SAFETY PROGRAM

BERGER ELECTRIC, INC.

PRESIDENT: DARRELL BERGER

DISCLAIMER

Loss prevention is a responsibility of each business. Badlands Integrity Services does not endorse any loss prevention plan or program as one that will necessarily prevent accidents, injuries or illness. The attached material is furnished to provide assistance only. It does not necessarily include every possible loss potential, code violation or exception of good practice.

Berger Electric, Inc. does not discriminate on the basis of race, color, national origin, sex, age, religion, marital status, or disability in employment or the provision of services.

STATEMENT SAFETY POLICY

Berger Electric, Inc. recognizes the importance of **SAFETY** and wish to enhance the prevention of accidental loss of its resources through the development and implementation of the Safety Management Program.

Each person who works at Berger Electric, Inc. is important. Berger Electric, Inc. success with Clients and Customers, and consequently the overall success of this business, depends upon the individual -- his or her personal skills, energies and contributions. At the same time, we are concerned and supportive of each other.

Respecting this, Berger Electric, Inc. strives to provide a safe and healthful workplace. Additionally, Berger Electric, Inc. subscribes to these principles:

1. Accidents can be prevented through implementation of effective Safety and Health Control Policies and Programs.
2. Safety and Health Controls are major parts of our daily work.
3. Accident prevention is good business. It increases productivity and minimizes human suffering.
4. Management is responsible for providing a reasonable and safe workplace for Employees.
5. Employees are responsible for following safe work practices, Berger Electric, Inc. rules, and for preventing accidents and injuries.
6. Management must monitor Berger Electric, Inc. safety performance, working environment and conditions to ensure that safety objectives are achieved.
7. Our Safety Program requires the participation of all Employees -- to improve safety awareness, and to prevent accidents and injuries.

Your involvement, cooperation and personal commitment to safety are essential. Keeping a safe workplace is a Team effort. We need you on this Team. Berger Electric, Inc. welcomes any helpful comments.

Together, we can make the difference. Together, we ***CAN*** prevent accidents and injuries. We must work, every minute of every hour of every working day, to keep each other safe in the workplace.

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Darrell Berger
President of Berger Electric, Inc.

AUTHORITY AND ACCOUNTABILITY

Darrell Berger, President of Berger Electric, Inc. will accept the responsibility for providing resources and guidance for the development and implementation of the Safety & Health Program; selecting and designating Berger Electric, Inc. Safety Coordinator; and establishing management policies and procedures toward effective implementation of the *Safety & Health Program*.

Darrell Berger, President of Berger Electric, Inc. will have the authority to delegate portions of the Program to subordinates. However, he will be responsible for the implementation of the Plan.

The Safety Coordinator will be responsible for the overall implementation of the working plan.

Berger Electric, Inc. Supervisors will have the duty and authority to approve and carry out all disciplinary actions for those who violate the policies, procedures and/or rules and regulations relating to this Safety & Health Program. Supervisor responsibilities and duties relating to this safety and health program are explained in greater detail on the following pages.

Each Berger Electric, Inc. Employee will be responsible for abiding by the policies, procedures, rules, regulations and orders set forth by this *Safety & Health Program*. Each Employee should become actively involved in this program to assist in maintaining a safe and healthful workplace environment for all involved. *Individual Employee Responsibilities* relating to safety and health are explained in greater detail on the following pages.

Contractors that perform work at Berger Electric, Inc. location are responsible for ensuring that their personnel comply with Berger Electric, Inc. safety policies, rules, standards and safe work procedures, as well as federal / state OSHA requirements and other pertinent safety and health regulations.

Berger Electric, Inc. *Accident Prevention Plan* and *Safety & Health Program* will be made available to all contractors for review. Likewise, each contractor will provide to the Safety Coordinator a copy of its written safety and health programs relating to work that will be performed in Berger Electric, Inc. workplace.

SUPERVISOR RESPONSIBILITY

Supervisors will be responsible for following and promoting safety rules, policies and safe work procedures throughout Berger Electric, Inc. workplace.

Supervisors will be concerned about the safety and welfare of fellow Employees in Berger Electric, Inc. workplace. Consequently, if a Supervisor observes a hazard or safety violation in an area outside of his or her direct authority, he or she will report this to the Supervisor in charge of the work area and then to the Safety Coordinator.

If the hazard or violation presents an immediate danger to life or health, the Supervisor observing the danger will intervene immediately to the extent necessary to prevent injury or harm to persons without causing danger to him or herself.

Protection of persons is of primary importance. Preventing damage to Berger Electric, Inc. facilities and/or property is a secondary priority.

Any observed hazard requiring corrective action that is outside the Supervisor's authority and/or ability to correct or eliminate, will be immediately reported to a Safety Coordinator.

Supervisor job responsibilities include:

- Help ensure compliance with Berger Electric, Inc. safety rules and safe work procedures through daily supervision of Employees. Be a coach. Encourage and recognize the good safety performance of individuals. At the same time, take corrective and disciplinary action as needed.

- Conduct and/or delegate the safety orientation of new hires about Berger Electric, Inc. safety policies, rules and work procedures. Point out and explain potentially hazardous conditions within the assigned work area. This includes ensuring that personal protective equipment (PPE) is available to new hires and re-assigned Employees, and that they are trained in its proper selection and use. Initial safety training of new and re-assigned Employees will be completed before they begin duties in Berger Electric, Inc. workplace.

- When possible, correct unsafe conditions anywhere they are observed in the workplace. If the situation involves another Supervisor’s area of responsibility, or if additional authorization or resources are required, inform the Safety Coordinator or, in his or her absence the senior Supervisor in charge of overall Berger Electric, Inc. operations.

- Help ensure that all accidents, injuries and "near miss" incidents are reported by Employees.

- Investigate reported accidents and "near miss" incidents in accordance with Berger Electric, Inc. policies and procedures.

- If an injury requires more than self-administered first aid, make sure that the Employee receives first aid and medical attention as needed. This may include taking the injured Employee to Berger Electric, Inc. designated medical provider, or arranging for transportation. Do not allow an Employee to drive him or herself to medical attention. Report any such incident to the Safety Coordinator immediately.

- In emergency situations, alert and cooperate with emergency medical, fire and/or police. Notify the Safety Coordinator promptly after meeting immediate needs of the emergency.

- All Supervisors will work to develop and support safety awareness throughout the workplace. Supervisors will maintain an open and responsive attitude when Employees ask about or raise safety issues.

- All Supervisors will set a good example with respect to safety by their personal behavior. This includes wearing personal protective equipment in areas where it is required, and personally complying with Berger Electric, Inc. safety policies and safe work procedures.

EMPLOYEE SAFETY RESPONSIBILITY

Management considers the health and safety of each Employee to be a Berger Electric, Inc. core value. All Employees will share and respect this Berger Electric, Inc. value.

Berger Electric, Inc. Employees must assume primary responsible for their own safety because no other person can fulfill this role. Employees must make every initiative to protect their own safety and that of their fellow workers.

Employees will learn, understand and follow Berger Electric, Inc. safety rules and safe work procedures. This includes maintaining an awareness of the potential hazards pertaining to their work assignment. Safety compliance is a condition of employment at Berger Electric, Inc.

Berger Electric, Inc. Employees are specifically required ***NOT*** to perform any task that they believe is dangerous or unsafe.

Below are other individual Employee safety responsibilities:

- Perform those duties assigned by Berger Electric, Inc. through its Supervisors.
- Use personal protective equipment (PPE) when it is required and in accordance with Berger Electric, Inc. safety procedures.
- Before beginning special work or new assignments, review applicable and appropriate safety rules.
- If you have any question about how a task should be done safely, suspend work until you have discussed the situation with your Supervisor. Together, you and the Supervisor will determine the safe way to accomplish the task.
- After discussing a safety situation with your Supervisor, if you still have questions or concerns, notify the Safety Coordinator. If that does not resolve the issue, call Darrell Berger, President of Berger Electric, Inc. directly.
- If you ever observe what you believe is a hazardous condition; unsafe work practice or behavior; defective machine, tool, vehicle, facility or equipment in the workplace, report this immediately to your Supervisor.

If the Supervisor is not immediately available, take action as necessary to protect others from the apparent hazard. This may include taking a malfunctioning machine, tool, ladder or electrical cord out of service so that it is not used by someone else. Then notify a Supervisor or the Safety Coordinator at your earliest opportunity no later than the end of the shift.

ACCIDENT REPORTING AND INVESTIGATION PROGRAM

It is the responsibility of Berger Electric, Inc. Safety Coordinator, Supervisor and Management to ensure that corrective actions are acted upon on near miss incidents and incidents. Accidents will be followed up with an investigative report.

INVESTIGATION PROCEDURE

1. All near miss incidents, incidents and accidents shall be reported immediately.

2. The Employee shall complete an Initial Incident Report and give it to their supervisor immediately.

3. All near miss incidents and incidents shall have provisions for corrective actions taken.

4. All existing conditions are reviewed and immediate action is taken so the accident does not occur again.

5. Corrective actions shall be taken to prevent incident or accident from occurring again.

6. Near miss incidents and incidents when corrective actions have been taken shall be signed and dated by personnel filing report.

7. Documents and reports shall have provision for corrective action and period for completion of corrections.

8. Review reports to help in the recognition of patterns or trends so they maybe identified to prevent incident or accidents in the future.

