Emergency Contact Information

Owner	Steve Pierik	(810) 434-1206
Vice President of Operations	John Stolz	(734) 645-6438
Director of Operations	Tim Harms	(810) 941-5232
Director of Finance/Admin	Andy Magnuson	(586) 770-9490
Steel Superintendent	Richie Paull	(810) 956-7911
Electrical Superintendent	Chuck Snyder	(575) 749-6327
Mechanical Superintendent	Jesse Allen	(810) 751-0878
Sr. Project Manager	Keith Griffith	(586) 212-6455
Sr. Project Manager	Scott Humes	(810) 941-8946
Project Manager	Brent Eggebrecht	(989) 213-5142
Project Manager	Aaron Welsh	(810) 705-7560
Asst. Project Manager	Chad Osentoski	(810) 358-9023

Utility Contacts

Semco Energy	Gas Company	(888) 427-1427
	Account Number	6860 291 0001 9
DTE	Electric Company	(800) 477-4747
	Account Number	0046491.50

Revised: 05/11/2021

UTILITY EMERGENCY PLAN

1. PURPOSE

1. The purpose of this plan is to provide direction and responsibility in the event of a utility emergency.

2. SCOPE

1. It is the responsibility of all supervisors, with the support of the Vice President of Operations, to coordinate this program and ensure a safe evacuation of the facility.

3. SAFETY

1. No PPE is required to ensure safe evacuation.
2. When inside the ITS facility, all Team Members will stop what they are doing and allow their vision to adjust to lighting. Team Members are to remain at their current location until instructed by the Supervisor to move to the gathering areas. These areas are listed below:
    - **Steel Shop Personnel** Break Room
    - **Office Personnel** Front Lobby
3. When at a customer's facility, all Team Members will stop what they are doing and allow their vision to adjust to lighting. Team Members are to remain at their current location until instructed by Supervisor to move to the predetermined gathering area.
4. Personnel will remain at these locations until power is recovered. At the time power is recovered, all personnel will return to their assigned work areas. If working offsite at a customer facility, please report to the customer gathering area.

4. EQUIPMENT

1. A member of the shop team will board the lift truck and turn the lights on to help guide employees to the designated area.

5. INSTRUCTIONS

1. **Initial actions during power outage inside ITS facility:**
    1. Team Members are to stop what they are doing and remain at their workstation until instructed by Supervisor for action to take. Any team member operating a lift truck or aerial lift will stop their vehicle.
    2. Supervisor will turn off main disconnects on equipment being used. Supervisor will determine whether power outage is internal or external. After determination is made, Supervisor will then call Detroit Edison (800) 477-4747 to alert them of power outage and to get what information may be available if external.
    3. Supervisor will contact the VP of Operations and give notification of power outage. VP of Operations will make final decision of when and if employees are to be sent home.
2. **Initial actions during power outage inside customer's facility:**
    1. Team Members are to stop what they are doing and remain at their workstation until instructed by Supervisors for action to take. Any Team Member operating a lift truck or aerial lift will stop the vehicle.
    2. Supervisors will instruct team members to follow customer's on-site emergency power outage action plan.

3. If no plan exists and it is safe to do so, exit the building with your Team Members and call your Superintendent and site contact for further instruction.

3**. Gas line rupture/release action plan:**

1. **Release notification:** If an employee detects the odor of a potential gas leak, he/she is to immediately notify their Supervisor. Supervisor will call 911, evacuate team members and notify the VP of Operations of the situation.
2. **Evacuation:** Evacuate personnel in the event of a gas line rupture/release. Evacuate as shown on plant evacuation route layout. If working offsite at a customer facility, please report to the customer gathering areas.

6. DEFINITIONS

1. None

7. COMPETENCY

1. Do not leave the designated area until given verbal clearance by the supervisor.
2. Shut down all machinery if it is safe to do so.
3. When at a customer's facility, determine the designated gathering areas at the start of the job. If no area exists, designate a gathering area that is safe during an emergency situation.
4. Evacuate in an orderly fashion.

SEVERE WEATHER/TORNADO PLAN

1. PURPOSE

1. The purpose of this plan is to provide direction and responsibility in the event of severe weather / tornado.

2. SCOPE

1. It is the responsibility of the Supervisors and Department Managers to coordinate this program and ensure safety in severe weather.

3. SAFETY

1. When the conditions are favorable for a severe weather/tornado, the weather will be closely monitored by the Supervisors. If deemed necessary, Supervisor will shut down equipment and notify Team Members of incoming severe weather.

4. EQUIPMENT

1. No equipment or PPE is needed.

5. INSTRUCTIONS

1. When at the ITS facility, all Team Members should calmly and quickly assemble to the following designated locations:
    - *Steel Shop Personnel – Controls Lab*
    - *Office Personnel – Bathrooms*
2. If working offsite at a customer facility, report to the customer's designated shelter areas.
3. When possible, everyone should lie low with hands covering the back of their heads to help reduce the possibility of neck injuries. Team Members should always try to stay away from outside walls and windows.

6. DEFINITIONS

1. None

7. COMPETENCY

1. When at a customer's facility, review the designated shelter areas, paths to get there, and the customer's emergency action plan.
2. Check main gas line for any apparent damage or odor of gas.
3. Check building perimeter for damage that could cause injury to employees when exiting the plant including parking lots and roadways.
4. If damage or hazards exist, immediately contact the Director of Operations.

EMERGENCY PLAN: First Aid	Revision Date: 4-13.21	Approval: Safety Committee

FIRST AID PLAN

1. PURPOSE

1. The purpose of this plan is to provide direction and responsibility in the event a Team Member is in need of first aid.

2. SCOPE

1. It is the responsibility of all Supervisors and Safety Committee to coordinate this program and to ensure all proper documentation is completed. It is the responsibility of the First Aid Responder to evaluate the situation and determine what form of treatment will be required.

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3. SAFETY

1. In the case of a medical emergency, a Supervisor or First Aid Responder must be notified of the situation. First Aid Responder will assess the situation and determine which of the actions will occur:
    - Only in-house medical treatment is needed.
    - Team Member needs to seek treatment at company clinic.
    - Emergency Medical Services are needed and must be sent via ambulance to receive treatment.

4. EQUIPMENT

1. First Aid Cabinet

5. INSTRUCTIONS

1. Treat injury with items available in the First Aid Cabinet consistent with Bloodborne Pathogen requirements.
2. If injury is deemed to require a visit to the company clinic, send Team Member to Concentra. Supervisor must complete a Concentra Authorization Form and Patient Information Form that is to be sent with Team Member. Contact Safety Committee and Department Director to inform them of injury and how it occurred.
3. If injury is deemed to require EMS to take Team Member to receive treatment, dial 911 and make arrangements. Contact Safety Committee and Department Director to inform them of injury and how it occurred.
4. If an exposure incident occurs, refer to the Bloodborne Infectious Diseases Exposure Program which is located in tab 10 of this manual.
4. If injury results in loss of eye, amputation, or hospitalization, OSHA must be notified within 24 hours. Injuries resulting in death require notification within 8 hours. Please note OSHA definitions can vary, so please contact Safety Committee for direction. Safety Committee will complete communication with OSHA as required.

6. DEFINITIONS

1. **First Aid Responder** – A person certified in First Aid and CPR.
2. **EMS** – Emergency Medical Services.
3. **Bloodborne Pathogens -** infectious microorganisms in human blood that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV).
4. **Exposure Incident -** reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of a Team Member's duties.
5. **OSHA -** Occupational Safety and Health Administration.

7. COMPETENCY

1. If the injured Team Member is unconscious, do not attempt to move the Team Member until a first aid responder assesses the situation.
2. Do not allow the Team Member to drive if bleeding.
3. Supervisor is to document injury on the Supervisor's Accident Investigation form within 24 hours.
4. Concentra Authorization forms will be completed by the Supervisor or Safety Committee when a Team Member is sent to Concentra.
5. Follow proper PPE to avoid exposure to bloodborne pathogens.
6. If injury results in loss of eye, amputation, or hospitalization, OSHA must be notified within 24 hours. Injuries resulting in death require notification within 8 hours. Please note OSHA definitions can vary, so please contact Safety Committee for direction. Safety Committee will complete communication with OSHA as required.

FIRE/EVACUATION PLAN

1. PURPOSE

1. The purpose of this plan is to provide direction and responsibility in the event of a fire.

2. SCOPE

1. It is the responsibility of all Supervisors, with the support of the Director of Operations, to coordinate this program and ensure a safe evacuation of the facility.

3. SAFETY

1. No PPE is required to ensure safe evacuation.
2. Team Members are not expected to fight a fire as part of their job duties.
3. If a Team Member does decide to use a fire extinguisher, the **P.A.S.S**. system should be used:
   - **P -** Pull the pin
   - **A -** Aim at the base of the fire
   - **S -** Squeeze the trigger to release the extinguishing
   - **S -** Sweep back and forth at the base of the fire
4. Proper housekeeping prevents fires. Team Members must control all flammable and combustible waste. Supervisors must inspect their areas to ensure proper housekeeping. Team Members must keep their areas clean and report any fire hazards to their Supervisor.

4. EQUIPMENT

1. Evacuation Map/Plan
2. Fire extinguisher
3. First aid kit

5. INSTRUCTIONS

1. Containable fire – Action plan

- If possible, notify Supervisor or Team Leader that there is a fire present.
- Team Member will evaluate the fire or smoke and locate the nearest fire extinguisher. Fire extinguisher locations are marked on the Evacuation Map/Plan.
- A fire is deemed containable if (1) less than 4-foot flames and (2) not smoking so badly that breathing is hindered.
- Notify Safety Committee of fire by completing an Accident Investigation Form. Have fire inspected to be sure it is extinguished, and also inspected for cause.
- The Supervisor must remedy the cause of the fire with corrective actions.

2. Large fire or explosion – Action plan

- Team members will shut down their equipment (only if time allows) and evacuate to the rally point.
- Upon receiving the signal to evacuate, evacuation will take place in an orderly, controlled fashion using evacuation routes.
- Supervisors will obtain headcount sheet and first aid bag prior to evacuating. Evacuation routes are posted on Evacuation Maps at designated locations.

- The Supervisor will notify the following people in order:
  1. Emergency (911)
  2. Steel Superintendent — See Emergency Contact Sheet
  3. Director of Operations — See Emergency Contact Sheet
  4. Vice President of Operations — See Emergency Contact Sheet

6. DEFINITIONS

1. **Containable fire** - less than 4-foot flames and not smoking so badly that breathing is hindered.

7. COMPETENCY

1. Evacuation procedures and routes are posted on Evacuation Map/Plan in each work area. Follow primary evacuation routes to designated exits (drawn in red on the Evacuation Routes maps). Go to your assigned rally point and report to your Supervisor. Absent a clear and present danger, do not leave your rally point without permission of your Supervisor. Leaving your rally point without permission may be grounds for termination. Return to your work area only when the "All Clear" is communicated by a Supervisor.
2. If working off site at a customer facility, please reference appropriate evacuation routes, and find the site contact/host.
3. Team Members will check in with Supervisor when rally point is reached. Supervisors will conduct roll call.
4. Supervisors will report all missing Team Members to emergency responders, who will determine how to locate the missing Team Members.
5. Hosts account for any visitors or guests who may be in the facility during the time of a fire.
6. Designated First Aid Area will be located at the flag pole in the grass area. This area will be equipped with a first aid kit and a First Aid Responder.
7. Management trains all Team Members at time of hire and annually. In addition, qualified personnel train Team Members when:
   - Personnel places a Team Member in a new position
   - Procedures or Team Member responsibilities change
8. Fire extinguishers are inspected annually.
9. All fires in the plant are to be reported to the Human Resource Department by completing a Fire Investigation Form.

HAZARD COMMUNICATION PLAN

1. PURPOSE

1. The purpose of this Hazard Communication program is for the use of all members of Industrial Technology Services. This Program will be available for review by all Team Members.

2. SCOPE

1. It is the responsibility of all Supervisors, with the support of the Director of Operations, to coordinate this program and ensure proper communication and handling of hazardous materials used throughout the operation.
2. It is the responsibility of all team members to plan and conduct each operation according to the Hazard Communication Plan.

3. SAFETY

1. Before their initial work assignment, each new Team Member will receive hazard communication training. This will include the following information and training:
   - The requirements of the MIOSHA Hazard Communication Standard.
   - Location and availability of the written hazard communication program, the list of hazardous chemical, and the MSDS/SDS.
   - List of on-site chemicals is combined with the Environmental Aspect list. This list identifies that MSDS/SDS has been obtained, location of the chemical and its environmental rating.
   - An annual evaluation will be completed throughout the facility to ensure that all chemicals are on the list, with MSDS/SDS on file. LPA audits will be conducted throughout the year which will also be used to ensure compliance.
   - Training to show the measures the Team Members should take to protect themselves from hazards when using chemicals per MSDS/SDS.
   - Details of the hazard communication program, including an explanation of the label elements on shipped containers and the workplace labeling system used by their employer.
   - How Team Members can obtain and use hazard information.
2. Before any new physical or health hazard is introduced into the workplace, each Team Member who may be exposed to the substance will be given information in the same manner as during the hazard communication training.
3. Team members must use all appropriate PPE as outlined in the materials SDS.

