessed only by the intended recipient. Employees are not authorized to retrieve or read any e-mail messages that are not sent to them. Any exception to this policy must receive prior approval by the employer.
- Employees shall not use a code, access a file, or retrieve any stored information, unless authorized to do so. Employees should not attempt to gain access to another employee's messages without the latter's permission. All computer pass codes must be provided to supervisors. No pass code may be used that is unknown to the Company.
- Any employees who discover a violation of this policy shall notify management of Arch O&M.
- Any employee who violates this policy or uses the electronic mail system or internet service for improper purposes shall be subject to discipline, up to and including discharge.

SUBSTANCE ABUSE POLICY

Arch O&M Inc has a concern for the safety, health and well-being of its employees. Arch O&M also has an obligation to provide its customers with quality service and products. Alcohol or drug abuse can pose a serious safety and health hazard to the employee, co-workers and third parties and can interfere with our ability to meet our customer's needs.

In addition, Wisconsin law requires the Company to maintain a Substance Abuse Policy in order to perform work on prevailing wage projects.

Therefore, a condition of employment at Arch Electric, Inc. is that employees adhere to the following requirements:

Prohibited Conduct

Arch O&M prohibits employees from using, possessing, attempting to possess, distributing, delivering or being under the influence of a drug or using or being under the influence of alcohol on Company premises, in Company vehicles or during work hours, including breaks, meals and overtime. Violation of these provisions will result in immediate removal from the work site and appropriate disciplinary action, which may include termination of employment.

Therefore, Arch O&M in accordance with our policy, prohibits an employee working on a project from using, possessing, attempting to possess, distributing, delivering or being under the influence of:

1. marijuana, cocaine, or phencyclidine (PCP) or any derivative thereof,
2. an amphetamine or any formulation thereof;
3. a narcotic drug or any derivative thereof; or 4) any other substance to a degree which adversely affects the employee's safety and/or the safety of others. No employee shall report for duty or remain on duty while having a breath alcohol concentration of .04 or greater. No employee shall consume an intoxicating beverage, regardless of its alcoholic content, while on a project.

Effective January 1, 2011, all employees/applicants (or employees/applicants performing work on prevailing wage projects) of Arch O&M will be required to submit to a drug or alcohol test in the instances set forth as follows:

Pre-Employment

Applicants will be informed that Arch O&M requires all individuals it intends to hire to be drug-free and that passing a pre-employment drug test may be a condition of employment at Arch O&M. CDL drivers will be required to pass a pre-employment drug test prior to hire.

Offers of employment may be contingent upon satisfactory results of a drug test screen. If an applicant refuses to submit to the drug test, or tests positive on the drug test, the applicant will not be considered qualified for employment with Arch O&M and will not be offered employment with the Company.

Reasonable Suspicion

Arch O&M may require employees to submit to a drug or alcohol test whenever reasonable suspicion exists that an employee may be unfit for duty due to alcohol or other drug use based upon an employee's behavior, performance or conduct. Arch Electric Inc shall ensure that the employee is transported immediately to a collection site for the collection of a urine or breath specimen. If the Company finds the employee not fit to return to work, the Company will arrange transportation for the employee to his/her home. The Company may also suspend the employee, without pay, pending receipt of the test results. If the test results are negative the employee will return to work and receive compensation for any wages lost while awaiting the test results.

Post Accident

Arch O&M requires any employee to report an accident to appropriate management personnel and provide a urine/breath specimen to be tested for the use of controlled substances and alcohol as soon as possible, but not later than 4 hours after an accident.

Random (CDL Drivers Only)

Arch O&M shall use a scientifically valid random selection process to select and request an employee to be tested for the use of alcohol and controlled substances. Each employee shall have an equal chance of being tested each time selections are made. The random alcohol and controlled substances tests conducted under this part will be unannounced and spread reasonably throughout the calendar year. The minimum annual percentage rate for random drug testing shall be 20 percent of employees [in the Consortium pool]. The minimum annual percentage rate for random alcohol testing shall be 5 percent of employees [in the Consortium pool].