9. Near miss and incident/accident reporting forms shall be filled out and returned to the Safety Coordinator or Management.

Near Miss (Safety Concern Reporting)

1. All near miss incidents and any safety concerns that may arise shall be reported immediately to supervisor or management.

2. All near miss incidents and safety concern' shall have provisions for corrective actions taken. Employee's shall be trained and become familiar with the use of the Near Miss (Safety Concern Report).

3. Corrective actions shall be taken to prevent the incidents and safety concerns from re-occurring.

4. Near Miss (Safety Concern) bulletin shall be posted in Berger Electric, Inc. coffee break area.

EMPLOYEES REPORTING A HAZARD ARE PROTECTED

The purpose of this section is to state Berger Electric, Inc. policy and procedure regarding protection for Employees who report a safety or health hazard. It applies to all Berger Electric, Inc. operations.

It is the policy and philosophy of Berger Electric, Inc. that every Employee must feel secure in reporting a known or perceived safety hazard to his or her Supervisor, to higher management within Berger Electric, Inc., and to any appropriate governmental authority.

To this end, and to protect the legitimate rights, health and safety of every Employee, it is the policy of Berger Electric, Inc. that no person will improperly discharge, discipline or in any manner discriminate against any Employee who reports or calls to the attention of management what he or she believes to be a safety or health hazard; or any unsafe, unhealthy condition or situation in the workplace.

Furthermore, no person will improperly discharge or in any manner discriminate against any Employee because such Employee has filed any complaint; instituted or caused to be instituted any proceeding under or related to state or federal occupational health and safety law; has testified or is about to testify in any such proceeding; or because of the exercise by such Employee on behalf of himself or others of any right afforded by state or federal law.

Any Employee who feels he or she has been discriminated against for any of the above reasons should report this directly to the Safety Coordinator or Darrell Berger, President of Berger Electric, Inc.

The intention of this policy is to support legitimate Employee comments, suggestions and complaints, and to ensure protection against illegal discrimination.

At the same time, Berger Electric, Inc. will take appropriate action in response to the filing of a false claim, or a claim with little merit that Company management judges to have been filed primarily to harass Berger Electric, Inc., an individual Employee or Supervisor.

ACCIDENT REPORTING AND INVESTIGATIONS

Berger Electric, Inc. will investigate all reported work-related accidents, injuries and “near miss” incidents involving Employees or other persons; or significant damage to Berger Electric, Inc. property.

This investigation will be used to develop preventive measures and implement corrective actions.

REPORTING

All Berger Electric, Inc. Employees are required to report any of the following to their immediate Supervisor as quickly as possible and without delay:

- Accidents or incidents resulting in injury or illness of any magnitude (including first aid related cases);
- Accidents or incidents resulting in significant property or equipment damage; and
- any near miss incidents that could potentially have resulted in injury or illness to an employee, or damage to property.

ACCIDENT INVESTIGATION

The Site Supervisor will be responsible for conducting the initial accident investigation of incidents that occur in areas under his or her supervision. Upon notification of an accident or "near miss," the Site Superintendent, or someone the Safety Coordinator may designate, will begin an investigation to determine the following:

- How the accident or incident occurred;
- Special circumstances involved;
- Underlying, indirect or associated root causes; root cause documentation shall be done by a qualified and certified accident investigation report filed by Safety Consultant.
- Corrective actions or preventive measures and controls indicated by investigation results.

If there is an accident or injury that occurs in one Supervisor's area and it involves an Employee managed by another Supervisor, the investigation will be a joint effort between these Supervisors. The joint investigation will be directed and overseen by the Safety Coordinator.

DOCUMENTATION

All activities and findings of the investigations will be documented in the project construction files with a copy forwarded to the Safety Coordinator for review.

Accident and incident investigation documentation will record, as a minimum, the following information:

- Date of occurrence;
- Name of person(s) involved, job title, area assigned and length of experience in Berger Electric, Inc. with this job;
- Location of occurrence;
- Nature and severity of injury or illness;
- Name of Supervisor(s) involved in the investigation;
- Job assignment or duties being performed at time of incident;

- A list of any Personal Protective Equipment and/or operator certification(s) required for this job or assignment, and whether the person(s) involved were using this PPE and/or held current certifications as required;

- Special circumstances or encumbrances;

- Details of how the accident or incident occurred;

- Equipment affected or involved;

- Written statements of the person(s) injured or directly involved (unless unavailable due to injury);

- Names and written statements of witnesses;

- Apparent direct cause;

- Apparent indirect, underlying or contributing factors (including fault or failure in Safety & Health Program elements); and

- Corrective action(s) implemented or preventive measures taken (including Safety & Health Program adjustments).

GENERAL SAFETY RULES

Safe work practices prevent accidents and injuries. Each Employee is responsible for following safety rules and working safely. This is a condition of employment at the Berger Electric, Inc.

Here are basic safety rules and policies for each Employee:

- You are ***NEVER*** required to perform any job or task that they believe is unsafe. If something appears to be unsafe about a work assignment, report it immediately to your supervisor. ***DO NOT*** begin the work until you and your supervisor agree on how the work can be done safely.
- Report any injury or illness sustained on the job to your supervisor so that first aid can be rendered, necessary medical attention obtained, and prompt corrective action taken as needed.
- ***ANY*** fall you sustain while on the job must be reported to your supervisor, even if you do not believe you are injured.
- Wear shoes that are appropriate for your job assignment. Shoes must be in good condition and have non-slip soles.
- Use proper safe lifting techniques when manually moving materials, boxes, etc. Get help if the load is too heavy to lift or carry by yourself.
- Use all Personal Protective Equipment (PPE) required for the job or task assignment. PPE shall be selected through a process of hazard assessment.
- Clean up spills immediately. If the spill cannot be cleaned up immediately, the spill area should be marked so that others will not walk through it.
- ***NEVER*** attempt to operate any machine, equipment or electrical circuit that has a tag, label or sign with wording like "*Danger*," "*Do Not Operate,*" or "*Out of Service.*"
- Keep all safety guarding and covers in place on tools, machines, equipment and electrical boxes.
- ***DO NOT*** operate any tool, machine, equipment, electrical cord or circuit that is defective. Immediately report any such problem to your supervisor.
- Keep your hair cut short or, when required by the work, netted and tucked up under head wear in a way that prevents it from becoming entangled in machinery, moving parts or product, or creating a poor hygiene situation.
- ***DO NOT*** wear loose clothing around revolving or moving machinery. ***DO NOT*** wear jewelry when working with machinery -- especially rings, bracelets, necklaces, earrings and watches.
- Wear suitable clothing for the weather and temperature. Sunburn can be a disabling injury. Always wear a shirt, with long sleeves, half sleeves or three-quarter sleeve and keep exposed skin covered or protected with a sun block product.
- Posted safety signs and instructions about established safety rules will be followed.

GENERAL SAFETY RULES CONTINUED:

- Smoking and open flames are controlled in the Berger Electric, Inc. workplace. Smoking is prohibited in designated areas. Non-smoking areas are clearly marked with signs. You must adhere to the Berger Electric, Inc.'s smoking regulations.
- Do not allow visitors in your work area if they are not authorized to be there.
- Unsafe actions with company equipment, or with vehicles used while in the course and scope of employment, will not be tolerated. Violations are subject to disciplinary action up to and including termination of employment.
- Operate only the tools, equipment or vehicle(s) necessary to do your job. ***DO NOT*** operate a machine, tool or piece of equipment until you have been trained in its safe operating procedures.
- Clean up after a job is finished and at the end of the shift. Loose materials can cause injury. Store them out of the way.
- Horseplay, unnecessary running or unsafe behavior on company premises will not be tolerated.
- Maintain at least three feet of clear access to fire extinguishers, fire exits and electrical panels. No items of any kind shall be hung on or placed against a fire extinguisher. If a fire extinguisher has been used, if the gauge is not "in the green," or if the tie that secures the pull pin is missing, report this to your supervisor immediately because this fire extinguisher needs service. If a fire extinguisher is missing from its mounting, report this immediately so that a replacement extinguisher can be obtained.
- Alcoholic beverages, illegal drugs and un-prescribed medication are not allowed on Berger Electric, Inc. premises. ***DO NOT*** come to work if you are under the influence of alcohol or an illegal drug. If you are taking medication that could affect your ability to operate machines or vehicles, tell your supervisor prior to starting work. ***DO NOT*** begin work until you and your supervisor agree that you can perform the job assignment safely.
- Good hygiene will be practiced at all times. When coming in contact with oils, solvents, cleaning solutions and other industrial materials, employees must wash their hands and arms.
- Firearms and other weapons are not allowed on the Berger Electric, Inc. premises, including parking lots and Berger Electric, Inc. vehicles. Weapons also are not allowed in personal vehicles that are being used in the course and scope of your job.
- All employees, visitors, and contractors have both the authority and responsibility to stop any unsafe acts or condition.

BARRICADES

Construct a barricade to safeguard personnel when the following conditions exist:

1. When overhead work creates a hazard
2. When tripping hazards are created.
3. When excavations are made.
4. When a condition exists that causes a harmful substance to drain, spill, spray or leak.
5. When driving hazards are created.
6. When spray painting is being done.
7. When working around pipes and other equipment.
8. When working around or cleaning tanks or vessels.