4. EQUIPMENT

1. MSDS/SDS Book

5. INSTRUCTIONS

1. Labeling of Hazardous Materials

1. Supervisor will be responsible for seeing that all containers entering the workplace from a manufacturer, importer, distributor, or visitor are properly labeled.
2. All labels shall be checked for:
   - Identity of the material
   - Appropriate hazard warning for the material

- Name and address of the responsible party (Only if the container is received from the manufacturer, distributor, or importer.)
- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)
- Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

3. All Team Members shall be responsible for ensuring that all secondary containers used in their work area are labeled with the appropriate product identifier and provide Team Members with the specific information regarding the physical and health hazards of the hazardous chemical. If labels are missing, Team Members will notify their Supervisor to apply proper labeling.
4. Industrial Technology Services shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to Team Members under the hazard communication program, will provide Team Members with the specific information regarding the physical and health hazards of the hazardous chemical.

2. Safety Data Sheets storage and Application

1. Chemical manufacturers or importers shall ensure that MSDS/SDS for their products includes the following sections in order:
   - Section 1: Identification
   - Section 2: Hazard(s) identification
   - Section 3: Composition/information on ingredients
   - Section 4: First-aid measures
   - Section 5: Fire-fighting measures
   - Section 6: Accidental release measures
   - Section 7: Handling and storage
   - Section 8: Exposure controls/personal protection
   - Section 9: Physical and chemical properties
   - Section 10: Stability and reactivity
   - Section 11: Toxicological information
   - Section 12: Ecological information
   - Section 13: Disposal considerations
   - Section 14: Transport information
   - Section 15: Regulatory information
   - Section 16: Other information, including date of preparation or last revision
2. Supervisor will be responsible for compiling and maintain the master MSDS/SDS file. The file will be kept in the Supervisor's office.
3. Additional copies of MSDS/SDS for Team Member use are located in each field truck, and on the wall next to the break room in the shop area.
4. MSDS/SDS will be available for review to all Team Members during each work shift. Copies will be available upon request.

5. Posters identifying the person responsible for maintaining MSDS/SDS and where the MSDS/SDS are located are posted on the wall next to the breakroom.
6. Team members are to review an SDS to clarify proper use, PPE, exposure limits, disposal, transportation, and other information associated to the materials usage.

6. DEFINITIONS

1. **MSDS/SDS** – Material Safety Data Sheets/Safety Data Sheets.
2. **OSHA** – Occupational Safety and Health Administration.
3. **Hazardous Material –** Any item or agent (biological, chemical, radiological, and/or physical) which has potential to cause harm to humans, animals, or the environment, either by itself or through interaction.
4. **Hazard Communication** - a set of processes and procedures that Team Members and importers must implement in the workplace to effectively communicate hazards associated with chemicals during handling, shipping, and any form of exposure.
5. **LPA –** Layered Process Audit.

7. COMPETENCY

1. Supervisor shall coordinate and maintain records of Team Member hazard communication training, including attendance rosters.
2. The Team Member shall be informed that:
   - The employer is prohibited from discharging, or discriminating against, any Team Member who exercises his/her rights to obtain information regarding hazardous chemicals used in the workplace.
   - As an alternative to requesting an MSDS/SDS from the employer, the Team Member can seek assistance from MIOSHA General Industry Safety and Health Division at (517) 332-1831, to obtain the desired MSDS/SDS. A sign or MIOSHA poster will be posted with the address and telephone number of the MIOSHA Divisions responsible for such request.

3. Proper Hazard Classification

1. Chemical manufactures or importers shall evaluate chemicals they produced or import to classify the chemicals in accordance with the Hazard Communication Standard.
2. For each chemical, the chemical manufacturer or importer shall determine the hazard classes, and where appropriate, the category of each class that apply to the chemical being classified. This information will be placed in the Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS) and on the product label.
3. Industrial Technology Services will rely on MSDS/SDS obtained from product suppliers to determine which chemicals are classified as hazardous for Team Members. For products in which are purchased at retail outlets, MSDS/SDS will be obtained via the internet.

4. Exposure and Medical Records

1. Industrial Technology Services will rely on MSDS/SDS obtained from product suppliers to determine which chemicals are classified as hazardous for Team Members. For products in which are purchased at retail outlets, MSDS/SDS will be obtained via the internet.

PERSONAL PROTECTIVE EQUIPMENT (PPE) PLAN

1. PURPOSE/SCOPE

1. The purpose of this program is to protect the Team Members of Industrial Technology Services from the occupational hazards within the workplace by ensuring the use of proper personal protective equipment (PPE).

2. SCOPE

1. It is the responsibility of Safety Committee, with the support of management, for coordinating this program.
2. It is the responsibility of all team members to use and maintain PPE issued to them by the company.

3. SAFETY

1. It is the goal of the company to use engineering controls as the primary method for protecting Team Members. However, when additional protection is necessary, appropriate PPE will be worn.

4. EQUIPMENT

1. PPE for eye, foot, hand, and other means of protection.

5. INSTRUCTIONS

1. Hazard Assessments
    1. Each job/task performed will be assessed to determine eye, foot, and hand hazards present and proper PPE to be worn. The assessments will include observation of the following sources of hazards:
        - **Impact:** Flying chips, objects, dirt, particles, collision, and motion hazards
        - **Penetration:** Falling/dropping objects, sharp objects that cut or pierce
        - **Compression:** Rollover or pinching
        - **Chemical:** Splashing, burns, fumes
        - **Temperature Extremes:** Sparks, splashes, from molten materials, burns from high/low temperatures
        - **Harmful Dust:** Dirt, particles, asbestos, lead
        - **Light Radiation:** Welding, cutting, brazing, lasers, furnaces, lights
    2. A Hazard Assessment Form will be completed for each position and will serve as certification that a hazard assessment has been performed.
    3. The person conducting the hazard assessment will also survey positions that are non-routine or periodic. In some cases these assessments may not be completed until the jobs are scheduled.
    4. Hazard assessment will be updated/evaluated whenever conditions or procedures change.
2. Supervisors are to train team members on the proper application, use, fit, limitations, and care of PPE.
3. Team members will be issued PPE that they are responsible for maintaining and having when necessary.
4. Supervisors will regularly monitor team members for correct use and care. Including providing follow-up training if required.
5. Team members correctly use and care for PPE, reporting any changes in exposure hazards or the replacement of defective PPE.

6. DEFINITIONS

1. **PPE** – personal protective equipment
2. **Occupational Hazard -** an injury or ailment resulting from the work one does or from the environment in which one works.

7. COMPETENCY

1. The Safety Committee department will ensure that hazard assessments are conducted, appropriate PPE is assigned, and affected Team Members receive training. The Safety Committee department will also be responsible for maintaining the documentation for this program. Department Supervisors shall advise the Safety Committee department of changes in PPE requirements if equipment or processes change requiring different PPE.
2. **Guidelines:**
    1. **Eye and Face Protection.** Team members must use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
    2. **Head Protection.** Team members must wear protective helmets when working in areas where there is a potential for injury to the head from team member initiated impact or impact from falling or other moving objects. Protective helmets designed to reduce electrical shock hazards will be worn by each team member when near exposed electrical conductors which could contact the head.
    3. **Foot Protection.** Team members must wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or from object piercing the sole, and where team member's feet are exposed to electrical hazards.
    4. **Hand Protection.** Team Members must use appropriate hand protection when their hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns and harmful temperature extremes. Supervisors must base the selection of hand protection on evaluation of the performance characteristics of the hand protection relative to the specific tasks to be performed, conditions present, duration of use and the hazards and potential hazards identified.
    5. **Respiratory Protection.** Employees will wear appropriate respiratory protection when adequate ventilation or substitution with non-toxic chemicals, etc., is not possible or feasible.
    6. **Fall Protection.** Fall protection must be provided when employees are exposed to (1) a vertical fall of ten feet or more over a lower level or (2) any height over dangerous equipment. Fall protection will consist of either passive or active fall protection.
    7. **Electrical Protection.** Electrical protective equipment such as insulating blankets, matting, covers, line hoses, gloves, and sleeves must be provided to employees who are exposed to electrical hazards.

LOCKOUT/TAGOUT PLAN

1. **PURPOSE**
   1. It is the policy of Industrial Technology Services that all equipment will be locked out during servicing and/or maintenance work to protect against accidental or inadvertent activation that could result in personal injury or equipment damage. In addition to disconnecting the power source, it is also required that all residual pressures be relieved and energizing lines closed (secured) prior to and during any such work.

2. **SCOPE**
   1. All Team Members (authorized, affected or others) are required to comply with the requirements of lockout. The authorized employees are required to perform the lockout following this procedure. All Team Members, upon observing a machine or piece of equipment is locked out for servicing or maintenance work, shall not attempt to start, energize, or use that machine or equipment.
   2. Team Members shall consult with supervisor/management whenever there are any questions regarding energy control procedures or methods.
   3. Supervisor/management shall enforce the energy control procedure including the use of corrective disciplinary action when necessary.

3. **SAFETY**
   1. This policy establishes the minimum requirements for the lockout of energy sources whenever maintenance or servicing work is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before Team Members perform servicing or maintenance work where the unexpected/unintended energization, start-up of the machine equipment, or release of stored energy could cause injury.
   2. Due to the seriousness of this policy and the degree of injury that may be caused by not following this policy and the specific procedures that are included in this policy, corrective action, up to and including immediate termination, may result if this policy is violated.

4. **EQUIPMENT**
   1. Locks
   2. Tags (Identification Label)

5. **INSTRUCTIONS**
   1. The essential part of lockout of any equipment or lines is to ensure that the equipment cannot be started, or source lines opened by unauthorized personnel during servicing and maintenance work. If you have questions relating to the appropriate procedures to be followed, ask your Supervisor prior to commencing work.
      1. **Application of lockout control**
         - **Preparation for shutdown** – Personal safety locks (red) and keys will be kept by each individual Team Member, mechanic, and electrician. Supervisors will also have their own locks and keys. Authorized employees shall review the written lockout procedure to have complete understanding of the type(s) and magnitude of the energy, the hazards of the energy to be controlled, and the methods or means to control the energy.

- **Notification of Team Members** – Affected employees shall be notified by the authorized employees that the machine or equipment is going to be locked out.
- **Machine or equipment shutdown** – The machine or equipment shall be turned off or shut down using the energy control procedures established for the machine or equipment.
- **Machine or equipment isolation -** All energy isolating controls that are needed to control the energy of the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy sources (e.g., steam, pneumatic, hydraulic, and air). A **ZERO ENERGY STATE** must be proven. If the valves do not permit the use of standard lockout, another method such as a wire cable and lock can be used.
- **Lockout device application –** The multiple lock adapters and lock shall be affixed in such a manner as to hold the energy isolation devices in a safe or off position.
- **Notification of affected personnel –** Affected employees shall be notified by the authorized employees that the machine or equipment is locked out. In addition to verbal notification, a sign indicating a power lockout condition will be placed near the machine/equipment controls.
- **Verification of isolation -** Prior to starting work on a machine or equipment that has been locked out, each authorized employee involved shall verify that the isolation and de-energization of the machine or equipment have been accomplished by testing the effectiveness of the lockout by attempting to cycle the machine or start the equipment at the motor control center panel or start/stop switch (key/lock system).
- **Each authorized employee will notify other authorized and affected personnel in the area that they are going to attempt to cycle the machine or equipment prior to doing so and shall ensure that personnel are free and clear of the machine or equipment prior to operating the controls.**
- If the controls activate the machine or equipment or cause any machine or equipment movement, each authorized employee will **begin again at Step A: Preparation for shutdown.** If there is the possibility of re-accumulation of stored energy to a hazardous level, verification or isolation shall be continued until the servicing or maintenance is completed, or until the possibility of re-accumulation no longer exists. Stored or potential energy will be relieved, restrained, or otherwise made safe.
- **Begin work activity –** Work activity will begin once each authorized employee involved has verified that the current control of hazardous energy sources has been effective.

2. Testing/positioning of machines/equipment/components

1. In situations in which lockout devices must be removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component, the following sequence of actions shall be as follows:
   - Clear the machine or equipment of tools and materials.
   - Remove Team Members from the machine or equipment area.
   - Notify affected employees that the lockout devices are going to be removed.
   - Each authorized employee who applied a safety lock will remove their own safety lock.
   - Notify affected employees that the safety locks have been removed and that the equipment is going to be energized.
   - Energize and test the equipment
   - De-energize all systems and reapply energy control measures in accordance with established procedures.