Removal and Return To Work

Any employee who violates the Company's Substance Abuse Policy, who is under the influence of drugs or alcohol while performing work, who tests positive for drugs or alcohol, who refuses to submit to drug or alcohol testing as required in this Policy, who engages in any conduct which operates to jeopardize the integrity of the specimen or the reliability of the test result, or if a contracting agency officer has reasonable suspicion to believe an employee is in violation of the Company's Substance Abuse Policy, that employee shall be immediately removed from work and subject to discipline up to and including discharge. Employees will only be eligible

to return to work upon testing negative for drugs and alcohol and complying with any other substance abuse evaluation or treatment, if applicable.

Drugs Tested

Arch Electric Inc tests employees/applicants for the following drugs ("Drug Panel 5"):

- Amphetamines/Methamphetamines Cocaine Metabolites
- Marijuana Metabolites Opiates Metabolites Phencyclidine

Alcohol (Breath)

Arch O&M tests employees for the drugs indicated above plus alcohol for reasonable suspicion, random and post-accident situations. The employee is required to submit a breath specimen for the alcohol test under these circumstances.

Compliance with Testing Procedures

All employees/applicants requested to undergo a drug or alcohol test are required to promptly comply with the request. Arch O&M expects all prospective and current employees to exercise good faith and cooperate in complying with any procedures required under the Policy. Refusal to submit to a drug test or engaging in any conduct which operates to jeopardize the integrity of the specimen or the reliability of the test result will be subject to disciplinary action, up to and including termination, independent and regardless of any test results. This also includes failure to show up for a drug test specimen collection, postponing or rescheduling of drug specimen collections.

Testing and Notification of Test Results

Testing will be performed by a SAMHSA certified laboratory utilizing clinically sound and approved testing methodologies. The name of the individual providing the specimen will remain confidential and will not be provided to the laboratory performing the test (unless requested by the Company). The testing laboratory is only able to identify the specimen by the "specimen identification number" assigned at the time of collection. The laboratory will release the results of the drug test to a Certified Medical Review Officer (MRO) for chain of custody and test verification. The MRO will only release results to the contact person designated by the Company.

Disciplinary Actions

Employees who violate the above rules are subject to immediate termination. Arch O&M in its sole discretion, may take other disciplinary action, as it deems appropriate and/or may offer an

employee the opportunity to undergo substance abuse evaluation and successfully complete treatment, if recommended, in lieu of termination.

Rehabilitation

Arch O&M does provide group health insurance benefits to employees. The employee may pay for costs of rehabilitation not covered under the Company's benefit plan. A leave of absence to participate in drug rehabilitation will not be paid by the Company. An employee may however choose to utilize vacation and sick leave he/she has available to pay of the lost time from work.

CHILDREN IN THE WORKPLACE POLICY

Maintaining the safety and health of Arch O&M employees, consultants, guests and visitors relies upon the control of hazardous conditions and prevention of unsafe behaviors. When the visitors are children, diligence to guard against unsafe conditions and unpredictable behaviors must be heightened.

The workplace is typically not an appropriate place for children of employees. However, Arch O&M recognizes that employees may occasionally want to bring children to the workplace for brief visits, specific events, situational convenience, or family emergencies. No children are ever allowed on Arch O&M jobsites.

Definitions

For purposes of this policy:

- "Child" or "children" means a person or persons less than 18 years of age.
- "Employee" means any employee who has responsibility for a child, as defined above, while in the
- workplace regardless of the employee's relationship to the child.
- "High risk area" includes any area deemed high risk by the owners, which includes the 1237 Pilgrim Rd. location, Milwaukee and Madison sales office.

Policy Statement

This policy addresses the factors to consider when allowing an employee to bring a child into the workplace. Circumstances in which employees want to bring children into the workplace generally fall into the following acceptable categories:

1. Brief visits (e.g., an employee brings his/her child, grandchild or other minor relative in to introduce that child to co-workers).
2. In the event of a medical emergency.