General Requirements

1. Barricades shall be visible.
2 A barricade shall be placed far enough away from the work area to prevent a hazard.
3. Barricades may consist of safety tape, pendant type flagging, sawhorses or fencing.
3. Tape or pendant type barricades can be no higher than five feet or lower than two feet from the surface.
4. Barricades at night, around the hazard or excavation shall be illuminated.
5. No one removes a barricade without authorization.

COMPRESSED CYLINDERS

How Compressed Gases Will Be Stored

1. Keep the smallest supply of compressed gases necessary in the work area. Cylinders in use must be secured in an upright position. Cylinders that are not manifolded or in use with equipment will be kept in a designated storage area protected from weather.
2. Store compressed gases at temperatures below 125 degrees F. (52 degrees C) but away from extreme cold, ice and snow, dampness and direct sunlight to prevent rusting or pressure build-up. If possible, park mobile welding equipment in sheltered areas when not in use.
3. Cylinders stored out of doors will be kept off the ground on concrete pads or storage racks built of fire-resistant materials. Keep storage areas clear of dry grass, weeds or other materials that burn easily.
4. Oxygen cylinders will be stored at least 20 feet away from fuel gas cylinders, (acetylene, natural gas and propane) and combustible materials (such as oil and grease) separated them with a fire-resistant barrier at least five feet tall with a fire resistance rating of at least one half-hour.
5. Empty cylinders will be stored apart from full cylinders, keeping the empty oxygen cylinders apart from empty fuel gas cylinders. Storage areas will be marked with signs for empty and full cylinders. Tag each cylinder "Full", "In Use" or "Empty" and store it in the right section to avoid mistakes and extra handling.
6. Storage areas will be marked with the name of the gas stored there. Fuel gas storage will be marked "NO SMOKING PERMITTED". Keep all sparks, flames and other ignition sources away from compressed gas cylinder storage.

How to Use Compressed Gases Safely

1. Treat all compressed gas cylinders as if they were full, even if they are empty. An empty cylinder still contains some gas under pressure and presents the same hazards as a full cylinder.
2. Always open cylinder valves slowly. Crack the valve for an instant to clear the opening of dirt or particles. Always point the valve opening away from the body and not toward anyone else.
3. Before removing a regulator from a cylinder close the cylinder valve and release gas from the regulator.
4. When a cylinder is not being used close valves and keeps valve caps in place.
5. Use and store compressed gases only in well-ventilated areas. Leave cylinders outside confined workspaces.
6. Secure cylinders with chains, straps or ropes to keep them from tipping over and to prevent the lower part of the cylinder from sliding out. No more than three cylinders will be chained together at once.
7. Do not direct compressed gases toward clothing, hair or skin.
8. Do not use a cylinder of compressed gas without a pressure-reducing regulator attached to the cylinder valve unless the cylinders are attached to a manifold.
9. Do not drop or allow cylinders to strike against other cylinders.

10. Safety caps shall remain in place unless the cylinder is in service. Valves will be closed when not in operation. Do not shut the cylinder off by using the regulator.
11. Acetylene cylinders shall be operated only in the upright position.
12. Regulators shall be appropriate for the contents of cylinders used.
13. Do not place the cylinder where they may become part of an electrical circuit.

What to Do In Case a Cylinder Starts Leaking

1. Do not use leaking cylinders.
2. If you suspect a leak, but are not sure, check by applying soapy water with a fine brush to all valves, fittings and connectors. A leak will cause the soapy water to bubble up.
3. If a leak is found, close the cylinder valve to stop the flow of gas. A regulator may be attached to a leaking cylinder valve to temporarily stop a leak. Do not attempt to extinguish a burning fuel gas leak unless the flow of gas can be shut off immediately and without personal risk.
4. Once the leak is stopped, move the leaking cylinder to open air away from buildings. Notify your supervisor and warn others who work in the area. Tag the leaking cylinder out-of-service and notify the supplier to remove the cylinder. If the leaking cylinder is a flammable gas (fuel gas), make sure there are no combustible materials or ignition sources in the holding area and post the cylinder "No Smoking-Keep Sparks and Flame Away".

Transporting Compressed Gas Cylinders

1. Transport, use and store compressed gas cylinders upright. This is especially important for acetylene and other fuel gases that present additional risks when stored on their sides.
2. Transport cylinders on hand trucks or industrial trucks equipped with securing racks; do not drag, roll or slide them on the ground.
3. Do not drop cylinders on the ground or let them bang together.
4. Secure compressed gas cylinders in a closed cabinet when transporting them in utility vehicles on the highway. If this is not possible, then secure the cylinder upright, remove the regulator or other manifolding and screw the valve cap on.

Operation

1. Crack valve open then shut immediately.
2. Open cylinder valve slowly, not more than 1½ turn on valve is necessary.

AIR COMPRESSORS
(Commercial/Portable)

All components of compressed air systems should be inspected regularly by qualified and trained employees. Maintenance personnel / operators need to be familiar with OSHA regulations for this type of compressed air systems. Operators need to be aware of the following:

General safety requirements for compressed air:

- Operators shall perform a pre-operational check of all air hoses, couplings and connections to determine if leakage or other damage exists. Be familiar with operator's manual. Do not operate unsafe equipment. Lockout/tagout damaged equipment.
- Wear appropriate personal protective equipment consistent with hazard. Hearing and eye protection shall be worn when operating the air compressor.
- Choose safest location to place the compressor unit or compressor vehicle within the work area.
- Avoid belt drive assembly area for equipment that is belt driven.
- Use wheel chocks to prevent portable air compressors from rolling away.
- Decompress air from compressor prior to removing any caps or air equipment attachments such as jack hammers, drills, etc.
- Keep oils and flammable materials clear of air fittings and joints.
- Operators shall be aware of employees and others in work zones.
- Make sure hose connections are secure to avoid hose coming loose during use. High pressure air can cause serious injury. Hose ends must be secured to prevent whipping in case an accidental cut or break occurs.
- Compressed air must not be used under any circumstances to clean dirt and dust from clothing or off a person’s skin.
- Shop air used for cleaning floor, equipment and work areas shall be regulated to 15 parts per square inch (psi), unless equipped with diffuser nozzles to provide less pressure. Pressure-relief valve shall be checked and the pressure relieved before transporting.
- At the end of each shift, compressor shall be shut down, air receiver condensate drain valve opened and the system allowed to bleed down. Valve shall remain open until the system is restarted and air begins to blow off.
- If compressor is to be used for breathing purposes, the air must be tested to ensure it is at least *class D* air.

- A high temperature and/or carbon monoxide alarm must be installed on oil-lubricated compressors.
- All pipes, hoses, and fittings must have a rating of the maximum pressure of the compressor. Compressed air pipelines should be identified (psi) as to maximum working pressure.
- Air supply shutoff valves should be located (as near as possible) at the point-of-operation.
- Air hoses should be kept free of grease and oil to reduce the possibility of deterioration.
- Hoses should not be strung across floors or aisles where they are liable to cause personnel to trip and fall. When possible, air supply hoses should be suspended overhead, or otherwise located to afford efficient access and protection against damage.
- Pneumatic impact tools, such as riveting guns, should never be pointed at a person.
- Before a pneumatic tool is disconnected (unless it has quick disconnect plugs), the air supply must be turned off at the control valve and the tool bled.
- Goggles/face shields or other eye protection must be worn by personnel using compressed air for cleaning equipment.
- Static electricity can be generated through the use of pneumatic tools. This type of equipment must be grounded or bonded if it is used where fuel, flammable vapors or explosive atmospheres are present.

Air compressor storage tanks (air receivers):

- Air receivers: The maximum allowable working pressures of air receivers should never be exceeded except when being tested. Only hydrostatically tested and approved tanks shall be used as air receivers.
- Air tanks and receivers should be equipped with inspection openings, and tanks over 36 inches in diameter should have a manhole. Pipelug openings should be provided on tanks with volumes of less than five cubic feet.
- The intake and exhaust pipes of small tanks, similar to those used in garages, should be made removable for interior inspections.
- No tank or receiver should be altered or modified by unauthorized persons.
- Air receivers should be fitted with a drain cock that is located at the bottom of the receiver.
- Receivers should be drained frequently to prevent accumulation of liquid inside the unit. Receivers having automatic drain systems are exempt from this Requirement.
- Air tanks should be located so that the entire outside surfaces can be easily inspected. Air tanks should not be buried or placed where they cannot be seen for frequent inspection.
- Each air receiver shall be equipped with at least one pressure gauge and an ASME safety valve of the proper design.
- A safety (spring loaded) release valve shall be installed to prevent the receiver from exceeding the maximum allowable working pressure.
- Only qualified personnel should be permitted to repair air tanks, and all work must be done according to established safety standards.

Air distribution lines:

- Air lines should be made of high quality materials, fitted with secure connections.
- Only standard fittings should be used on air lines.
- Operators should avoid bending or kinking air hoses.
- Air hoses should not be placed where they will create tripping hazards.
- Hoses should be checked to make sure they are properly connected to pipe outlets before use.
- Air lines should be inspected frequently for defects, and any defective equipment repaired or replaced immediately.
- Compressed air lines should be identified as to maximum working pressures (psi), by tagging or marking pipeline outlets.