3. **Lock removal**
   1. Each lockout lock shall be removed from each energy isolation device by the authorized employee who applied the device except for conditions specified in emergency lock removal. A lockout must never be broken (lock removed) by anyone other than the Team Member who performed that lockout.
4. **Emergency lock removal**
   1. When an authorized employee is not available to remove their lock, the Supervisor and Director of Operations of that Team Member have the authority to request the removal of a lock in the absence of the Team Member. In those cases when a Supervisor exercises that authority, the following procedure must be followed:
      - The Supervisor shall contact an authorized person and request assistance in this procedure.
      - The Supervisor and an authorized person must attempt to contact (at least verbally) the Team Member to whom the lock belongs and determine if the Team Member is on the premises.
      - If the Team Member is on the premises, he/she alone has the authority to determine whether the lock can be removed based on the guidelines of the lockout procedure.
      - If the Team Member is not on the premises, the Supervisor or an authorized person will make a reasonable effort to contact the Team Member and will ask the Team Member whether the work is complete, and the equipment is ready to be activated. The Team Member will be advised that his /her lock will be removed.
      - If the Team Member advises that the equipment is not ready to be activated, the Supervisor must arrange to have another lock placed on the equipment as soon as the existing lock is removed.
      - If the Team Member advises that the equipment is ready to be activated, the Supervisor shall inspect the work area to verify that there is no danger in re-energizing the equipment, remove the lock, and inform the department management that the equipment is operational.
      - If contact is not established, the Supervisor will inspect the equipment for completeness of work and authorize the removal of the lock. The Team Member whose safety lock has been removed will be notified immediately upon return to work verbally.
      - If the equipment is ready to be activated, the Supervisor will inform the affected employees that the equipment is operational. At this point, the Supervisor can authorize removal of the lock.

6. DEFINITIONS

1. **Authorized Employee -** A person who locks out or tags out a machine or equipment to perform servicing or maintenance on that machine or equipment.
2. **Affected Employee** - an employee who is affected by lockout/tagout, and who is not authorized to lockout equipment. An **affected employee** becomes an **authorized employee** when that **employee's** duties include performing servicing or maintenance.

7. COMPETENCY

1. **Obtaining a lock and identification label**
   1. Authorized employees shall be issued a master lock from their Supervisor as their personal safety lock. Safety locks used for personal protection will be individually numbered, and keyed padlocks will be red in color. One key will be in the possession of the Team Member using the safety lockout lock.
   2. What to lockout
      1. During servicing or maintenance, a machine utilizing any mechanical power source such as electrical, pneumatic, steam, hydraulic, and/or air must be locked out when the unexpected

energization or startup of the machine or equipment or released of stored energy could cause injury to Team Members. The lockout must render the machine inoperative and immovable.

2. **When lockout methods are required**
    1. **Equipment cleaning –** When a normally moving piece of equipment is stopped for cleaning clearing, or adjustment during which a startup could cause injury, lockout is used.
    2. **Equipment repair –** Whenever a repair is being performed on or near equipment where there is a possibility of injury as a result of starting the equipment, lockout is used. This includes any and all equipment from which a guard or other safety device has been removed.
    3. **Installation tasks –** Frequently during installation, either part or all of the components making up the installation can be operated before the installation is complete. If needed for testing, precautions must be taken to prevent injuries to Team Members during the test periods and the equipment again locked out when the test is complete or interrupted.
    4. **Electrical repair tasks –** Whenever any work other than testing is to be performed on an electrical circuit, the wiring involved must be deactivated and locked out so that it cannot be reactivated during this work.
3. **Group lockout**
    1. Before the work begins, the lockout procedure will be reviewed with each group member. One authorized employee will be designated as responsible for the lockout. If more than one department, shift, etc., is involved, one authorized employee will coordinate the lockout to ensure that all control measures are applied and that there is continuity of protection for the group. Each authorized employee will affix a personal safety lock (red) to the group lockout and will remove their lock when he/she stops working on the machine. Each lock must have that person's name affixed to it.
4. **Shift changes**
    1. The continuity of machine safeguarding during shift, personnel changes, or during long intervals of time between work, will be accomplished through the use of an equipment lock. Personnel changing shifts will install an equipment lock to the lockout adapter prior to removing their personal safety lock unless the equipment is ready to go back into service. A tag indicating the status of the machine/equipment will be attached to the equipment lock. Equipment locks shall be painted blue in color and will be used to lock out machines/equipment during shift changes or to maintain machines/equipment offline and to prevent unintentional operation. (Equipment lock (blue) is not to be used as energy control devices for personal protection. Equipment locks will be applied and removed by supervisor/management personnel.)
5. **When lockout methods are not required**
    1. In process tool changes as part of the production process.
    2. Other minor servicing activities that take place during normal production operations are not covered by this standard if they are routine, repetitive, and integral to the use of equipment for production and if the work is performed using alternative protective measures that provide effective employee production.
    3. Cord and plug connected equipment must be unplugged and under the exclusive control of the Team Member performing the service or maintenance work. The plug must physically be in the possession of the Team member, or in the arm's reach and in the line of sight of the Team Member. Lockout devices are available to lockout the plug when disconnected.

4. Repair, troubleshooting, and set-up adjustments must be performed on energized equipment only when it is absolutely necessary to leave the machine energized. For the purpose of this procedure, the trouble-shooting process will end, and a lockout will be required when:
    - Power is shut-off
    - A particular problem has been located and repairs start
    - Individual machine components are being replace
    - Circuit changes are being made

6. Categories of Team Member training

1. Authorized employees will receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for the energy isolation and control. A Team Member will not be considered authorized until training has been completed.
2. Affected employees shall be instructed in the purpose and use of the energy control procedure.
3. "Other" Team Members whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about their responsibility not to restart or re-energize machines or equipment which are locked out.

7. Team Member retraining

1. Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.
2. Additional retraining shall also be conducted whenever periodic inspection reveals, or whenever there is reason to believe that there are deviations from or inadequacies in the Team Member's knowledge or use of the energy control procedure.
3. Retraining will re-establish proficiency and introduce new or revised control methods and procedures, as necessary.

8. Certifying training/retraining

1. Management shall certify that Team Member training/retraining has been accomplished and is being kept up to date. Certification shall include written documentation containing the Team Member's name, category status (authorize, affected, other), and dates of training as well as a signed statement by the Supervisor signifying that the training has been conducted.

9. Contractors

1. All outside contractors are required to comply with this procedure while performing work for Industrial Technology Services.

POWERED INDUSTRIAL VEHICLES

1. PURPOSE

1. The purpose of this program is to ensure that each powered industrial vehicle operator is qualified to operate a powered industrial vehicle safely, as demonstrated by the successful completion of the applicable training and evaluation course.

2. SCOPE

1. It is the responsibility of The Safety Committee, with the support of management, for coordination of this program.
2. It is the responsibility of the Team Member to have the certification on their person when operating a powered industrial vehicle and adhere to the guidelines and regulations of the training program.

3. SAFETY

1. Prior to permitting a Team Member to operate a powered industrial vehicle (except for training purposes), the company shall ensure that the Team Member has successfully completed a training program. A powered industrial vehicle includes the following:
   - Forklift
   - Aerial Scissor Lift
   - Articulating Lift
   - Broderson Crane

4. EQUIPMENT

1. Safety Training Program Material
2. Certification Cards
3. Fork Truck/Man Lift
4. Scissor Lift
5. Articulating Lift
6. Broderson Crane

5. INSTRUCTIONS

1. The company shall certify that each Team Member has been trained and evaluated as required by this program.
2. The certification shall include:
   - Name of the Team Member
   - Date of the training
   - Type of powered industrial vehicle
   - Date of the evaluation
   - Identity of the person(s) performing the training or evaluation.
3. Refresher training, including an evaluation of the effectiveness of that training, shall be conducted to ensure that the Team Member has the knowledge and skills needed to operate the powered industrial vehicle safely. The company reserves the right to remove certification for operating of powered industrial vehicles as needed.

4. Refresher training in relevant topics shall be provided to the Team Member when:
   - The Team Member has been observed to operate the vehicle in an unsafe manner
   - The Team Member has been involved in an accident or near-miss incident
   - The Team Member has received an evaluation that reveals that the Team Member is not operating the truck safely
   - The Team Member is assigned to drive a different type of vehicle
   - A condition in the workplace changes in a manner that could affect safe operation of the vehicle.

6. DEFINITIONS

1. None.

7. COMPETENCY

1. All Team Member training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial vehicle operators and evaluate their competence. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.
2. An evaluation of each powered industrial vehicle operator's performance shall be conducted at least once every year and/or after an accident.

BLOODBORNE PATHOGENS PLAN

1. PURPOSE

1. The purpose of this program is to establish procedures for Team Members protection from bloodborne pathogens at Industrial Technology Services (ITS). This plan supports compliance with OSHA standards on bloodborne pathogens.

2. SCOPE

1. ITS does not have job classifications that are considered Category "A". There is not an expected occupational exposure to blood or other potentially infectious material as part of their roles and responsibilities.

3. SAFETY

1. Universal precautions will be observed at ITS in the provision of first aid, the removal of sharps and waste from the first aid area, and the housekeeping of any first aid area in order to prevent contact with blood or OPIM. All blood and OPIM will be considered infectious regardless of the perceived status of the source individual.
2. Engineering and work practice controls are limited to handwashing and housekeeping practices. (Also, see Needles). Where scissors are used in a medical procedure and become contaminated, they will be decontaminated using a germicide approved by the Environmental Protection Agency.
3. Handwashing facilities are available to the Team Members who incur exposure to blood or other potentially infectious materials. MIOSHA requires that these facilities be readily accessible after incurring exposure. At this company, handwashing facilities are in the steel shop and office restrooms.
    - Upon providing first aid or incurring exposures when handwashing facilities are not available, the employer is required to provide either an antiseptic cleanser in conjunction with clean cloths/paper towels or antiseptic towelettes. If these alternatives are used, then the hands are to be washed with soap and running water as soon as possible.
    - After removal of personal protective gloves, Team Members shall wash hands and any other potentially contaminated skin area immediately, or as soon as soap and water are available.
    - If Team Members incur exposure to their skin or mucous membranes, then those areas will be washed or flushed with water as appropriate as soon as feasible following contact.
4. Needles are not used at ITS. Sharp containers are available for Team Member use if medically necessary in restrooms in the steel shop and offices.

4. EQUIPMENT

1. All first aid personal protective equipment used in patient treatment, first aid, or housekeeping involving blood or OPIM at ITS will be provided without cost to Team Members. Personal protective equipment will be chosen based on the anticipated exposure to blood or other potentially infectious materials. The protective equipment will be considered appropriate only if it does not permit blood or OPIM to pass through or reach the Team Member's clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.
2. Protective clothing will be provided by Supervisors to first aid and janitorial Team Members involved in first aid and/or the post cleaning of affected area.

3. The following PPE is used in first aid at ITS:
   - Gloves – All Team Members assisting
   - Protective Eyewear (with solid side shield) – General PPE requirement
   - CPR (one way resuscitation shield) – Team Member providing CPR
   - Utility Gloves – Team Members assisting in first aid and cleaning of area
4. All personal protective equipment will be cleaned, laundered, and disposed of by the employer at no cost to Team Members. All repairs and replacements will be made by ITS at no cost at Team Members.
5. All personal protective equipment will be removed prior to leaving the work area. If visibly contaminated, the equipment shall be placed in an appropriately designated area or container for storage, washing, decontamination, or disposal.
6. If a Team Member were to have another person's blood or OPIM splash or soak on their clothing, they would decide to remove the contaminated clothing as soon as possible. This clothing would be laundered at Industrial Technology Services' expense. The clothing would be identified as contaminated, and any Team Member exposed to it would be notified and protected from exposure.
7. Gloves shall be worn where it is reasonably anticipated that Team Members will have hand contact with blood, other potentially infectious materials, non-intact skin, and mucous membranes. Gloves will be available from the first aid cabinet. Supervisor will provide supplies to Team Members.
8. Disposable gloves used at ITS are not to be washed or decontaminated for re-use and are to be replaced as soon as practical when they become contaminated, torn, punctured, or when their ability to function as a barrier is compromised. Utility gloves may be decontaminated for re-use provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are cracked, peelings, torn, punctured, or exhibit other signs of deterioration, or when their ability to function as a barrier is compromised.