Abuse of Policy

Children are not to be brought to the workplace on a regular basis in lieu of childcare.

High Risk Areas

Children are not allowed in high risk areas, as defined in this policy, unless an exception has been agreed to by building owners. Even children excluded from this policy, as stated above, are not allowed in high-risk areas, unless an exception exists.

Responsibilities

Generally, an employee who brings a child into the workplace shall not leave the child unsupervised. Employees are responsible for verifying with their manager the circumstances under which children are allowed in their specific workplace. If ownership allows the occasional workplace visits of children to the workplace, both the employee responsible for the child and workplace management must accept certain responsibilities (listed below) to protect the welfare of the child and the integrity of the workplace.

An employee who brings a child to the workplace must:

- be the individual who primarily supervises and cares for the child while in the workplace;
- prevent any breach of confidential information;
- address with ownership any issues related to a child's infectious disease; and
- accept full responsibility for all aspects of the child's behavior, including: safety of the child, disruption to co-workers, unauthorized or inappropriate use of company resources, and any damage to property or injury to persons.

Ownership must:

- determine that either hazards are not likely to exist, or that hazards can be controlled under the circumstances in which the child will be present;
- address potential issues of possible disruption to co-workers in the workplace;
- consider the extent to which the child's presence in the workplace poses a risk of breaching confidentiality of information in the workplace;
- consider the extent to which the child's presence is appropriate to the specific work being accomplished.
- consider the health of co-workers before an employee is allowed to bring a child with an infectious disease to the workplace.

Denial of Permission

Notwithstanding the exceptions provided by this policy, ownership has the authority to deny the presence of children in the workplace. Ownership may revoke previously granted

permission for the employee to bring the child to the workplace (e.g., the child's presence is later determined to be disruptive to the workplace).

Violations

Any employee who violates this policy may be subject to disciplinary action up to and including termination of employment.

REMOTE WORKING POLICY – CORPORATE EMPLOYEES

This policy outlines the direction as to where Arch O&M employees are required to perform their tasks.

The corporate workplace is the desired work environment for all non-exempt and exempt employees. Commissioned salespeople are exceptions to this policy as their home offices are often the most effective and preferred location to fulfill their work duties. Any other exceptions to this policy must be approved by Management, Business Operations Manager, and/or President (Ed Zinthefer).

Maintaining individual focus and collaboration among Arch staff is essential for positive outcomes. Acceptable equipment and technical support will be available for corporate office locations.

Working within corporate offices offers improved integrity and protection of information and data of our employees, corporate records and customers. Keeping information confidential is much easier in a protected workspace.

Violations

Any employee who violates this policy may be subject to disciplinary action up to and including termination of employment.

Amendments

This policy is subject to amendment from time to time as determined appropriate by Arch O&M. The Company reserves the right to add to, delete from or change this policy at any time with or without notice to employees.

This Handbook is not intended, and should not be construed, as an employment contract. None of the statements or policies outlined in the policies are meant to imply that the Company is guaranteeing employment for anyone. Employment with the Company is considered “at-will” and can be terminated by either the Company or the employee at any time, and for any reason unless prohibited by statute or public policy. Final interpretation and implementation of any of the provisions of this Policy are vested solely with the Company.