Pressure regulation devices:

- Only qualified personnel should be allowed to repair or adjust pressure regulating equipment.
- Valves, gauges and other regulating devices should be installed on compressor equipment in such a way that cannot be made inoperative.
- Air tank safety valves should be set no less than 15 psi or 10 percent (whichever is greater) above the operating pressure of the compressor but never higher than the maximum allowable working pressure of the air receiver.
- Air lines between the compressor and receiver should usually not be equipped with stop valves. Where stop valves are necessary and authorized, ASME safety valves should be installed between the stop valves and the compressor.
- The Safety valves should be set to blow at pressures slightly above those necessary to pop the receiver safety valves.
- Blowoff valves should be located on the equipment and shielded so sudden blowoffs will not cause personnel injuries or equipment damage.
- Case iron seat or disk safety valves should be ASME approved and stamped for intended service application.
- If the design of a safety or a relief valve is such that liquid can collect on the discharge side of the disk, the valve should be equipped with a drain at the lowest point where liquid can collect.
- Safety valves exposed to freezing temperatures should be located so water cannot collect in the valves. Frozen valves must be thawed and drained before operating the compressor.

Air Compressor Operation:

- Air compressor equipment should be operated only by authorized and trained personnel.
- The air intake should be from a clean, outside, fresh air source. Screens or filters can be used to clean the air.
- Air compressors should **never** be operated at speeds faster than the manufacturers' recommendation.

- Equipment should not become overheated.
- Moving parts, such as compressor flywheels, pulleys, and belts that could be hazardous should be effectively guarded.

Compressed Air Equipment Maintenance:

- Only authorized and trained personnel should service and maintain air compressor equipment.
- Exposed, non current-carrying, metal parts of compressor should be effectively grounded.
- High flash point lubricants should not be used on compressors because of its high operating temperatures that could cause a fine or explosion.
- Equipment should not be over lubricated.
- Gasoline or diesel fuel powered compressors shall not be used indoors.
- Equipment placed outside but near buildings should have the exhausts directed away from doors, windows and fresh air intakes.
- Soapy water of lye solutions can be used to clean compressor parts of carbon deposits, but kerosene or other flammable substances should not be used. Frequent cleaning is necessary to keep compressors in good working condition.
- The air systems should be completely purged after each cleaning.
- During maintenance work, the switches of electrically operated compressors should be locked open and tagged to prevent accidental starting.
- Portable electric compressors should be disconnected from the power supply before performing maintenance.

HAZARD COMMUNICATION
HAZCOM

As part of Berger Electric, Inc.'s overall safety and health program, a chemical hazard communication program has been established. The Hazard Communication Program is designed to comply with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard.

OBJECTIVE: The objective of the Hazard Communication Program is to prevent occupational injuries and illnesses related to chemical exposure by educating employees about workplace chemical hazards.

SCOPE: The Hazard Communication Program applies to all work areas where hazardous chemicals are known to be present both under normal conditions and in a foreseeable emergency. The Safety Coordinator and/or Supervisors, have the responsibility for overall coordination of the Hazard Communication Program. The Safety Coordinator has the responsibility to administer and implement the program.

The Hazard Communication Program has four major components:
- Container labeling and other forms of warning;
- Material Safety Data Sheets (MSDS's);
- Employee education and training;
- Written program and chemical inventory

HAZARDOUS CHEMICALS: The definition of "hazardous chemicals" as given by OSHA is "any chemical, which is a physical hazard or health hazard". Chemical physical hazard characteristics include substances, which are:
- Combustible
- Compressed Gases
- Explosive
- Flammable
- Organic Peroxides
- Oxidizers
- Pyrophoric and Unstable (Reactive) or Water Reactive

Chemical health hazard includes substances, which are:
- Toxic or Highly Toxic,
- Irritants,
- Sensitizers,
- Carcinogens and Those With
- Target Organ Effect

Further explanation can be found in Appendix A of the Hazard Communication Standard.

HAZARD COMMUNICATION PROGRAM: This written Hazard Communication Program outlines and describes how the following information will be organized and transmitted:

- List of hazardous chemicals known to be present in the workplace.
- Information on precautionary labels and other forms of warning for known hazardous chemicals in the workplace.
- Material Safety Data Sheets (MSDS's) for hazardous chemicals in the workplace.
- Methods used to provide employee information and training.
- Methods used to inform employees of hazards of non-routine work.
- Methods used to inform contractor employers of any hazardous chemicals to which contractor employees may be exposed.

The Safety Coordinator and or Supervisors provide guidance for developing and maintaining the written program. The Hazard Communication Program is available for review by all employees upon request to their Supervisor, Management and or Safety Coordinator.

CHEMICAL INVENTORY LIST: The Safety Coordinator and or Supervisors have the responsibility to maintain an inventory list of known chemicals in the workplace. The Safety Coordinator, Supervisors and Management should approve any changes to the inventory list. The chemical inventory list is available to employees during their work shift and is located in Company's main office. Employees who have questions about the chemical inventory list should contact their immediate Supervisor, Safety Coordinator.

PRECAUTIONARY LABELING: All labeling shall follow appropriate hazard warnings such as words, pictures, or symbols or a combination of. Examples of labeling systems can be and include NFPA (National Fire Protection Administration), DOT (Department of Transportation) or HMIS.

Labels shall be legible, in English. However, for non-English speaking employees, information may be presented in their language as well.

Containers in the Workplace: The Safety Coordinator and Supervisor have the responsibility to insure all known hazardous chemicals present in Berger Electric, Inc. must display in English (all employees are English speaking), a precautionary label stating: Identity of the hazardous chemical(s), Appropriate hazard warning(s). In the event of an improperly labeled hazardous chemical container, telephone and letter from the chemical supplier will request a proper label. Failure of a supplier to correct labeling deficiencies within 60 days will result in suspension of use of the affected product. All labels on incoming chemicals must not be defaced in any way. Observation or other detection of defaced labels must be immediately reported to a Supervisor or Safety Coordinator then appropriate labels can be applied.

Temporary Storage Tanks: Temporary storage tanks such as but not limited to, holding tanks, fuel tanks, shall have permanently fixed warning labels. To insure employees know of the vessel contents of chemicals stored in specific vessels. The hazard warning is part of the label for temporary storage tanks and is located on the storage tanks, as part of the label. Employees having questions about labeling should contact their immediate Supervisor and or Safety Coordinator.

Portable Containers: All portable containers of hazardous chemicals require labeling. The exception to this policy is that portable containers of hazardous chemicals do not have to be labeled if they contain chemicals transferred from a labeled container and are intended only for the immediate use by and remain the constant control of the employee who performs the transfer. All other portable containers and usage will require labeling. Employees who have questions about portable container labeling should contact their immediate Supervisor and or Safety Coordinator. The employee who uses the portable container is responsible for placing the label on the container and Berger Electric, Inc. Safety Coordinator and Supervisors are responsible to see that labeling is done.

Update and Review: The Safety Coordinator and or Supervisor are responsible for reviewing the labeling system annually and updating if necessary. Changes in the labeling system will be transmitted to affected employees. Employees who have questions about the precautionary labeling system should contact their immediate Supervisor or Safety Coordinator.

MATERIAL SAFETY DATA SHEETS (MSDS's)

A. MSDS Format

MSDS's are written or printed material concerning product hazard determination, which are prepared and distributed with chemicals by chemical manufacturers and distributors. MSDS's are written in English and contain the following information:

- Identity of the chemical as provided on the container label;
- Physical and chemical characteristics of the material;
- Physical hazards of the material;
- Health hazards of the material;
- Primary route(s) of entry;
- Exposure limits, Threshold Limit Value (TLV), OSHA Permissible Exposure Limit (PEL) or Supplier recommended limits;
- Whether or not the material or components have been found to be a potential carcinogen;
- Applicable precautions for safe handling and use;
- Applicable control measures;
- Emergency and first-aid procedures;
- Date of preparation or date of last change;
- Name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party, who can provide additional information.

B. Obtaining MSDS's

On all Purchases for any chemicals, the Safety Coordinator will verify: "MSDS on file" or "MSDS required" or "material exempt." The Safety Coordinator or his/her assignee is responsible for obtaining MSDS's for Berger Electric, Inc. A MSDS should be available for every hazardous chemical listed on the inventory list. In the event a MSDS is not available, the Safety Coordinator or assignee will use the following procedures to obtain MSDS's:

- The supplier will be contacted by telephone and letter and all correspondence and communication will be documented as proof of effort to comply.

- If a supplier should not satisfy the first written request within 30 days, a second written request for a MSDS should be sent to the supplier and the Department of Labor will be contacted if MSDS is not received within 15 days.

- All requests to suppliers and the Department of Labor including letters and telephone calls must be documented and maintained on file.

C. Review of MSDS's
The Safety Coordinator and or Supervisors are responsible for reviewing all incoming data sheets for new and significant health/safety information. Any new information will be transmitted to Managers so appropriate measures can be taken to inform affected employees. If deficiencies exist or additional information is needed concerning MSDS's, the chemical manufacturer or supplier will be contacted to obtain necessary information.