5. INSTRUCTIONS

1. Areas involved in a first aid incident will be cleaned and decontaminated as soon as an incident is resolved. Decontamination will be accomplished by utilizing a bleach and water solution between 1:100 and 1:10. It must be prepared on an as needed basis. Bleach loses its disinfectant quality when stored in water. All contaminated work surfaces will be decontaminated after completion of procedures and immediately or as soon as feasible after any spill of blood or OPIM materials, as well as the end of the work shift if the surfaces may have become contaminated since the last cleaning.
2. All bins, pails, cans, and similar receptacles for regulated waste disposal in the janitor's closet shall be appropriately colored or labeled as containing biohazards and shall be inspected, emptied, and decontaminated on a regularly scheduled basis (hazardous waste disposal will be evaluated weekly for need). Disposal of feminine hygiene products and bandages or Kleenex used in self-administered first aid (bloody nose, small cut) are not considered regulated waste and will be disposed of in the normal waste stream.
3. Where circumstances cannot be foreseen in which recommended standard operating procedures could not be followed, the employer shall prepare contingency plans for Team Member protection, incident investigation and medical follow-up.
4. When a Team Member incurs an exposure incident, it must be reported to the Human Resource Manager.
5. All Team Members who incur an exposure incident will be offered post-exposure evaluation and follow-up by a licensed physician in accordance with the MIOSHA standard.

6. Follow-up will include the following:
   - Documentation of the route of exposure and the circumstances related to the incident.
   - If possible, the identification and status of the source individual.
   - The Team Member will be offered the option of having their own blood collected for testing of their HIV/HBV serological status. The blood sample will be reserved for at least 90 days to allow the Team Member to decide if the blood should be tested for HIV serological status. However, if the Team Member decides prior to that time that testing will not be conducted then the appropriate action can be taken, and the blood sample discarded.
   - The Team Member will be offered post exposure prophylaxis in accordance with the current recommendations of the U.S. Public Health Service in consultation with a licensed physician treating the exposed Team Member.
   - The Team Member will be given appropriate, confidential counseling concerning precautions to take during the period after the exposure incident, and counseling on risk reduction and the risks and benefits of HIV testing in accordance with state law. The Team Member will also be given information on what potential illnesses to be alert for, and to report any related experiences to appropriate personnel.
   - The Human Resource Manager has been designated to assure that the policy outlined here is effectively carried out as well as to maintain records related to this policy.

6. DEFINITIONS

1. **Bloodborne Pathogens** – infectious microorganisms in human blood that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV).
2. **OSHA –** Occupational Safety and Health Administration.
3. **OPIM –** Other Potentially Infectious Materials
4. **Infectious Material –** Body fluids of concern include: cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, saliva in dental procedures, and other body fluids visibly contaminated with blood.
5. **MIOSHA –** Michigan Occupational Safety and Health Administration.
6. **Biohazard -** a biological substance that poses a threat to the health of living organisms, primarily humans.

7. COMPETENCY

1. All Team Members who have been identified as having exposure to blood or OPIM (including first aid responders who have only a “collateral duty” to respond) will be offered the Hepatitis B vaccine, at no cost to the Team Member. The vaccine will be offered within 10 working days of their initial assignment to work involving the potential for occupational exposure to blood or OPIM unless the Team Member has previously had the vaccine, is allergic to the vaccine, or wishes to submit to antibody testing which shows the Team Member to have sufficient immunity.
2. Team Members who decline the Hepatitis B vaccine will sign a waiver.
3. ITS will ensure that the health care professional who is responsible for the Hepatitis B vaccination is provided with a copy of this control plan. A written opinion shall be obtained from the health care professional who evaluates Team Members of this facility.

4. Written opinions will be obtained in the following instances:
   - When the Team Member is sent to obtain the Hepatitis B vaccine.
   - Whenever the Team Member is sent to a health care professional following an exposure incident.
5. Health care professionals shall be instructed to limit their written opinions to:
   - Whether the Hepatitis B vaccine is indicated and if the Team Member has received the vaccine, or for evaluation following an incident.
   - A statement that the Team Member has been informed of the results of the evaluation
   - A statement that the Team Member has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials. (Note: The written opinion to the employer is not to reference any personal medical information.)
   - Any limitations on the Team Member's use of personal protective clothing or equipment.
6. Records will include:
   - Date of presentation
   - Summary of contents
   - Signed training logs by employees trained
7. This plan will be reviewed annually to ensure adequacy prior to performing training with Team Members.
8. ITS will establish and maintain a record for each Team Member with occupational exposure to include:
   - Name
   - Social Security Number
   - Hepatitis B vaccine form status
   - Copies of any past exposure/evaluation or follow-up
   - Employer shall ensure record confidentiality
   - Kept for duration of employment plus 30 years
7. Training for all Team Members will be conducted prior to initial assignment to tasks where occupational exposure may occur.
8. Training for Team Members will include the following explanations:
   - The MIOSHA standard for Bloodborne Infectious Disease
   - Modes of transmission of blood borne pathogens
   - Procedures which might cause exposure to blood or other potentially infectious materials at this facility.
   - Control methods which will be used at the facility to control exposure to blood or other potentially infectious materials.
   - Personal protective equipment available at this facility, and who should be contacted concerning its use.
   - Post exposure evaluation and follow-up.
   - Signs and labels used at the facility.
   - Hepatitis B vaccine program at the facility.
9. Training sessions shall afford Team Members ample opportunity for discussion and the answering of questions. The training shall include opportunities for supervised practice with personal protective equipment and other equipment which is designed to reduce the likelihood for exposure, and which will be used in the Team Member's work. All Team Members will receive annual refresher training.

CONFINED SPACE PLAN

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member is qualified to operate in a confined space safely, as demonstrated by the successful completion of the applicable training and evaluation course. Prior to permitting a Team Member to operate in a confined space, the company shall ensure that the Team Member has successfully completed a training program.

2. SCOPE

1. It is the responsibility of The Safety Committee, with the support of management, for coordinating this program. All Team member training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train on confined space and evaluate their competence. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training and experience to train others and evaluate their competence.

3. SAFETY

1. A confined space permit or certificate will be completed for each confined space entered
2. The following individuals are required when entry into a Permit Required Confined Space is necessary.
   - Entry Supervisor
   - Attendant
   - Entrant
3. The Rescue Team members shall:
   - Complete a training drill and simulate a rescue least annually.
   - Respond immediately to rescue calls from the Attendant or any other person recognizing a need for rescue from the confined space.
   - In addition to emergency response training, receive the same training as that required of the authorized entrants.
   - Have current certification in first aid and CPR

4. EQUIPMENT

1. Team Members who are required to wear respirators must be fit tested and instructed about the requirement to wear a respirator in the confined space.
2. Certain PPE maybe required depending on the type of confined space and the work to be done in that space:
   - Safety glasses
   - Safety harness
   - Steel toed shoes
   - Non-sparking tools
   - Hard hat

5. INSTRUCTIONS

1. **General Manager/ Department Manager**
   - Ensure that a list of confined spaces at the site is maintained.
   - Coordinate with outside responders as part of pre-emergency planning.
   - Ensure site personnel are trained on the requirements of this procedure, the hazards associated with confined space entry, and the safety requirements to be implemented whenever working in or around confined spaces.
   - Act as the Confined Space Program Administrator for their department or site and designate authorized confined space entry supervisors who will manage day-to-day confined space operations and complete confined space entry permits.
   - Ensure all confined space entry equipment is maintained and inspected according to the manufacture's recommendations.
   - Ensure that the provisions of this procedure are implemented during all confined space operations and activities involving confined spaces.
   - Consult Team Members to assess their views, the procedure effectiveness, and to identify any problems with the procedure.
   - Keep copies of completed confined space permits for at least 2 years.
2. **Confined Space Entry Supervisor**
   - Ensure requirements for entry have been completed before entry is authorized.
   - Ensure confined space monitoring is performed and logged every 15 minutes by personnel qualified and trained in confined space entry procedures and air monitoring procedures.
   - Ensure a list of monitoring equipment and personnel qualified to operate the equipment is maintained.
   - Ensure that the rescue team has simulated a rescue in a confined space within the past twelve (12) months.
   - Know the hazards that may be faced during entry, including the mode (how the contaminant gets into the body), signs or symptoms, and consequences of exposure.
   - Fill out the appropriate permit/certificate and sign the permit when all acceptable conditions have been met.
   - Determine the entry requirements.
   - Notify all involved employees of the permit requirements.
   - Post the permit in a conspicuous location near the job.
   - Renew the permit or have it reissued as needed.
   - Post any required barriers and signs.
   - Remain alert to changing conditions that might affect the conditions of the permits (i.e., require additional atmospheric monitoring or changes in personal protective equipment).
   - Ensure periodic atmospheric monitoring is done according to permit requirements.
   - Ensure that personnel doing the work and all support personnel adhere to permit requirements.
   - Ensure the permit is canceled when the work is done.
     - Ensure the confined space is safely closed and all workers are cleared from the area.

3. **Confined Space Attendant**
   - Maintain effective and continuous communication with personnel during confined space entry, work, and exit.
   - Order personnel to evacuate the confined space if he/she:
     - observes a condition which is not allowed on the entry permit.
     - notices the entrants acting strangely, possibly as a result of exposure to hazardous substances.
     - notices a situation outside the confined space which could endanger personnel.
     - notices a hazard within the confined space that has not been previously recognized or taken into consideration.
     - must leave his/her workstation; or
     - must focus attention on the rescue of personnel in some other confined space that he/she is monitoring
   - Immediately summon the Rescue Team if crew rescue becomes necessary.
   - Keep unauthorized persons out of the confined space, order them out, or notify authorized personnel of an unauthorized entry.
4. **Team Member**
   - Attending confined space refresher training at least annually.
   - Taking care of their PPE.
   - Reporting unusual conditions associated with confined space equipment or confined space operations to their Supervisor or confined space Entry Supervisor immediately (i.e., before entering a confined space).
   - Following instructions from the Confined Space Entry Supervisor and the Confined Space Attendant.
   - Following all health and safety measures developed around confined spaces and other safety hazards.
   - Read and observe the entry permit requirements.
   - Remain alert to the hazards that could be encountered while in the confined space.
   - Properly use the personal protective equipment that is required by the permit.
   - Alert Attendant(s) when a prohibited condition exists and/or when warning signs or symptoms of exposure exist.
   - Immediately exit the confined space when:
     - they are ordered to do so by an authorized person.
     - they notice or recognize signs or symptoms of exposure.
     - a prohibited condition exists; or
     - when the automatic alarm system sounds
     - Alert Attendant(s) when a prohibited condition exists and/or when warning signs or symptoms of exposure exist.
5. **Rescue Team**
   - Complete a training drill and simulate a rescue least annually.
   - Respond immediately to rescue calls from the Attendant or any other person recognizing a need for rescue from the confined space.
   - In addition to emergency response training, receive the same training as that required of the authorized entrants.
   - Have current certification in first aid and CPR.
   -

6. DEFINITIONS

1. **Attendant -** An individual who is stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendants' duties assigned in this program**.**
2. **Authorized Entrant -** An individual who is authorized by an employer to enter a permit space.
3. **Entry Supervisor –** A person responsible for determining if acceptable entry conditions are present in a permit space where entry is planned and creating and signing the entry permit. Authorizing entry and overseeing entry operations, and for terminating entry as required.
4. **Hazardous Atmosphere** – An atmosphere that may expose individuals to risk of death, incapacitation, impairment of ability to self-rescue from a permit space, injury, or acute illness as the result of oxygen deficiency, toxic and/or flammable gases and vapors or any other atmospheric condition that is immediately dangerous to life or health.
5. **Confined Space -** being made up of 3 main parts:
   - being large enough for a Team Member to enter and perform work.
   - has limited or restricted means for entry or exit; and
   - is not designed for continuous occupancy

7. COMPETENCY

1. The company will certify that each Team member has been trained and evaluated as required by this program.
2. The certification shall include:
   - the name of the Team member
   - date of the training
   - date of the evaluation
   - identity of the person(s) performing the training/evaluation
3. Refresher training, including an evaluation of the effectiveness of that training, will be conducted to ensure that the Team Member has the knowledge and skills needed to operate in a confined space safely.
4. The company reserves the right to remove certification for operating in a confined space as needed.
5. Refresher training in relevant topics shall be provided to the Team Member when:
   - The Team Member has been observed operating in an unsafe manner
   - The Team Member has been involved in an accident or near-miss incident
   - The Team Member has received an evaluation that reveals that the Team member is not operating safely
   - A condition in the workplace changes in a manner that could affect safe operation of working in a confined space
6. An evaluation of each Team Member's performance shall be conducted at least once every year and/or after an accident.

FALL PROTECTION PLAN

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member is qualified to identify and operate in a situation where fall protection is required, as demonstrated by the successful completion of the applicable training and evaluation course. Prior to permitting a Team Member to operate in a situation where fall protection is required, the company will ensure that the Team Member has successfully completed a training program.