EMPLOYEE COPY-ACKNOWLEDGEMENT OF RECEIPT OF EMPLOYEE HANDBOOK AND AGREEMENT TO CONDITIONS OF EMPLOYMENT

- I have read and fully understand the rules governing my employment with Arch O&M.
- I agree to employment with Arch O&M under the conditions explained. I understand these conditions can be changed by the Company, at its sole discretion without notice, at any time. I acknowledge that it is my responsibility to ask questions about anything I do not understand.
- I acknowledge that the employee handbook is intended to give me information about the main features of the employment policies, benefits, and certain other general information about the Company.
- I agree to the Binding Arbitration Agreement clause in the event I should dispute my termination of employment.
- I have read and agree to the items in reference to payroll deductions from final paychecks.
- I have read and understand the contents of this Handbook and I agree to abide by the conditions specified in this handbook and by any other rules, practices, or procedures that the Company adopts.
- I acknowledge that I have received, read, and understand the Anti-Harassment and Non-Discrimination Policy of Arch O&M. I agree to abide by the principles and understand that if I have any questions or encounter any problems, I can contact the president of the Company. I understand that failure to comply with the Anti- Harassment and Non-Discrimination Policy could result in disciplinary action up to and including termination of employment.
- I further understand and acknowledge that this Handbook provides guidelines and information, but this Handbook is not, nor is it intended to constitute, an employment contract of any kind. I understand that my employment and compensation can be terminated at the option of either the Company or me, at any time, for any reason. I understand that this Handbook and the Acknowledge Form do not vary or modify the at-will employment relationship between the Company and me.
- This employee handbook is the property of Arch O&M, and it cannot be reproduced.

_____

EMPLOYEE NAME

_____

EMPLOYEE SIGNATURE & DATE

Initial: Acknowledging notification to president of Concealed Carry permit, if applicable. (See page 10)
Initial: Acknowledging a Personal Guarantee of any tools or tuition reimbursement claw backs. (See page 12 and 16)
Initial: Acknowledging Personal Assurance of a valid driver's license, insurance, safety training for equipment or proper notification. (See page 18-19)

COMPANY COPY- ELECTRONIC COMMUNICATION USAGE POLICY ACKNOWLEDGEMENT

As an employee of Arch O&M, I, , recognize and understand that the Company's voicemail, e-mail and internet systems are to be used for conducting the Company's business only. I understand that use of this equipment for private purposes during business hours is strictly prohibited. Further, I agree not to use a password that has not been disclosed to management. I agree not to access a file or retrieve any stored communication other than where authorized, unless there has been prior clearance by an authorized Company representative.

I am aware that the Company reserves and will exercise the right to retrieve, audit, intercept, access, and disclose all matters on the Company's voicemail and e-mail system at any time, with or without employee notice, and that such access may occur during or after working hours. I am aware that use of a Company-provided password or code does not restrict the Company's right to access electronic communication. The Company will be monitoring all internet activity and reserves the right to take disciplinary action for inappropriate use of the Company's internet service. I am aware that violations of this policy may subject me to disciplinary action, up to and including discharge from employment.

I affirm that I have read and that I understand the Company's policy regarding e-mail and internet service.

I affirm that I have read and that I understand this notice.

EMPLOYEE NAME

EMPLOYEE SIGNATURE & DATE

NON-DISCLOSURE AGREEMENT

As a condition of my employment, and acknowledged by my signature below, I agree to fully and uncompromisingly maintain confidentiality related to any and all aspects of the Company's activities performed with and for Arch O&M exclusively without disclosure to any and all competitors in related industries, as well as any information and intellectual property, known and unknown, including but not limited to, pricing, product, procurement, contacts, tools, digital techniques, strategic initiatives, operations, and company policies for a term of 5 years from the day I become disengaged by Arch O&M.

I, _____ submit and understand that any breach of these confidences may result in prosecution under the full extent of the law.

COMPANY COPY-ACKNOWLEDGEMENT OF RECEIPT OF EMPLOYEE HANDBOOK AND AGREEMENT TO CONDITIONS OF EMPLOYMENT

- I have read and fully understand the rules governing my employment with Arch O&M.
- I agree to employment with Arch O&M under the conditions explained. I understand these conditions can be changed by the Company, at its sole discretion without notice, at any time. I acknowledge that it is my responsibility to ask questions about anything I do not understand.
- I acknowledge that the employee handbook is intended to give me information about the main features of the employment policies, benefits, and certain other general information about the Company.
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EMPLOYEE NAME

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EMPLOYEE SIGNATURE & DATE

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Initial: Acknowledging a Personal Guarantee of any tools or tuition reimbursement claw backs. (See page 12 and 16)
Initial: Acknowledging Personal Assurance of a valid driver's license, insurance, safety training for equipment or proper notification. (See page 18-19)