D. MSDS Maintenance
The Safety Coordinator is responsible for maintaining the MSDS's. The MSDS's for supervisors in a booklet maintain chemicals and chemical inventory list titled "Hazard Communication Program". This booklet is accessible to employees during each work shift. If MSDS's are not available or new chemicals in use do not have MSDS's, employees should contact their immediate Supervisor or Safety Coordinator. The Safety Coordinator will maintain a master copy of the MSDS's and inventory list.

EMPLOYEE TRAINING AND EDUCATION: Effective employee training and education is the most critical component of the hazard communication program. A properly conducted training program will insure that employees are aware of hazards in the workplace and appropriate control measures to protect them. The Safety Coordinator is the employee trainer and educator for the program for Berger Electric, Inc. All employees who work in areas where hazardous chemicals are used and/or maintained and those who may be exposed in an emergency are involved in the employee training and educational program. The program is presented in two phases:

(1) General Information Training
Explanation of the Hazard Communication Standard;
Location and availability of written hazard communication program;
Operations in the work area where hazardous chemicals are present;
General introduction of chemical hazards, labeling and Material Safety Data Sheet (MSDS's)

The Safety Coordinator during the initial orientation administers general information training.

(2) Specific Hazard Training
Location of hazardous chemicals in the work area;
Discussion of methods and means of determining/detecting the presence/ release of hazardous chemicals in the work area;
The chemical physical and health hazards in the work area;
Explanation of internal labeling system;

Review of appropriate work practices, personal protective equipment and emergency procedures;
Access to safety and health information;
Work area list of hazardous chemicals and Material Safety Data Sheets;
How to obtain additional information;

The Immediate Supervisor or Safety Coordinator administers specific hazard training. As a training aid, the following material is used:

Audio-visual presentation: Orientation Program
Written material: Chemical Safety Training Sheet

All employees who receive general information and specific hazard training sign a training sheet as documentation.

- **Re-Assigned/Transferred Employees:** Employee's Re-Assigned/Transferred to other work areas will undergo a review of specific hazard training in their new work area. The Immediate Supervisor or Safety Coordinator is responsible for scheduling and insuring that this retraining session is conducted and initiated on the first day of employment in a new work area.

- **New Hires:** Whenever a person is hired for employment, hazard communication training and education will be provided at the time of their initial assignment. New Employee training will be provided by the Safety Coordinator as part of new employee orientation at the time of initial employment and prior to handling hazardous chemicals. New hires will sign an Employee Orientation Sheet.

NON-ROUTINE WORK

Occasionally employees will be asked to perform non-routine work, which can be defined, as work not normally performed by an employee during the normal course of job duties. Example of non- routine work could be, but not limited to:

Confined space entry work;
Welding and cutting operations;
Breaking and opening piping systems;
Use of internal combustion engines in enclosed areas;

The following procedures will be used when employees perform non- routine work:

- The Safety Coordinator or Immediate Supervisor will determine the need for non- routine work and the hazards associated with the work.
- The Immediate Supervisor or Safety Coordinator will train the employees performing the non-routine work of the hazards associated with the work and of procedures/permits to follow. The training should be given each time prior to employees performing non-routine work.

Employees share in the responsibility by ensuring their Immediate Supervisor or Safety Coordinator knows that non-routine work will be performed. Some jobs may require that special work permits be required for some non-routine work such as confined space entry, welding,

cutting and breaking and opening piping systems. Employees should contact their Immediate Supervisor or Safety Coordinator with questions concerning non-routine work.

CONTRACTORS: It is Berger Electric, Inc.'s Policy that when contractors are working on leases or other property they must comply with all OSHA standards and requirements, where applicable. The Hazard Communication Standard requires all contractors working on Berger Electric, Inc. property to be informed by Berger Electric, Inc. concerning applicable workplace hazardous chemicals which the contractor's employees may be exposed to while performing their work and of appropriate protective measures. This information is provided so contractor employers can properly train their employees. In addition, the contractor will inform Berger Electric, Inc. about hazardous chemicals that the contractor brings onto leases or other property so that precautions can be taken. The following procedure is utilized with contractors, prior to the contractor's employees beginning work on leases or property.

- Include with the request for a quote for projects requiring on-site work by contractor employees, a general letter of notification that contractor employees may be exposed to hazardous materials.
- Obtain along with the vendor's quotation and forward to Berger Electric, Inc. or Lease Operator, a signed acknowledgment of contractor hazard notification.
- Forward all requests for further hazard information to the Lease Operator.
- Minimize exposure of contractor employees to hazardous materials.

A) Chemical Inventory

Berger Electric, Inc. or Lease Operator will determine and list what hazardous chemicals the contractor's employees may be exposed to while performing their work.

B) Material Safety Data Sheets

The contractor employer will be provided with the list of hazardous chemicals the contractor's employees may be exposed to while performing their work and the availability of Material Safety Data Sheets, which list appropriate protective measures.

C) Contractor Supplied Chemical Inventory

The contractor employer will provide, in writing, a list of chemicals with Material Safety Data Sheets the contractor will bring onto Berger Electric, Inc. or other property. The Safety Coordinator will review the chemical list and MSDS's provided by the contractor and will notify the Lease Operator of the area where the contractor is working of the potential exposure and appropriate protective measures.

D) Documentation

All contacts with contractors concerning hazardous communication shall be documented and filed.

Berger Electric, Inc. will periodically review the Hazard Communication Program. At the time of the review Management, Supervisors and Safety Coordinator will conduct and review chemical list and make changes where needed.

HAND AND POWER TOOLS

It is the goal of Berger Electric, Inc. to provide a safe and healthful environment to all employees. It is, therefore, Berger Electric, Inc.'s intention to do all that it can to eliminate the potential for injuries due to unsafe use of, or faulty, hand and portable power tools by providing an on-going program to protect employees from accidental injuries resulting from unsafe use of, or faulty, hand and power tools

Employee Training shall be provided when tool is changed or model of power tool is changed and provided on an annual basis. Employees shall be able to recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent injury or tool damage.

GUARDING

- When equipment comes with guards the guards must be used and maintained in good, operational condition.
- Rotating or moving parts, if exposed to contact by employees, must be guarded.
- Points of Operation, on equipment and machines, must be guarded.
- Fans must be guarded.
- Fixed machinery should be anchored.
- Machine guards will be clean, secure and so arranged so that they do not offer a hazard in their use.
- All moving chains, gears, pulleys, etc., will be properly guarded.
- All emergency "STOP" buttons will be colored red and easily accessible to the operator in an emergency.
- All non-current carrying metal parts of electric equipment will be properly grounded.
- Sufficient clearance must be maintained around equipment to assure for safe operation, maintenance, and waste removal.

HAND TOOLS

- All hand tools such as chisel, punches, etc. which develop "mushroomed" heads must be taken out of service and reconditioned.
- Handles on hammers, axes, and similar equipment that are cracked or fractured should be replaced prior to use. Care should be taken to assure that head are properly and securely attached.
- Wrenches whose handles are bent or whose gripping surfaces are worn should be replaced.
- Screwdrivers that are bent or whose ends are chipped should be replaced.
- Tools should be stored in a dry secure location where they won't be tampered with.
- Tools should be stored in such a way that sharp edges do not present a danger when reaching into tool cribs and storage areas.
- Tool cutting edges should be sharp so that the tool will move smoothly and will not bind.
- All handles should be free of burs and splinters and firmly attached to the working head of the tool.
- Unsafe or defective tools and equipment shall not be issued.

- Wooden handles of tools should be maintained in good condition.
- Keep all tools in good condition with regular maintenance.
- Never carry sharp tools in pockets
- Keep floors clean and dry to prevent slips or trips while carrying sharp hand tools.
- Avoid using dull or broken pointed tools.

POWER-OPERATED HAND TOOLS

- All grinders, saws, and similar equipment must be fitted with appropriate machine guarding as specified by the manufacturer.
- All rotating or moving parts of equipment must be properly guarded to prevent physical contact by the operator.
- All cord-connected and electrically operated tools and equipment must be effectively grounded by either a grounding prong or an approved double-insulated case. Inspect all prongs to assure that they are not bent or otherwise damaged, and all cases to assure that they are not cracked or damaged.
- All electric cords must be in good condition free of frays or other physical defects.
- Pneumatic hoses are free of damage or deterioration.
- Avoid accidental starting, do not hold fingers on the switch button while carrying a plugged in tool.
- Do not hoist or lower these tools by their power cord.
- Employee(s) must be trained on operation.
- Remove all damaged power tools from use and TAG them “DO NOT USE”.

PNEUMATIC POWER TOOLS

- Secure tool to air line hose connector.
- Where required safety clips or retainers shall be used in securing air line hose.
- Automatic fasteners fed tools must have safety device to prevent ejecting unless contacted with work surface.
- Do not exceed manufacturer's safe operating pressure.
- Do not hoist or lower the tools by their hose.
- Hoses greater than 1/2 inch must have reducing device at source or branch in case of failure.
- Atomize spray guns must have visible manual or automatic safety device that prevents pre-mature pulling of trigger or have a diffuser nut.
- Abrasive blast cleaning nozzles must have device to hold it open.

POWDER-ACTUATED TOOLS

- Powder-actuated tools are stored in their own locked container when not being used.
- All powder-actuated tools will be left unloaded until they are actually used.
- Only trained and authorized employees will use powder-actuated tools
- Employee(s) will be trained on proper operation.
- Tool must be tested prior to use.
- Employee(s) must wear appropriate Personal Protective Equipment.
- Do not load the tool until you are ready to use it.
- Do not drive into hard or brittle material.