2. SCOPE

1. It is the responsibility of The Safety Committee, with the support of management, for coordinating this program. All Team Member training and evaluation will be conducted by persons who have the knowledge, training, and experience to train on fall protection and evaluate their competence. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.
2. It is the responsibility of the Team Member to have the certification on their person when operating in a situation where fall protection is required and adhere to the guidelines and regulations of the training program.

3. SAFETY

1. Personal fall arrest systems are issued to and used by Team Members as determined by the safety manager and may consist of anchorage, connectors, body harness, deceleration device, lifeline, or suitable combinations. Personal fall arrest systems:
   - Limit the maximum arresting force to 1800 lbs.
   - Are rigged so a Team Member cannot free fall more than 6 ft. or contact any lower level
   - Bring a Team Member to a complete stop and limit the maximum deceleration distance traveled to 3 ½ ft.
   - Are strong enough to withstand twice the potential impact energy of a Team Member free falling 6 ft. (or the free fall distance permitted by the system, whichever is less)
   - Are inspected prior to each use for damage and deterioration
   - Are removed from service if any damaged components are detected

4. EQUIPMENT

1. Personal fall arrest system.
2. Guardrail systems are erected at unprotected edges, ramps, runways, or holes
3. Toeboards are used to prevent falling objects
4. Anchorages that support at least 5000 pounds per person attached

5. INSTRUCTIONS

1. Where a risk of a fall from work tasks performed at heights is identified, a control measure shall be determined following the hierarchy of risk control measures (in descending order) to either eliminate the risk or reduce the chance of a fall to as low as reasonably practicable. Only where it is not reasonably practical to use a higher order control may you then use a control at the next lower level:

- Eliminate the risk of a fall completely, e.g., relocate the work to a safe working height, to the ground or existing solid construction with guardrail/walls, etc.
- If it is not reasonably practical to eliminate the risk of a fall, reduce the risk using passive fall protection equipment e.g., guardrail, scissor lifts, elevated work platforms, scaffolds, etc. Note: work from any mobile elevated work structure, shall require the additional use of a Personal Fall Arrest System.
- If it is not reasonably practical to eliminate the risk, use work positioning systems to physically prevent a fall from occurring.
- If it is not reasonably practical to use the above options, the use of Personal Fall Arrest System to arrest a fall after it occurs shall be used. Note: body belts are not permitted for use as part of a Personal Fall Arrest System.
- If none of the above measures are reasonably practical, when possible, the use of documented administrative controls that specify the procedures to be used to mitigate the risk e.g., Warning Line System, Fall Protection Plan, Job Safety Analysis, etc.

2. The use of a personal fall arrest system is the required personal protective equipment for falls. A personal fall arrest system consists of a full-body harness, lanyard, and anchorage OR a full-body harness, lanyard, lifeline, anchorage, and deceleration/grabbing device. All fall protection equipment shall meet or exceed appropriate American National Standards Institute (ANSI) standards. Personnel shall use only commercially manufactured equipment specifically designed for fall protection and certified by a nationally recognized testing laboratory. All fall protection equipment must bear the marking of the manufacturer and approvals for specified use. Requirements for a personal fall arrest system include but are not limited to the following:
   - Full-Body Harness - Only full-body harnesses shall be used. Note: The use of a body belt as fall protection is prohibited.
   - Connecting Device - Shock-absorbing lanyards and lifelines
     1. Lanyards and lifelines shall have a minimum breaking strength of 5000 pounds.
     2. Lanyards shall not exceed six feet in length. Lanyards used on aerial lift devices should not exceed 4 feet in length to reduce slack.
     3. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers.
     4. Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.
     5. The maximum free fall distance is six feet for all systems.
     6. The maximum deceleration distance is 3.5 feet.
     7. Personal fall arrest systems shall have sufficient strength to withstand twice the potential impact energy of the falling Team Member.
   - Anchorage - Anchorage point and anchorage connector
     1. Anchorages used for personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and be capable of supporting at least 5000 pounds per Team Member attached.
     2. A qualified person shall determine all anchor points, both temporary and permanent. Permanent anchor points shall be properly marked.
     3. Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists except as specified in other regulations.
3. Personal Fall Arrest Systems and associated devices/equipment shall be visually inspected prior to each use per the manufacturer's instructions for excessive wear, damage, and other signs of deterioration. In addition, for general guidance refer to the Inspection and Maintenance Checklist.

- Periodic inspections shall be documented.
- Defective or out of date equipment shall be immediately removed from service and tagged.
- Personal Fall Arrest Systems that are involved in a fall arrest incident must be taken out of service immediately and permanently. Retractable lifelines must be sent back to the manufacturer for repair and re-certification or destroyed.
- Harnesses, lanyards, and retractable devices must have a legible tag or data plate attached to the device or it must be taken out of service.
- Fall protection equipment must be replaced as required per the manufacturer's instructions.

4. Fall protection equipment must be used in accordance with the manufacturer's instructions. This includes weight and size limitations and must not be altered in any way without the manufacturer's written authorization.

6. DEFINITIONS

1. **Anchorage** - a secure point of attachment for lifelines, lanyards, or deceleration devices.
2. **Body belt** - a strap with means both for securing it about the waist and for attaching it to a lanyard lifeline, or deceleration device.
3. **Body harness** - straps that may be secured about the person in a manner that distributes the fall-arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a personal fall arrest system.
4. **Connector -** A device that is used to couple (connect) parts of a personal fall arrest system or positioning device system together.
5. **Guardrail system** - a barrier erected to prevent employees from falling to lower levels.
6. **Lanyard** - a flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage**.**
7. **Personal fall arrest system -** a system including but not limited to an anchorage, connectors, and body harness used to arrest an employee in a fall from a working level.
8. **Snaphook**: a connector consisting of a hook-shaped member with a normally closed keeper, or a similar arrangement, which may be opened to permit the hook to receive an object and, when released automatically, closes to retain the object.
9. **Toeboard**: a low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

7. COMPETENCY

1. The company will certify that each Team Member has been trained and evaluated as required by this program.
2. The certification shall include:
   - The name of the Team Member
   - The date of the training
   - The date of the evaluation
   - The identity of the person(s) performing the training or evaluation
3. Refresher training, including an evaluation of the effectiveness of the training, shall be conducted to ensure that the operator has the knowledge and skills needed to operate when fall protection is required safely.
4. The company reserves the right to remove certification as needed.
5. Refresher training in relevant topics will be provided to the Team Member when:

1. The Team Member has been observed operating in an unsafe manner
2. The Team Member has been involved in an accident or near-miss incident
3. The Team Member has received an evaluation that reveals that the Team Member is not operating safely
4. A condition in the workplace changes in a manner that could affect safe operation of working with fall protection
6. An evaluation of each Team Member's performance will be conducted at least once every year and/or after an accident.
7. When at a customer's facility, Team Members must follow their on-site fall protection programs, or the ITS fall protection program. Whichever is greater.

OVERHEAD BRIDGE CRANE PLAN

1. PURPOSE

1. The purpose of this program is to ensure that each operator is qualified to operate an overhead bridge crane safely, as demonstrated by the successful completion of the applicable training and evaluation course. Prior to permitting an employee to operate an overhead bridge crane (except for training purposes), the company shall ensure that the Team Member has successfully completed a training program.

2. SCOPE

1. It is the responsibility of The Safety Committee, with the support of management, for coordinating this program. All Team Member training and evaluation will be conducted by persons who have the knowledge, training, and experience to train overhead bridge crane operators and evaluate their competence. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.
2. It is the responsibility of the Team Member to have the certification on their person when operating an overhead bridge crane and adhere to the guidelines and regulations of the training program.

3. SAFETY

1. Team Members shall comply with the following rules while operating the cranes and hoists:
   - Do not engage in any practice that will divert your attention while operating the crane.
   - Respond to signals only from the person who is directing the lift, or any appointed signal person. Always obey a stop signal, no matter who gives it.
   - Do not move a load over people. People shall not be placed in jeopardy by being under a suspended load. Also, do not work under a suspended load unless the load is supported by blocks, jacks, or a solid footing that will safely support the entire weight. Have a crane or hoist operator remain at the controls or lock open and tag the main electrical disconnect switch.
   - Ensure that the rated load capacity of a crane's bridge, individual hoist, or any sling or fitting is not exceeded. Know the weight of the object being lifted or use a dynamometer or load cell to determine the weight.
   - Check that all controls are in the OFF position before closing the main line disconnect switch.
   - If spring-loaded reels are provided to lift pendants clear off the work area, ease the pendant up into the stop to prevent damaging the wire.
   - Avoid side pulls. These can cause the hoist rope to slip out of the drum groove, damaging the rope or destabilizing the crane or hoist.
   - To prevent shock loading, avoid sudden stops or starts. Shock loading can occur when a suspended load is accelerated or decelerated and can overload the crane or hoist. When completing an upward or downward motion, ease the load slowly to a stop.
2. An operator and any Team Member directing a lift must use the PPE required in the area. If the top of the load is lifted to a height greater than 5 feet, then the load is considered an overhead hazard and head protection needs to be worn.

4. EQUIPMENT

1. Only select rigging equipment that is in good condition. All rigging equipment shall be inspected annually; defective equipment is to be removed from service and destroyed to prevent inadvertent reuse. The load capacity limits shall be stamped or affixed to all rigging components. Company policy requires a minimum safety factor of 5 to be maintained for wire rope slings. The following types of slings shall be rejected or destroyed:
   - Nylon slings with abnormal wear, torn stitching, broken or cut fibers, discoloration, or deterioration.
   - Wire-rope slings with Kinking, crushing, bird-caging, or other distortions, along with evidence of heat damage, cracks, deformation, or worn end attachments.
   - Alloy steel chain slings with cracked, bent, or elongated links or components, and cracked hooks.
   - Shackles, eye bolts, turnbuckles, or other components that are damaged or deformed.

5. INSTRUCTIONS

1. At the start of each work shift, operators shall do the following steps before making lifts with any crane or hoist:
   - Test the upper-limit switch. Slowly raise the unloaded hook block until the limit switch trips.
   - Visually inspect the hook, load lines, trolley, and bridge as much as possible from the operator's station; in most instances, this will be the floor of the building.
   - If provided, test the lower-limit switch.
   - Test all direction and speed controls for both bridge and trolley travel.
   - Test all bridge and trolley limit switches, where provided, if operation will bring the equipment near the limit switches.
   - Test the pendant emergency stop.
   - Test the hoist brake to verify there is no drift without a load.
   - If provided, test the bridge movement alarm.
   - Lock out and tag for repair any crane or hoist that fails any of the above tests.
2. Do the following when rigging a load:
   - Determine the weight of the load. Do not guess.
   - Determine the proper size for slings and components.
   - Do not use manila rope for rigging.
   - Make sure that shackle pins and shouldered eye bolts are installed in accordance with the manufacturer's recommendations.
   - Make sure that ordinary (shoulderless) eye bolts are threaded in at least 1.5 times the bolt diameter.
   - Use safety hoist rings (swivel eyes) as a preferred substitute for eye bolts wherever possible.
   - Pad sharp edges to protect slings. Remember that machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into rigging when under several tons of load. Wood, tire rubber, or other pliable materials may be suitable for padding.
   - Do not use slings, eye bolts, shackles, or hooks that have been cut, welded, or brazed.
   - Install wire-rope clips with the base only on the live end and the U-bolt only on the dead end. Follow the manufacturer's recommendations for the spacing for each specific wire size.
   - Determine the center of gravity and balance the load before moving it.
   - Initially lift the load only a few inches to test the rigging and balance.

3. Moving a Load
   - Center the hook over the load to keep the cables from slipping out of the drum grooves and overlapping, and to prevent the load from swinging when it is lifted. Inspect the drum to verify that the cable is in the grooves.
   - Use a tag line when loads must traverse long distances or must otherwise be controlled. Manila rope may be used for tag lines.
   - Plan and check the travel path to avoid personnel and obstructions.
   - Lift the load only high enough to clear the tallest obstruction in the travel path.
   - Start and stop slowly.
   - Land the load when the move is finished. Choose a safe landing.
   - *Never* leave suspended loads unattended. In an emergency where the crane or hoist has become inoperative, if a load must be left suspended, barricade and post signs in the surrounding area, under the load, and on all four sides. Lock open and tag the crane or hoist's main electrical disconnect switch.
4. Parking a Crane or Hoist
   - Remove all slings and accessories from the hook. Return the rigging device to the designated storage racks.
   - Raise the hook at least 2.1 m (7 ft.) above the floor.
   - Place the emergency stop switch (or push button) in the OFF position.
   - Store the remote pendant on the designated hook away from aisles and work areas.