- Do not use in an explosive atmosphere.
- Use the tool only if all the safety guards are on and good condition.

ABRASIVE WHEEL AND TOOLS

- The work rest shall be within 1/8 inch of the wheel.
- The adjustable tongue on the top side of grinder must be within 1/8 inch of the wheel.
- Grinder is mounted in such a way that it is secure and will not shift or tip.
- On-Off control switches are clearly marked in red and readily accessible to the operator to easily deactivate equipment in case of emergency.
- The maximum RPM rating of the grinder is clearly posted and the maximum rating of the wheel does not exceed grinder rating.
- Grinding wheels are not cracked or otherwise damaged.
- Grinders that use a coolant must be equipped with splash guards to prevent coolant from coming into contact with operator.
- Use guards and maintain proper alignment.
- Ring-Test before mounting.
- Wear appropriate Personal Protective Equipment.

WOODWORKING TOOLS

- Equipment must have disconnected switches.
- Equipment must have all necessary protective guarding on and in good condition.
- Employee(s) must wear all necessary Personal Protective Equipment.

JACKS (lever, ratchet, screw, and hydraulic)

- Must have capacity tag or stamped on unit.
- Must have positive stop.
- Block properly when using.
- Lubricate and inspect regularly.
- Units in need of repair should be tagged "Out of Service" - Do Not Use.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment which maybe required are as follows:

- Safety Glasses
- Goggles
- Face Shields
- Dust Masks
- Hand Protection
- Respiratory
- Foot Protection

Employees shall be trained and knowledgeable on use of personal protective equipment required.

Tools shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

BENCH AND PORTABLE GRINDERS

1. Always read and understand the instructions contained in the operator's manual before using the equipment.

2. Wear appropriate clothing such as safety glasses or a face shield and gloves.

3. Make sure that the cord is in good shape. Do not use the grinder in the rain or in damp conditions.

4. Make sure that any guards are in place before turning the machine on.

5. Inspect the grinding wheel or other attachments for chips, cracks or loose parts. DO NOT use damaged wheels or attachments.

6. Make sure that the attachments are rated for the RPM that the grinder will produce.

7. Make sure that adjusting keys or wrenches are removed before turning the grinder on.

8. Warn other people in your work area before you start grinding.

9. Secure the item you are working on in a vise if at all possible. Avoid holding small items in your hands.

10. DO NOT force the tool into the work, it may "kick back" violently.

11. Make sure that the grinder is unplugged before changing wheels or attachments.

Bench Grinders

1. Adjust the work rest and keep it within 1/8 inch of the grinding wheel.

2. Side guard shall cover the spindle, nut, flange and 75% of the wheel diameter.

3. Mount the grinder to the bench and/or pedestal.

Portable Grinders

1. Portable grinders shall be equipped with hood or blade guards.

2. When the equipment is being serviced, use lock-out/tag-out or unplug the equipment.

3. An electrically operated grinder shall be grounded.

4. All grinders shall be equipped with an on and off switch.

ELECTRICAL TOOLS AND CORDS

Only electrical maintenance personnel or employees trained to make electrical repairs are allowed to make connections or repairs to electrical equipment, electrical tools, wiring, cords, cables etc. Only electrical maintenance personnel are allowed to open panel boxes to reset breakers and change fuses.

Electrical Cords and Cables:

- Before using any electrical extension cords or trailing cables always check them: For breaks cuts or crushed damage to the outer insulated covering.
- To make sure the ends are secure on the cord or cable and not broken or cracked.
- To make sure that all prongs on the male end are secure and not missing, broken or cracked. All cords and cables must have a ground plug. (Note: Small Tools, which are manufactured with a 2-prong plug, are an exception to the previous statement.) Never use cords or cables which are found to be in an unsafe condition as they may cause electrical shocks and/or fires.
- Never touch any exposed or dangling wires that you may encounter and consider them to be alive until it is positively known that they are dead and that there is not danger of them becoming alive.
- Any electrical extension cords and trailing cables must be approved for the intended use and location. If unsure, check with electrical maintenance.
- Never use, handle or connect electrical cords and trailing cables in wet conditions or when standing in or near water.
- High Voltage Cables (High voltage means any voltage in excess of 208 volts to ground or 300 volts phase to phase).
- The power source to the plug must be turned off before connecting or disconnecting a cable to a high voltage outlet.
- A high voltage outlet must have the power source turned “off” when not in use.
- High voltage outlets must have protective covers which close over the outlet when not in use.

Electrical Tools and Cords:

- Care and Protection of Cords and Cables, all electrical cords and trailing cables must be protected from damage from physical contact.
- Never drive any forklift, pallet jack, etc. over cords or cables.
- Do not drag cords and cables across sharp objects or allow them to come into contact with hot objects.
- Do not string cords or cables across aisles, walkways or roadways.
- Cords and cable must be protected where there is danger of objects falling on them, use an angle iron, cord covers to protect cords and cables.
- Keep overhead drop cables from hanging above aisles or where they could be caught by equipment.
- Roll up any unused extension cords and cables and store in designated place.

- Area in front of panel boxes must be kept accessible and must have at least "2 ½ ft." of clearance on all sides.
- In case of electrical fire, follow all emergency procedures and use a "Class C" fire extinguisher to extinguish the fire. If possible, turn off the power supply to the area of the fire.
- **WARNING** - Never use foam or water to extinguish electrical fires as electrocution may result.

ELECTRICAL TOOLS

- Protect yourself; do not wear loose fitting clothing or loose fitting gloves.
- Never wear jeweler such as rings, bracelets, wristwatches, bands, necklaces etc. which may come into contact with rotating part of the tool or cause burns and shocks when in contact with an electrical current.
- Use a face shield if your electrical tools operation creates sparks or flying particles, which may cause face or eye injuries.
- Before using an electrical tool, check the power supply cord for any breaks, cuts or crushed areas, a good 3 - prong grounding connector on the male end of the cord, which is not broken, cracked or otherwise damaged.
- Before using an electrical tool, check housing to make sure it is not cracked, broken or otherwise damaged.
- Make sure that the switch is in good operating condition.
- That the attachment or accessory is securely attached to the tool. Disconnect the power supply cord before attaching or removing an accessory, when tool is not in use, when making adjustments.
- Never tie, tape, or otherwise fasten the switch of an electrical tool in the "ON" position.
- Do not use electrical tools while standing in water or in moist conditions.
- Keep hands away from rotating and moving parts.
- Do not operate electrical tools in areas where there is a danger of fire and explosion from sparks, because of fumes and gases.
- Keep "breathing holes" clear in the housings of electrical tools to avoid the tool from being over heated.
- Keep tools clean, free of dust and oil build-up.
- After use return all electrical tools to their designated storage areas.

TAMPERS/COMPACTORS

All Manufacturer safety practices must be employed while using tampers/compactors. This means that all employees must read, know and understand all safeguards prior to using equipment. If an individual does not understand the safe operation of a piece of equipment he/she should notify the supervisor or safety coordinator to obtain clarification. All required Personal Protective Equipment must be worn at all time when using equipment.

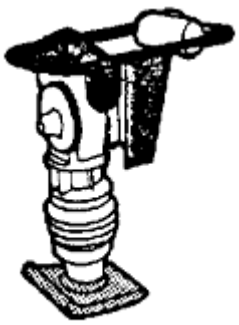
BEFORE USING TAMPERS/COMPACTORS:

All tools should be inspected prior to each use by the operator. Inspections should include:

- Study the owner's manual to familiarize yourself with the machine. See Figures 1, 2 and 3 for examples of compactors.
- Instruct all operators on how to use the machine safely. Do not allow anyone to operate the machine until you are sure they can do so safely.
- Check for loose bolts and damaged parts. Tighten, repair, or replace as needed, before using the machine. Make sure all guards are in place.
- Save your back! Never attempt to lift compactors by yourself. Use a mechanical lifting device or ask another person(s) to assist. Attach safety straps if mechanically lifting the unit more than 2 feet off the ground. Lighter backfill tampers (less than 35 pounds) may be handled by one person if proper lifting techniques are used (see unit on preventing back injuries).
- Fill the fuel tank out of doors with the engine stopped and cool. Do not fill the tank over three-fourths full to prevent vibration from expelling fuel from the tank. Never smoke while fueling, and wipe up spills immediately. Store fuel in a properly marked safety can.
- Wear proper personal protective equipment consisting of sturdy pants and shirt, eye and ear protection, safety shoes, and non-slip gloves.

Figure 1 **Figure 2** **Figure 3**

Backfill compactor



Jumping Jack compactor

Plate Compactor

SAFETY DURING OPERATION:

- Always start the engine out of doors. Never start it in a closed building due to possible deadly carbon monoxide buildup.
- Clear the working area of bystanders, children, and pets.
- Keep your feet clear of the machine at all times to avoid the tremendous impact delivered by the machine. Grasping the machine lightly, but securely, lets the machine do the work while saving your back.
- Do not leave the machine running unattended.
- Position your body to prevent contact with the hot parts of the engine.
- Do not operate a compactor on concrete and avoid unstable surfaces that might be subject to cave-ins.
- Shut off the engine and disconnect the spark plug wire before making repairs or adjustments. Carburetor adjustments are the only exception to this rule.
- Store jumping jack types in an upright position.

MACHINE SAFEGUARDING

The Occupational Safety and Health Administration (OSHA) requires that machine guarding be provided and maintained in a manner sufficient to protect machine operators and other persons present in machine areas from hazards associated with the operation of machines. Such hazards include those created by points of operation, in-running nip points, rotating parts, flying chips and sparks. The following information is provided to assist machine operators and machine shop supervisors and managers in carrying out their responsibilities for assuring machine safety through hazard identification and evaluation, safeguarding, and safe operation.

Types and Points of Hazardous Machine Operations

Motions
- Rotating: in-running nip points, spindles, shaft ends, couplings
- Reciprocating: back-and-forth, up-and-down
- Transverse: movement in a straight, continuous line

Operations
- Cutting: bandsaws, drills, milling machines, lathes
- Punching: punch presses, notchers
- Shearing: mechanical, pneumatic, or hydraulic shears
- Bending: press brakes, tube benders, plate rolls

Safeguarding Requirements:
Machine safeguards should be installed and maintained to ensure that they:

PREVENT CONTACT: Safeguards must minimize the possibility of the operator or another worker placing their hands into hazardous moving parts.

REMAIN SECURE: Workers should not be able to easily remove or tamper with the safeguard.

PROTECT FROM FALLING OBJECTS: Safeguards should ensure that no objects can fall into moving parts.

CREATE NO NEW HAZARDS: A safeguard defeats its purpose if it creates a hazard of its own.

CREATE NO INTERFERENCE: A safeguard should not create an unacceptable impediment for the worker.

ALLOW SAFE MAINTENANCE AND LUBRICATION: It should be possible to lubricate the machine without removing the safeguard.

Types of Machine Safeguards
- Barriers and guards that prevent contact with machinery.
- Mechanical or electrical devices that restrict contact, such as presence-sensing, restraining, or tripping devices, two-hand controls, or gates.

- Feeding and ejection methods that eliminate part handling in the hazard zone.
- Aids such as awareness signs that do not provide physical protection, but warn of a danger area.

COMMON ELEMENTS FOR SAFEGUARDING ALL MACHINES

Once you have selected a job, discuss the procedure with the employee performing the job and explain its purpose. Point out that you are studying the job itself, not checking on the employee's job performance. Involve the employee in all phases– from reviewing the job steps and procedures to discussing potential hazards and recommended solutions. You also should talk to other workers who have performed the same job.

Before beginning the job, take a look at the general conditions under which the job is performed and develop a checklist. Below are some samples:

- Are there materials on the floor that could trip a worker?
- Is lighting adequate?
- Are there any live electrical hazards at the jobsite?
- Are there any chemical, physical, biological, or radiation hazards associated with the job or likely to develop?
- Are tools – including hand tools, machines, and equipment – in need of repair?
- Is there excessive noise in the work area, hindering worker communication or causing hearing loss?
- Are job procedures known and are they followed or modified?

Identifying Hazard

- Is the worker wearing personal protective clothing and equipment, including safety harnesses that are appropriate for the job?
- Are work positions, machinery, pits or holes, and hazardous operations adequately guarded?
- Are lockout procedures used for machinery deactivation during maintenance procedures?
- Is the worker wearing clothing or jewelry that could get caught in the machinery or otherwise cause a hazard?
- Are there fixed objects that may cause injury, such as sharp machine edges?
- Is the flow of work improperly organized (e.g., is the worker required to make movements that are too rapid)?
- Can the worker get caught in or between machine parts?
- Can the worker be injured by reaching over moving machinery parts or materials?
- Is the worker at any time in an off-balance position?
- Is the worker positioned to the machine in a way that is potentially dangerous?
- Is the worker required to make movements that could lead to or cause hand or foot injuries, or strain from lifting – the hazards of repetitive motions?
- Can the worker be struck by an object or lean against or strike a machine part or object?
- Can the worker be injured from lifting or pulling objects, or from carrying heavy objects?
- Do environmental hazards – dust, chemicals, radiation, welding rays, heat, or excessive noise – result from the performance of the job?

Employees shall be protected from the point-of-operation, in-going nip points and rotating parts. The Following are some machines which usually require point-of-operation guarding:

- Guillotine Cutters
- Shears
- Alligator Shears
- Hydraulic Presses
- Riveters
- Milling Machines
- Power Saws
- Jointers
- Portable Power Tools
- Forming Rolls and Calenders

This standard also covers revolving barrels, drums and containers, guarding of fan blades and the anchoring of fixed machinery.

Applicable to mechanical power transmission apparatus
The Following Is a List of Some Items Covered:

- V-belts
- Cranks
- Fly Wheels
- Connecting Rods, Tails Rods
- Extension Rod Pistons
- Shafting, Projected Shaft Ends
- Key Ways, Projected Keys or Set Screws
- Belt, Rope and Chain Drives
- Gear, Sprocket and Chains
- Collars and Couplings
- Pulleys

SPECIFIC REQUIREMENTS FOR WOODWORKING MACHINES

Overview

Many injuries that occur in woodworking occupations result from employees failing to follow safe operational practices. These failures arise from worker attitudes, inadequate training, and supervisory failure to enforce safe job procedures. The use of machine guards, environmental controls, good training, and maintenance programs, coupled with supervisory enforcement of protective equipment use and safe job practices can eliminate most mishap-producing factors.

Among the most frequently occurring woodworking accidents are two involving saws: (1) blade cuts or abrasions, (2) kickbacks.

The following covers the principle hazards of woodworking equipment.
The following is a breakdown by category of some types of equipment covered.

Circular, Crosscut, and Rip Saws: Guarding beneath the table level should be provided to enclose the saw blade from unintentional contact and prevent contact with moving parts of the drive mechanism. Saws must be equipped with a hood that covers the blade and automatically adjusts itself to the thickness of the material upon which it rides. The hood covers the part of the saw blade exposed above the material and is adaptable to cover tilted blades. When ripping, table saws must be provided with a spreader to prevent the wood's internal stresses from clamping down on the saw blade and an anti-kickback device to prevent the stock from possible kickback.

Radial Saws: Radial saws must be equipped with a hood that encloses the saw blade and the arbor ends. The lower section of the hood must be hinged so it rises and falls and adjusts itself automatically to the thickness of the material as the saw passes through it. An anti-kickback device or hold-down wheels must also be installed on saws used for ripping. The device must be adaptable to any thickness of stock.

Band Saws: Both upper and lower wheels must be completely enclosed on both sides. The enclosures should be capable of being removed easily to permit saw blade maintenance. The working part of a saw blade, between the guide rolls and the upper wheel enclosure, must be guarded to prevent accidental contact with the saw blade. The guard must be self-adjusting and attached to the gauge so that, in any position of the gauge, the guard completely covers the portion of the saw blade between the guide rolls and the upper wheel enclosure.

Jointers: Each hand-fed planer and jointer with a horizontal or vertical head should be equipped with a cylindrical cutting head, the knife projection of which must not exceed 0.125 inch (0.31 centimeters) beyond the cylindrical body of the head. Also, jointers with front-table-mounted fences must be equipped with an adjustable device to prevent thin stock from slipping laterally under the portion of the fence at the rear of the table. An automatic guard must be provided that covers the section of the cutter head near the operator (on working side of the fence) and contacts the wood to prevent any opening from remaining between the guard and wood during the operation. The guard should also cover the section of the cutter head on the non-working side of the fence, especially when the fence is moved toward the automatic guard. The guard over the section of the cutting head on the rear side of the fence should consist of a sliding metal shield that automatically adjusts to the exposed length of the cutter head.

Power Feed Planers: Guards must be provided for feed rolls, cutting heads, and hold-down rolls at the discharge end. Feed rolls should be guarded by a metal strip in front of the rolls under which the material may pass. This prevents an operator's fingers from being drawn into the rolls while feeding the machine. Where the top roll is corrugated, the strip should extend over the top of the roll. Cutting heads and discharge rolls must be guarded by a solid metal enclosure of substantial construction. The hood of an exhaust system may form part or all of the enclosure. When other than corrugated top feed rolls are used, an anti-kickback device should be installed.

Shapers: Shapers must be equipped with a braking device that brings the cutting head to a stop within 10 seconds after power is shut off. Cutting heads must be enclosed by a guard. The guard must not be less than the greatest diameter of the cutter. Whenever possible, hold-downs and jigs should be used to limit exposure of hands to cutters. It is good practice when a blade is removed

from a spindle for sharpening, or for some other purpose, that all other blades be removed at the same time.

Lathes: Rotating, cutter-head type lathes must be provided with a hinged metal shield or hood that completely covers knife and material when the machine is in operation. Exhaust system hoods may be included as part of the guard if they comply with standard guard designs. Automatic lathes should be equipped with a brake that brings the rotating material to a quick, but not instantaneous, stop after power is shut off.

Sanding Machines: Feed rolls of self-feed sanding machines should be protected with a semi-cylindrical guard to prevent hands from coming in contact with the in-running rolls at any point. The guard and its mounting should be designed to remain in adjustment for any thickness of stock. Drum/disk sanding machines should have an exhaust hood, or other guard, so arranged as to enclose the revolving drum/disk, except for the working portion of the drum/disk above the table. Belt sanding machines should be provided with guards at each nip point. These guards must effectively prevent hands or fingers from coming in contact with the nip points. The unused run of the sanding belt must be guarded against accidental contact.