6. DEFINITIONS

1. **Authorized Person** – Someone with training and experience pertaining to crane and hoist repair.
2. **Bridge** – the part of the crane consisting of girders, trucks, end ties, foot walks, and drive mechanism which carries the trolley or trolleys.
3. **Bumper** – a device for reducing impact when a moving crane reaches the end of its permitted travel, or when two moving cranes come into contact.
4. **End truck** – an assembly consisting of the frame and wheels which support the crane girders and allow movement along the runway.
5. **Hoist** – a suspended machinery unit used for lifting or lowering a freely suspended load
6. **Clearance** – the distance from any part of the crane to a point of the nearest obstruction.
7. **Sling** – Lifting devices such as chain, wire rope, metal mesh, fiber rope and synthetic web utilized to secure a load to be moved.
8. **Rope reeving** – A system in which wire rope travels around drums and sheaves, or pulleys, for the purpose of hoisting or hauling.
9. **Running rope** – A rope that moves over sheaves or drums.

7. COMPETENCY

1. The company will certify that each Team Member has been trained and evaluated as required by this program.
2. The certification will include:
   - The name of the Team Member
   - The date of the training
   - The identity of the person(s) performing the training or evaluation

3. Refresher training, including an evaluation of the effectiveness of that training, will be conducted to ensure that the Team Member has the knowledge and skills needed to operate the crane safely.
4. The company reserves the right to remove certification for operation of overhead bridge cranes as needed.
5. Refresher training in relevant topics shall be provided to the Team Member when:
    - The Team Member has been observed to operate the crane in an unsafe manner
    - The Team Member has been involved in an accident or near-miss incident
    - The Team Member has received an evaluation that reveals that the Team Member is not operating the crane safely
    - A condition in the workplace changes in a manner that could affect safe operation of the crane
6. An evaluation of each overhead crane operator's performance will be conducted at least once every year and/or after an accident.

RESPIRATORY PROTECTION PLAN

1. PURPOSE

1. The purpose of this program is to help ensure the health and safety for Team Members of Industrial Technology Services. The primary objective is to provide Team Member protection from exposure to any respiratory hazard that may be encountered while performing various work assignments for this company.

2. SCOPE

1. This program applies to all Team Members who are required to wear respirators during normal work operations and during some non-routine or emergency operations. This includes Team Members in the prep, coating (spray booth), and Maintenance departments. All Team Members working in these areas and engaged in certain processes or tasks must be enrolled in the company's respiratory protection program.
2. The Supervisor is responsible for ensuring that Team Members follow the respiratory protection program requirements.

3. SAFETY

1. Before any Team Member uses a respirator, the following steps must be completed:
   - **Hazard Assessment**: The Supervisor must perform a workplace assessment.
   - **Medical Questionnaire**: The Team Member must complete a confidential medical questionnaire supplied by Concentra.
   - **Health Care Professional Review and Approval**: The Supervisor sends copies of the hazard assessment and medical questionnaire to Concentra for review. The review process allows a licensed health care professional to medically clear an individual for respirator use and to set a schedule for future reviews. Licensed health care professionals typically medically clear individuals for one to three years.
   - **Fit Test and Training**: Once medical clearance is obtained, the Supervisor schedules the Team Member for a respirator fit test and training.
   - **Authorization**: Once the fit test and training are completed, the Supervisor provides the Team Member with a copy of an approved Hazard Assessment/Respirator Authorization form as record of respirator training and fit test.

4. EQUIPMENT

1. Team Member will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each model. In addition, the respirator shall not be used in a manner for which it is not certified by its manufacturer.
2. All Team Members shall conduct user seal checks each time that they wear their respirator.
3. All Team Members shall clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended.
4. Team Members are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures, that prevents them from achieving a good seal.
5. Team Members are not permitted to wear headphones, jewelry, or other articles that may interfere with the face piece-to-face seal.

5. INSTRUCTIONS

1. The Supervisor ensures that:
   - The Team member conducts a hazard assessment whenever a new product is brought into use, a work process changes, or a new work process is adopted.
   - Team Members always have access to a copy of the written respiratory protection program. The Supervisor is to contact The Safety Committee to obtain copies of the written respiratory protection program.
   - Team Members wear respirators when necessary.
   - Team Members have access to a clean sink and are provided time to clean respirators daily.
   - Team Members receive an annual fit test.
   - Team Members use respirators only for those tasks specified in the respirator authorization forms provided by the Supervisor.
   - Team Members who use respirators do not have facial hair that will interfere with the respirator/face seal.
2. Each Team Member who uses a respirator is responsible for:
   - Wearing the respirator when required.
   - Cleaning the respirator after every use.
   - Storing the respirator in a sealed container or bag.
   - Changing the cartridges according to the interval specified in the respirator authorization form.
   - Trimming facial hair so that hair does not come between the sealing surface of the respirator and the face and does not interfere with respirator valve function.
   - Using a respirator only for tasks which the Supervisor has identified and has documented on the Team Member's respirator authorization form.
   - Receiving an annual fit test and training from the Supervisor.
3. Team Members are to be medically cleared to use respirators through an established process administered by Concentra.

6. DEFINITIONS

1. **Canister or Cartridge** – a container with a filter, sorbent, catalyst, or combination of these items, which removes specific c contaminants from the air passed through the container.
2. **Clean-Shaven** – a subject who has no interfering facial hair between the face and the sealing surface of the respirator and no facial hair interfering with the valve function of the respirator.
3. **Service life** – The period that a respirator, filter, sorbent, or other respiratory equipment provides adequate protection to the wearer.
4. **Exhalation Valve** – a device that allows exhaled air to leave a respiratory device and prevents outside air from entering through the valve.
5. **Irritants** – a chemical which causes a reversible inflammatory effect on living tissue particularly the skin, eyes, nose, or respiratory system.
6. **Vapors** – the gaseous state of substances that are liquid or solid at room temperature.
7. **Fit test** – the use of a protocol to evaluate the fit of a respirator qualitatively or quantitatively on an individual.
8. **Contaminant** – Any harmful, irritating, or nuisance material that is foreign to the normal atmosphere. Contaminants can be particulates, gases, or vapors.

9. **Fit Factor** – A quantitative estimate of the fit of a particular respirator to a specific individual. It typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

7. COMPETENCY

1. Upon request by Team Members, the Supervisor will conduct respiratory hazard assessments of work tasks to determine if respiratory protection is needed.
2. Before the Supervisor approves respirators for Team Member protection, they must reduce Team Member hazard exposure by utilizing engineering or procedural controls or by substituting less hazardous chemicals for hazardous ones. Engineering controls may include fume hoods or local exhaust. Procedural controls may include wet methods of working and cleaning to control airborne dust.
3. Once the Supervisor identifies a hazard, Team Members are to wear respirators if the hazard exists or until the unit removes or controls the hazard and receives clearance from the Supervisor.
4. For any malfunction of a respirator (e.g., such a breakthrough, face piece leakage, or improperly working valve), the respirator wearer should inform his or her Supervisor that the respirator no longer functions as intended and go to a safe area to maintain the respirator. The Supervisor must ensure that the Team Member receives the needed parts to repair the respirator or is provided with a new respirator.
5. In order to ensure continuing protection from the respirators being use, it is necessary to establish and implement proper maintenance and care procedures and schedules. A lax attitude toward maintenance and care will negate successful selection and fit because the devices will not deliver the assumed protection unless they are kept in good working order.
6. All respirators will be inspected after each use and at least monthly. Should any defects be noted, the respirators will be taken to the program administrator or Supervisor. Damaged respirators will be either repaired or replaced.

EMERGENCY PLAN: Use of Portable Grinders	Revision Date: 04-09-2021	Approval: Safety Committee

PORTABLE GRINDER PLAN

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member is qualified to operate a Portable Grinder safely, as demonstrated by the successful completion of the applicable training and evaluation course. Prior to permitting a Team Member to operate a Portable Grinder, the company will ensure that the Team Member has successfully completed a trading program.

2. SCOPE

1. It is the responsibility of The Safety Committee, with the support of management, for coordinating this program. All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train with Portable Grinders. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.

3. SAFETY

1. Mandatory use of Personal Protective Equipment (PPE)
   - Impact rated safety glasses or goggles
   - Face shield
2. Job Dependent Personal Protective Equipment (PPE)
   - Hearing protection
   - Gloves
   - Aprons
   - Respiratory protection
   - Fire blanket
3. Guarding
   - Portable Grinder guards must be provided for use, adjusted accordingly, and used properly to protect the user.
   - Follow the manufacturer's manual for the safe use of grinder wheel guards.

4. EQUIPMENT

1. Portable Grinders, cordless and corded
2. Fire blankets and/or Fire extinguishers

5. INSTRUCTIONS

1. General Use
   - Never operate a grinder with a damaged or missing guard.
   - Ensure the floor around the work area is clean.
   - Do not use wheels that are cracked or those that excessively vibrate.
   - Do not operate grinder on wet floors
   - Keep the power cord away from the grinding wheel and the material being ground.

- Use both hands when holding the grinder. Portable Grinder guards must be provided, adjusted accordingly, and used properly to protect you. Replace damaged guards because if an abrasive wheel breaks while rotating, it can cause a serious injury.
- Before use, check the manufacturer's stated running speeds, or markings on the grinder and grinder wheel for the maximum speed that it can be used.

2. Maintenance
   - Clean and service grinders according to manufacturer's recommendations.
   - Ensure that a machine will not operate when unattended by checking the dead-man switch (constant pressure).
   - Replace damaged guards.

6. DEFINITIONS

1. **Horizontal grinder** – The full grinding face width of the wheel is in contact with the grinding surface.
2. **Right-angle grinder –** The grinding face of the wheel or disc is at an angle of between 5 and 15 degrees from the grinding surface.
3. **Vertical grinder –** The grinding wheel face is in contact with the surface.

7. COMPETENCY

1. Avoid using grinders near flammable materials.
2. Do not clamp portable grinders in a vise for grinding hand-held work.
3. Do not use any liquid coolants with portable grinders
4. Do not force wheels onto a grinder that are the wrong size or change mounting hole sizes.
5. Do not tighten the mounting nut excessively.
6. Do not put the grinder on the floor or working surface until the wheel has stopped turning.
7. Do not keep any materials close to the grinding wheel when it is not in use.
8. Do not wear loose clothing or dangling jewelry as they may get caught in the moving parts of the grinder. If you have long hair, keep it tied back.
9. Be aware of surroundings and direction of wheel spray.

EMERGENCY PLAN: ITS Building Security Plan	Revision Date: 04-09-2021	Approval: Safety Committee

ITS Building Security Plan

1. PURPOSE

1. The purpose of this plan is to provide direction and responsibility in the event of an (active shooter, emergency)

2. SCOPE

1. It is the responsibility of The Safety Committee, with the support of management, for coordinating this plan. All training and evaluation shall be conducted by persons who have the knowledge, training, and experience in an active shooting scenario. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience in an active shooting scenario to evaluate their competence.

3. RESPONSIBILITIES

1. Everyone should report all suspicious behavior and notify supervisors.

4. ACTIVE SHOOTER EMERGENCY PLAN

1. D – Defend this is a variable that must be a choice at that moment. (Is the attacker armed, what are they armed with, how do I react?)
2. E – Evacuate – Rally Point (2 neighbor buildings)
    a. *American Brake & Clutch, Inc. – (586) 948-3730 Dan or Lisa*
    b. *Technical Stamping, Inc. – (586) 948-3285 Sherrie Mishon*
3. F – Fortified – Can you protect yourself in your space?
4. E – Emergency Medical Aid, what type of medical training do you have? What type of gear do we have and where is it located? Are you willing to help another?
5. N – Notifying others, communicate the threat to others.
6. D – Dial 911 – Explain the situation.

5. SAFETY

1. Controlling physical access to areas in the workplace.
2. Procedure for distributing keys.
3. Remind employees to stay observant both while working and when arriving/leaving
4. An alarm that is manually activated to indicate danger.

6. AFTER ACTION

1. Supervisor of Department Manager should take a head count and communicate to police or first responders.
2. Contact any family members in the event of injuries or casualties.

CHESTERFIELD POLICE DEPARTMENT	**(586) 949-2322**
CHESTERFIELD FIRE DEPARTMENT	**(586) 725-2233**

BACK SAFETY

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member practices proper Back Safety.

2. SCOPE

1. It is the responsibility of Safety Committee, with the support of management, for coordinating this program. Team Members will understand how back injuries occur, how to prevent back injuries, how to use proper lifting, load carrying, and unloading techniques, and how to think intelligently about your back. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.

3. SAFETY

- Types of Back Injuries
  - Strain – Injury caused by overusing or overstretching your back
  - Sprain – Torn ligament in back torn or excessively stretched
  - Bulging Disk – When disk begins to come out from between two vertebrae
  - Herniated Disk – When disk begins to leak its cushioning fluid

- General Causes of Back Injuries
  - Poor posture
  - Unconditioned back
  - Excess weight and potbellies
  - Bad lifting techniques
  - Underlying medical conditions

- Back Injury Prevention
  - Maintain good posture
  - Stand straight and sit properly
  - Walk 30 minutes a day to strengthen muscles and maintain weight
  - Stretch regularly to stay flexible
  - Have a safe lifting plan - carry loads properly

4. EQUIPMENT

None

5. INSTRUCTIONS

1. Have a Safe Lifting Plan
   - Size up the load – weight, shape, and size
   - Clear the Path of objects. Be mindful of tight doorways or corners.
   - Make sure you have a clear accessible unloading zone.

2. Lift Properly
    - Stand close with a wide stance
    - Bend at the knees
    - Pull the load close and grip it
    - Tighten your stomach, lift your head
    - Rise using your legs

3. Be Mindful of Your Back When Lifting
    - Be diligent
    - Think long term
    - Do not try to lift too much
    - Consider your back in all things you do

6. DEFINITIONS

None

7. COMPETENCY

1. Avoid moving boxes that are too heavy – have a lifting plan.
2. Do not move heavy boxes without lifting equipment.
3. Use your legs; bend them when lifting.
4. Always think about your back.

LADDER SAFETY

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member practices proper Ladder Safety.

2. SCOPE

1. It is the responsibility of Safety Committee, with the support of management, for coordinating this program. Team Members will understand how ladder accidents occur, how to prevent ladder accidents, the proper dos and don'ts of using a ladder, ladder transportation, storage, and maintenance tips. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.

3. SAFETY

- What Causes Ladder Accidents
  - The wrong ladder was used (Select the right ladder for the job)
  - The ladder was in poor condition (Make sure it is in good condition)
  - The ladder was not used properly (Use it in the way it was intended)

- Choosing the Correct Ladder
  - Height – Never stand on the top 2 rungs of a stepladder or the top 4 rungs of an extension ladder
  - Capacity – Include your own weight and weight of any equipment carrying. Capacity Codes are listed in roman numerals on all ladders.
  - Material – Never use metal ladders around power lines; use a fiberglass ladder
  - Do not use defective or unsafe ladders – even under a deadline. Always mark unsafe ladder "out of service" or "broken" so it can be easily seen.

- Steps to Proper Ladder Setup
  - Stability – Place ladders on a firm level surface. Always check to make sure ladder is stable.
  - Height – Never set a ladder on top of another object to gain more height.
  - Extension – Use an extension ladder or two ladders designed for two-ladder coupling.
  - Doorways – Secure ladders near doorways to prevent accidental movement.
  - Strength – Do not lean a ladder against surfaces that cannot support your weight.
  - Spreaders – Make sure spreaders are extended, locked in place, and secured.
  - Stationary – Never move, shift, or extend a ladder while you or another worker is on it.

4. EQUIPMENT

Ladders – Metal and Fiberglass

5. INSTRUCTIONS

1. Ladder 4-to-1 Rule:
    - Place base of the ladder one (1) foot from the base of the wall or foundation for every four (4) feet between the base and the support point (where you lean the ladder).
    - The top of the ladder should extend at least three (3) feet above the support point (example: the edge of a roof).
    - Make sure the overlap is on the climbing side of the ladder.
    - Make sure both siderails are supported by the surface you are leaning against.
    - Make sure that locking devices on the ladder are secure.

2. Climbing Properly
    - Take your time
    - Make sure you are wearing clean, dry shoes
    - Only one person climbs the ladder at one time
    - Always face the ladder when you go up or down, holding onto siderails
    - Do not climb higher than the fourth run from the top of the ladder
    - Stay alert and focused
    -

3. Ladder Dos and Don'ts
    - Don't lean too far in either direction!
    - Don't reach too far overhead – stay off top runs!
    - Don't reposition the ladder while standing on it!
    - Do keep three point of contact at all times (ex., two hands and one foot)
    - Do keep body centered on the ladder (keep belt buckle between ladder sides).
    - Do move carefully and slowly when working on the ladder

6. DEFINITIONS

None

7. COMPETENCY

1. Ladder accidents can cause serious injuries or even death.
2. Most ladder accidents are preventable by taking safety measures.
3. Always use the right ladder for the job and inspect it before each use.
4. Set up ladders correctly and climb them safely.

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PANDEMIC FLU SAFETY

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member practices proper safety during a Pandemic Flu.

2. SCOPE

1. It is the responsibility of Safety Committee, with the support of management, for coordinating this program. Team Members will understand what a Pandemic Flu is, how to recognize the risks, identify flu symptoms, prevent the spread of infection, prepare for and deal with a pandemic at work and at home, and know to what to do if you get sick. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.

3. SAFETY

- Symptoms of Pandemic Flu:
  - Fever
  - Headache
  - Fatigue
  - Cough
  - Sore Throat
  - Runny Nose
  - Muscle aches
  - Stomach upset
  - Nausea/Vomiting
  - Diarrhea

- The Flu is Transmitted by:
  - Sneezing and coughing
  - Touching objects that an infected person has touched
  - Handshakes
  - Contaminated objects
  - Infection can occur with no symptoms

- Signs/Risks of Worsening Symptoms:
  - Rising fever
  - Increased respiratory distress
  - Bluish skin
  - Shaking chills
  - Pain
  - Confusion
  - Inability to move an arm or leg
  - Persistent vomiting

- Lengths of Pandemics:
  - There can be waves of outbreaks of which each can last 6-8 weeks
  - There can be waves lasting up to a year

4. EQUIPMENT

Food/household supplies on hand, thermometer, soap/hand sanitizer, disposable gloves, disinfectant, acetaminophen/ibuprofen/aspirin, paper towels/tissues, and surgical masks.

5. INSTRUCTIONS

1. The Risks of Being Infected:
   - Working at a job within six (6) feet of others
   - Kids picking up the germs at school and bringing it home
   - Attending activities with many people such as going to the gym

2. Strategies for Preventing the Spread of Infection:
   - Cover coughs and sneezes with tissue – if no tissues use elbow
   - Wash hands often
   - Do not touch eyes, nose, or mouth
   - Avoid close contact with others – stay at least 6 feet away from a contagious person

3. Be Mindful in Preventing the Spread of Infection:
   - Work – stay home if you are sick/avoid individuals who are coughing/sneezing/wash hands often
   - Home – have extra food/household supplies on hand, thermometer, soap/hand sanitizer, disposable gloves, acetaminophen/ibuprofen/aspirin, disinfectant, paper towels/tissues, and surgical masks. Regularly disinfect surfaces, avoid sharing food, utensils, clothes, towels, sheets, computers and personal items, and wash hands frequently.
   - Caregiver at Home – make sure the person gets plenty of rest, fluids, control fever, make sure they are comfortable.
   - If YOU get sick – stay home from work, take precautions to prevent the spread of infection.

6. DEFINITIONS

Influenza – a contagious respiratory illness caused by a virus; also called “flu”.
Pandemic – a global disease outbreak that spreads easily from person to person and country to country.

7. COMPETENCY

1. Pandemics are rare but can be devastating
2. Be prepared
3. Understand the precautions
4. Know what to do if you get sick

ELECTRICAL SAFETY

1. PURPOSE

1. The purpose of this program is to ensure that each Team Member practices proper Electrical Safety.

2. SCOPE

1. It is the responsibility of Safety Committee, with the support of management, for coordinating this program. Only qualified workers who have been trained in the avoidance of electrical hazards are permitted to work on or near exposed energized parts. Safety related work practices are employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contact when work is performed near or on equipment or circuits, which are or may be energized. The specific safety-related work practices must be consistent with the nature and extent of the associated electrical hazards. This program does not require that the training be given by any individual or organization. The trainer must only be able to demonstrate that they have appropriate knowledge, training, and experience to train others and evaluate their competence.

3. SAFETY

Qualified Personnel vs. Unqualified Personnel

For the purposes of electrical safety related work practices, there are two types of employees employed in the ITS Electrical Division that may come in contact with electrical equipment on a jobsite: qualified and unqualified. A Qualified employee is defined as a worker who:

- Has been trained to avoid electrical hazards when working on or near exposed energized parts.
- Is familiar with the safety related work practices as required by OSHA and NEC standards.
- Is able to distinguish exposed live parts of electrical equipment.
- Is knowledgeable of the skills and techniques used to determine the nominal voltages of exposed parts and components.

An Unqualified employee is defined as a worker who has little or no training regarding electrical hazards. Even though unqualified persons should not be exposed to energized parts, they should be provided with information and training necessary to perform their job in a safe manner and understand the following:

- Be familiar with any electrical hazards in the workplace.
- Understand procedures to follow and to protect themselves when they work around electricity.
- Understand which tasks that can only be performed by qualified workers (e.g., maintenance and repairs).
- Know when and how to report electrical problems.
- Know what to do in the event of emergency involving electricity.

- Know how to inspect electrical tools and equipment before use to make sure insulation and wiring are in good condition.

Job Hazard Analysis/Risk Assessment

A Job Hazard Analysis is a process for breaking down a job, task or process into its component steps and then evaluating each step for hazards. Each hazard is then corrected, or a method of worker protection (safe practice or PPE) is identified. Additional requirements such as worker training, certification, authorization, or additional supervision may also be identified. While the analyses for some tasks are very detailed, for many tasks a thorough review of the operation or work plans by the affected people is usually sufficient. The final product of a JHA is a written document (or in many circumstances a job briefing) outlining the safe operation for a particular task or process.
Potential benefits of the Job Hazard Analysis process include:

- Protection of employees
- Reduction of injuries
- Establishes performance standards
- Standardizes operations based on acceptable safe practices and Personal Protective Equipment (PPE)
- Provides training regarding a worker's knowledge of the job requirements
- Assists in compliance with regulatory requirements

Controlling or Eliminating Hazards

Information obtained during a job hazard analysis is used to incorporate hazard control measures into a task. Certain hazard controls are more effective than others at reducing the risk. The order of precedence and effectiveness of hazard control is the following:

1. Engineering controls.
2. Administrative controls.
3. Personal protective equipment

Engineering controls include:

- Elimination/minimization of the hazard -- Designing the facility, equipment, or process to remove the hazard, or substituting processes, equipment, or materials to reduce the hazard
- Isolation of the hazard with interlocks, machine guards, blast shields, welding curtains, or other methods
- Or removal or redirection of the hazard such as with local and exhaust ventilation.

Administrative controls include:

- Written or oral operating procedures, work permits, and safe work practices
- Exposure of hazards time limitations
- Monitoring the use of highly hazardous materials
- Barricade, signs, and warnings
- Training

Personal Protective Equipment such as respirators, hearing protection, protective clothing, safety glasses, and hardhats is acceptable as a control method in helping with protections against jobsite hazards.

After reviewing the list of hazards, consider what control methods will eliminate or reduce them. The most effective controls are engineering controls that physically change a machine or work environment to prevent employee exposure to the hazard. If this is not feasible, administrative controls may be appropriate. This may involve changing how the task is performed. Discuss recommendations with all employees who perform the job and consider their responses carefully. If you plan to introduce new or modified job procedures, be sure they understand what they are required to do and the reasons for the changes.

Working on or Near Energized Circuits

Live parts to which an employee may be exposed must be de-energized before the employee works on or near them unless de-energizing the parts introduces additional or increased hazards or is unfeasible due to equipment design or operational limitations.

De-energized Parts

When employees work on de-energized parts or near enough to them to expose the employees to any electrical hazard they present, the following safety related work practices must be followed:

- Treat as energized any conductors and parts of electrical equipment that have been de-energized, but have not been properly locked out or tagged.
- While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized, the circuits energizing the parts shall be locked out or tagged or both. In addition, electrical hazards must be controlled; a qualified person must test the circuit to verify de-energization from all voltage sources.
- Safe procedures for de-energizing circuits and equipment must be determined before circuits or equipment are de-energized. All electric energy sources must be disconnected. Control circuit devices, such as push buttons, electric switches, and interlocks must not be used as the sole means of de-energizing circuits or equipment. Interlocks must not be used as a substitute for lockout and tagging procedures.

Energized Parts

Employees are considered working on or near exposed energized parts when working on exposed live parts, either by direct contact or contact by means of tools or materials, or when working close enough to energized parts to be exposed to any hazard they present. Only qualified persons are permitted to work on electric circuit parts or equipment that have not been de-energized (lockout/tag out). Qualified persons are capable of working safely on energized circuits and are familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

Illumination

Employees shall not enter spaces where electrical hazards exist unless illumination is provided, that enables the employees to perform work safely. Where lack of illumination, or an obstruction precludes observation of the work to be performed, employees shall not perform any task within the limited approach boundary (as defined and explained by NFPA 70E Article 130 & informative annex C) of energized electrical conductors or circuit parts operating at voltages equal to or greater than 50 volts or where an electrical hazard exists.

Lockout/Tagout

Lockout/tagout (LOTO) procedures are designed to prevent accidental startup of machines or equipment and to prevent the release of stored energy during servicing or maintenance. Use of the general lockout/tagout procedure that involves applying locks and/or tags as direct controls, ensures that equipment is isolated from energy sources and injuries are prevented. Training is required for all personnel prior to utilizing LOTO equipment. At ITS this training is implemented during the on-boarding process.

General Lockout/Tagout Procedure

- Notify appropriate affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
- If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.).
- De-activate the energy isolating device(s) (such as switches, valves, circuit breakers, etc.) so that the machine or equipment is isolated from the energy source(s).
- Lock or tag out the energy isolating device(s) with assigned individual lockout/tagout device(s).

Note: If a tag is used without a lockout device to isolate an electrical circuit, then it must be supplemented by one additional safety measure such as the removal of an isolating circuit element, blocking of a controlling switch, or opening an extra disconnecting device.

- Dissipate or restrain stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) by methods such as grounding, repositioning, blocking, bleeding down, etc.

- Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate.

Caution: Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

Note: A qualified person must verify that all electrical circuit parts exposed during service or maintenance are de-energized with the use of test equipment. This test must also determine if any energized condition exist due to inadvertently induced voltage or unrelated voltage feedback even in circuits that have been de-energized and presumed safe. If the circuit to be tested is over 600 volts, the test equipment must be checked for proper operation before and immediately after the test.

- The machine or equipment is now locked or tagged out.

Summarized LOTO process is as follows:

1. Notify all employees about the required lockout
2. Shut down equipment using normal stopping procedure
3. Locate and isolate equipment from all energy sources
4. Release any stored energy
5. Lockout all switches and controls with assigned locks and tags
6. After ensuring that no personnel are exposed, operate the normal operating controls to make sure the equipment will not operate. **RETURN EQUIPMENT TO "OFF" STATE AFTER TEST**
7. Perform servicing
8. Remove the lockout device
9. Once work is completed, notify all employees

Use of Protective Equipment

Employees working in areas where there are potential electrical hazards must be provided with and use electrical protective equipment appropriate for the parts of the body to be protected and the work performed. Protective equipment must be maintained in a safe, reliable condition and be periodically inspected or tested as required by NFPA 70E standards. Where the insulating capability of protective equipment is subject to damage during use, the insulating material must be protected by covering with leather or other appropriate materials. Nonconductive head protection must be worn wherever there is danger of head injury from electrical shock or burns due to contact with exposed energized parts. Protective equipment for the eyes must be worn where there is danger of eye and/or face injury from electric arcs and flashes or flying objects resulting from electrical hazards.

General Protective Equipment and Tools

Insulated tools and handling equipment must be used by employees working near exposed energized conductors or circuit parts if the tools and/or equipment may make contact with the conductors or parts. The insulating material of tools and equipment must be protected where it is subject to damage. Fuse handling equipment, insulated for the circuit voltage, must be used to remove or install fuses when the fuse terminals are energized. Protective shields, protective barriers, or insulating material must be used to protect employees from shock, burns, or other electrical related injuries while employees are working near exposed energized parts which might be contacted, or where dangerous electric heating or arcing might occur. When normal enclosed live parts are exposed for maintenance or repair, the parts must be guarded to protect unqualified persons from contact with the live parts.

Alerting Techniques

Safety signs, safety symbols, or accident prevention tags must be used where necessary to warn employees about electrical hazards, which may endanger them. Barricades should be used in conjunction with safety signs where necessary to prevent or limit employee access to work areas exposing employees to un-insulated energized conductors or circuit parts. Conductive barricades must not be used where they might cause an electrical contact hazard. An attendant should be stationed to warn and protect employees where signs and barricades do not provide sufficient warning and protection.

Use of Arc Flash Personal Protective Equipment

This Personal Protective Equipment provides protection after an arc flash incident has occurred and should be viewed as the last line of protection. Selection of the appropriate PPE for the task to be performed is based upon hazard categories found in ***NFPA 70E,*** which should appear on labeled electrical panels and equipment.

The following table is provided as a quick reference. Workers must ensure that they have reviewed all appropriate safety requirements before work begins.

Personal Protective Equipment Requirements for Arc Flash Protection

Category	Energy Level	PPE Requirements
1	4 cal/cm²	See Table130.7(C)(15)(c)
2	8 cal/cm²	See Table130.7(C)(15)(c)
3	25 cal/cm²	See Table130.7(C)(15)(c)
4	40 cal/cm²	See Table130.7(C)(15)(c)

Use of Other Job-Related Equipment

Extension Cords

- Workers must visually inspect extension cords and cord and plug connected equipment daily before use. Damaged extension cords must be removed from service and destroyed. Damaged or defective equipment must be removed from service and destroyed or repaired by a qualified electrician.

- Extension cords must be three-wire type. Extension cords or flexible cords used for lighting must be designed for hard or extra hard usage (e.g., types S, ST, SO).
- Flexible cords must be connected to devices and fittings so that strain relief is provided and prevents pull from being directly transmitted to joints or terminal screws.

Hand Tools

- All hand tools, whether furnished by the department or employee owned, must be maintained in safe condition.
- Hand tools must be inspected before each use. Unsafe hand tools must not be used on any campus worksite.
- Hand tools must be used for the designed purpose.
- Impact tools must be free of mushroomed heads.
- Electric power operated tools must be double-insulated or properly grounded.
- Appropriate, additional personal protective equipment shall be used when necessitated by nature of tool in use.

Portable Power Tools and Equipment

Portable power tools are designed for a wide variety of uses. Drills, hammer-drills, grinders, and numerous other power tools, save time and effort on the job. The increased use of power tools heightens the need for awareness of the hazards they present if not operated properly. While each type of tool has its own unique hazards, which must be taken into account, the following safety rules are common to all power tools.

- Do not operate power tools or equipment unless you have been authorized to do so.
- Inspect tools daily to ensure that they are in proper working order. Do not use damaged or defective tools.
- Use tools for their intended purpose and in the manner intended.
- All power tools and electrical devices must be properly grounded.
- Keep guards and protective devices in place at all times. Never use equipment or tools from which guards have been removed.
- Do not use electric power tools and equipment when standing in water.
- Only qualified persons are to repair electric tools or equipment.
- All extension cords must be the 3-pronged type and made for hard use. (Designation types S, ST, STO, SJ, SJO, SJT, and SJTO.)

Ladder Safety
Misuse of portable ladders can result in serious injuries from falls or, in the case of metal ladders, electrical shock. Portable ladders must be maintained in good condition at all times, and inspected at regular, frequent intervals. Ladders, when used for the purpose of installing, or servicing electrical equipment, must be non-conductive (e.g., fiberglass).

Stepladders
Stepladders (or A-frame ladders) are designed to be self-supporting. There are several important points when using stepladders:

- The spreaders must be fully extended and locked in place before climbing
- The maximum working height of a stepladder may not be exceeded.
- Unless designed for such use, the back of the ladder may not be used for climbing
- Stepladders should never be leaned against a wall for use as a straight ladder.

Straight/Extension Ladders
Set up and placement of a ladder is important in safe use. Straight ladders should be positioned:

- So that the ladder is set to a 75-degree angle from the ground. To measure this, the horizontal distance between the foot of the ladder and the support against which it is placed is equal to one-fourth the height of the ladder at the top point of support.
- So that both upper contact points rest firmly against the structure
- So that the ladder extends at least *three feet* above the point of support

Users should make sure that both rung locking mechanisms are fully engaged.

Climbing Guidelines
There are a few climbing guidelines that help to prevent accidents when using a portable ladder.

- Wear shoes with nonskid soles that are free of mud or grease. Clean ladder rungs of mud, grease, or ice before climbing.
- Place ladders on stable bases. Boxes, barrels, or other unstable surfaces should never be used to obtain additional height.
- If necessary, have another person hold the base of the ladder. If no one is available, the ladder should be securely lashed or fastened top and bottom to prevent it from slipping.
- Overreaching can cause instability. A good rule of thumb is to not let one's belt buckle outside the uprights.
- Always face the ladder and maintain a 3-point contact when climbing or descending.
- Always check to ensure tools and equipment have been removed from the top of the ladder before moving it.

- Only one person should climb a ladder at a time.
- Inspect ladders on a regular basis.

Personal Protective Equipment (PPE) Basics

Eye and Face Protection

Selecting the most suitable eye and face protection should take into consideration the following elements:

- Ability to protect against specific workplace hazards
- Should fit properly and be reasonably comfortable to wear
- Should provide unrestricted vision and movement
- Should be durable and cleanable
- Should allow unrestricted functioning of any other required PPE

Protective eye and face wear must comply with the American National Standards Institute (ANSI) standards.

Studies have shown that contact lenses are safe to wear in most hazardous environments. However, they do not offer any eye protection. Additionally, most prescription glasses do not meet the ANSI requirements for eye and face protection. If you wear corrective glasses, you can purchase safety glasses that are designed to be worn over your eyeglasses or you can purchase ANSI-rated prescription safety glasses.

Foot Protection

Potential hazards which may lead to foot and leg injuries include falling or rolling objects, crushing or penetrating materials, hot, corrosive, or poisonous substances, electrical hazards, static electricity, or slippery surfaces.

Different footwear protects in different ways. Check the product's labeling or consult the manufacturer to make sure the footwear will protect the user from the hazards they face.

Foot and leg protection choices include the following:

- **Safety-toed** shoes or boots protect against falling, crushing or rolling hazards. Safety-toed footwear must meet the minimum compression and impact performance standards in ANSI Z41-1999 or provide equivalent protection.

Head Protection

Hard Hats
Hard hats can protect employees from impact and penetration hazards as well as from electrical shock and burn hazards. Protective headgear must meet ANSI standard Z89.1-2009 or later.

Hard hats are divided into two types and three industrial classes:
Type I hard hats are intended to reduce the force of impact resulting from a blow only to the top of the head. This form of impact, for example, may result from a hammer or nail gun falling from above.

Type II hard hats are intended to reduce the force of lateral impact resulting from a blow which may be received off-center, from the side, or to the top of the head. This form of impact, for example, may result from contact with the sharp corner of a side beam.

Class G (formerly known as Class A) – These hard hats are considered for general use and offer protection against low-voltage electrical conductors up to 2,200 volts (phase to ground).

Class E (formerly known as Class B) – These helmets are intended for electrical work and offer protection against exposed high-voltage electrical conductors up to 20,000 volts (phase to ground).

Class C – These helmets do not offer any electrical protection and are often electrically conductive.
Each hard hat should bear a label inside the shell that lists the manufacturer, the ANSI designation, and the class of the hat.

Care and Storage
Periodic cleaning and inspection will extend the useful life of protective headgear. A daily inspection of the hard hat shell, suspension system and other accessories for holes, cracks, tears, or other damage that might compromise the protective value of the hat is essential. Paints, paint thinners and some cleaning agents can weaken the shells of hard hats and may eliminate electrical resistance. Do not store protective headgear in direct sunlight, as UV light and extreme heat can cause damage.
Always replace a hard hat if it sustains an impact, even if damage is not noticeable. Suspension systems can be replaced when damaged or when excessive wear is noted.

Hearing Protection
When an employee's noise exposure cannot be reduced to safe levels, then hearing protection should be worn. There are several options for hearing protection available that include ear plugs, earmuffs, and hearing bands, which are also known as canal caps. Each should be carefully considered for the noise reduction they will provide, as well as for comfort and fit.

PPE Hazard Assessment
When engineering controls, work practices and administrative controls are not feasible or do not provide sufficient protection, employers must provide personal protective equipment. Departments are responsible for assessing the workplace to identify hazards requiring the use of PPE, ensuring the adequacy of the PPE, and ensuring that PPE is properly worn and maintained.

PPE Training

Training should be provided to all employees required to use PPE. At ITS this training is provided as part of the onboarding process and covers the following topics:

- How to properly wear PPE
- What types of PPE provide protection against the hazards identified during the assessment
- When PPE must be used
- The proper care and useful life of PPE
- The limitations of PPE

Selection of PPE

PPE should be selected based primarily on the hazards identified during the assessment. However, employers should also take the fit and comfort of PPE into consideration when selecting appropriate items for each employee. PPE that fits well and is comfortable to wear will encourage employee use of PPE. Most protective devices are available in multiple sizes and care should be taken to select the proper size for each employee. All employees associated with electrical work must avoid wearing any conductive apparel.

These guidelines and electrical safety-related work practices are covered in the onboarding process at Industrial Technology Services and all employees are tested on the content before being introduced into field related work. These guidelines will be rigidly enforced in the field and audited on a regular basis to ensure best safe-work practices are being observed. Continued awareness and safety training will be provided at intervals necessary to keep all employees educated and compliant with best trade practices.