Boring and Mortising Machines: The top of the driving mechanism must be enclosed.

Tenoning Machines: Feed chains and sprockets of double end tenoning machines must be completely enclosed, except for that portion of chain used for conveying the stock. Sprockets and chains must be guarded at the sides by plates projecting beyond the periphery of sprockets and the ends of lugs at the rear ends of frame over which feed conveyors run. Each tenoning machine that has cutting heads and saws must be covered by metal guards when used. These guards should cover at least the unused part of the periphery of the cutting head. Where an exhaust system is used, the guard may form part or all of exhaust hood.

SPECIFIC REQUIREMENTS FOR METAL WORKING MACHINES

Overview

Metal working machine safeguarding must protect the operator from mechanical hazards and prevent any part of the operator's body from making contact with dangerous moving parts, yet not create new hazards or create interference from performing.

OSHA requirements for safeguarding metal working machines are intended to minimize potential for injury while rotating, revolving, reciprocating, slitting, shearing, punching, or bending actions are occurring and to prevent entry of the hands or fingers or any part of the body into the point-of-operation by reaching over, through, under or around a guard through the use of guarding, safe distance location, hand tools or other devices.

Examples are:

- Abrasive wheel grinders, control wheel breakage, prevent contact with abrasive surfaces, control angular exposure of the grinding wheel and insure secure mounting of the wheel.

- Mills and calendars provide for and arrangement of safety stopping devices for rolls, control the stopping limits and provide for an alarm system for assistance in an emergency.

- Mechanical power presses, limit exposure to the point-of-operation by enclosing the dies with barrier guards, or through the use of presence sensing devices, two-hand controls, pull-backs, restraints or gates while initiating the stroke, as long as the devices maintain proper adjustment.

- Hand-feeding tools can be used in conjunction with some of the mentioned devices but are not recognized as a point-of-operation device themselves.

- Training and die-setting procedures are required before operation.

- Forging machines require certification of records, recording inspections of guards and protective devices, training for proper inspection and maintenance and for proper anchoring of the hammer as well as the machine and the use of hand-tools.

METHODS OF MACHINE SAFEGUARDING

There are many ways to safeguard machinery. The type of operation, the size or shape of stock, the method of handling and physical layout of the work area, the type of material, and production requirements or limitations will help to determine the appropriate safeguarding method for the individual machine.

As a general rule, power transmission apparatus is best protected by fixed guards that enclose the danger area. For hazards at the point-of-operation, where moving parts actually perform work on stock, several kinds of safeguarding are possible. One must always choose the most effective and practical means available.

We can group safeguards under five general classifications. Guards are barriers which prevent access to danger areas. There are four general types of guards:

Fixed: As its name implies, a fixed guard is a permanent part of the machine. It is not dependent upon moving parts to perform its intended function. It may be constructed of sheet metal, screen, wire cloth, bars, plastic, or any other material that is substantial enough to withstand whatever impact it may receive and to endure prolonged use. This guard is usually preferable to all other types because of its relative simplicity and performance.

Interlocked: When this type of guard is opened or removed, the tripping mechanism and/or power automatically shut off or disengage, and the machine cannot cycle or be started until the guard is back in place. An interlocked guard may use electrical, mechanical, hydraulic, or pneumatic power or any combination of these. Interlocks should not prevent “inching” by remote control if required. Replacing the guard should not automatically restart the machine.

Adjustable: Adjustable guards are useful because they allow flexibility in accommodating various sizes of stock.

Self-Adjusting: The openings of these barriers are determined by the movement of the stock. As the operator moves the stock into the danger area, the guard is pushed away, providing an opening which is only large enough to admit the stock. After the stock is removed, the guard returns to the rest position. This guard protects the operator by placing a barrier between the danger area and the operator. The guards may be constructed of plastic, metal, other substantial material. Self-adjusting guards offer different degrees of protection.

Devices: A safety device may perform one of several functions. It may: stop the machine if a hand or any part of the body is inadvertently placed in the danger area; restrain or withdraw the operator's hands from the danger area during operation; require the operator to use both hands on machine controls, thus keeping both hands and body out of danger; or provide a barrier which is synchronized with the operating cycle of the machine in order to prevent entry to the danger area during the hazardous part of the cycle.

Presence-Sensing: The photoelectric (optical) presence-sensing device uses a system of light sources and controls which can interrupt the machine's operating cycle. If the light field is broken, the machine will not cycle. This device must be used only on machines which can be stopped before the worker can reach the danger area.

The radiofrequency (capacitance) presence-sensing device uses a radio beam that is part of the machine control circuit. When the capacitance field is broken, the machine will stop or will not activate. Like the photoelectric device, this device shall only be used on machines which can be stopped before the worker can reach the danger area.

The electromechanical sensing device has a probe or contact bar which descends to a predetermined distance when the operator initiates the machine cycle. If there is an obstruction preventing it from descending its full predetermined distance, the control circuit does not actuate the machine cycle.

Pullback: Pullback devices utilize a series of cables attached to the operator's hands, wrists, and/or arms. This type of device is primarily used on machines with stroking action. When the slide/ram is up, the operator is allowed access to the point-of-operation. When the slide/ram begins to descend, a mechanical linkage automatically assures withdrawal of the hands from the point-of-operation.

Restraint: The restraint (holdout) device utilizes cables or straps that are attached to the operator's hands and a fixed point. The cables or straps must be adjusted to let the operator's ands travel within a predetermined safe area. There is no extending or retracting action involved. Consequently, hand-feeding tools are often necessary if the operation involves placing material into the danger area. (Pullback or Restraint devices are used on power presses only.)

Safety Trip Controls: Safety trip controls provide a quick means for deactivating the machine in an emergency situation. A pressure-sensitive body bar, when depressed, will deactivate the

machine. If the operator or anyone trips, loses balance, or is drawn into the machine, applying pressure to the bar will stop the operation. The positioning of the bar, therefore, is critical.

Two-Hand Control: The two-hand control requires constant, concurrent pressure by the operator to activate the machine. This kind of control requires a part-revolution clutch, brake, and a brake monitor if used on a power press. With this type of device the operator's hands are required to be a safe location (on control buttons) and at a safe distance from the danger area while the machine completes its closing cycle.

Two-Hand Trip: The two-hand trip requires concurrent application of both of the operator's control buttons to activate the machine cycle, after which the hands are free. This device is usually used with machines equipped with full-revolution clutches. The trips must be placed far enough from the point-of-operation to make it possible for the operator to move his or her hands from the trip buttons or handles into the point-of-operation before the first half of the cycle is completed. Thus the operator's hands are kept far enough away to prevent them from being accidentally placed in the danger area prior to the slide/ram or blade reaching the full "down" position.

Gate: A gate is a movable barrier which protects the operator at the point-of-operation before the machine cycle can be started. Gates are, in many instances, designed to be operated with each machine cycle.

Safeguarding by Location/Distance:

The examples mentioned below are a few of the numerous applications of the principle of safeguarding by location/distance.

To safeguard a machine by location, the machine or its dangerous moving parts must be so positioned that hazardous areas are not accessible or do not present a hazard to a worker during the normal operation of the machine. This may be accomplished by locating a machine so that a plant design feature, such as a wall, protects the worker and other personnel. Additionally, enclosure walls or fences can restrict access to machines. Another possible solution is to have dangerous parts located high enough to be out of the normal reach of any worker.

Guarding by Distance: Feeding process can be safeguarded by location if a safe distance can be maintained to protect the worker's hands. The dimensions of the stock being worked on may provide adequate safety. For instance, if the stock is several feet long and only one end of the stock is being worked on, the operator may be able to hold the opposite end while the work is being performed. An example would be a single-end punching machine. However, depending upon the machine, protection might still be required for other personnel.

The positioning of the operator's control station provides another potential approach to safeguarding by location. Operator controls may be located at a safe distance from the machine if there is no reason for the operator to tend it.

Feeding and Ejection Methods to Improve Operator Safety: Many feeding and ejection methods do not require the operator to place his or her hands in the danger area. In some cases, no operator involvement is necessary after the machine is set up. In other situations, operators can manually feed the stock with the assistance of a feeding mechanism. Properly designed ejection methods do not require any operator involvement after the machine starts to function. Some feeding and ejection methods may even create hazards themselves. For instance, a robot may eliminate the need for an operator to be near the machine but may create a new hazard itself by the movement of its arm.

Using these feeding and ejection methods does not eliminate the need for guards and devices. Guards and devices must be used wherever they are necessary and possible in order to provide protection from exposure to hazards.

Types of Feeding and Ejection Methods: Automatic feedings reduces the exposure of the operator during the work process, and sometimes do not require any effort by the operator after the machine is set up and running.

With semi-automatic feeding, as in the case of a power press, the operator uses a mechanism to place the piece being processed under the ram at each stroke. The operator does not need to reach into the danger area, and the danger area is completely enclosed.

Automatic ejection may employ either an air-pressure or a mechanical apparatus to remove the completed part from a press. It may be interlocked with the operating controls to prevent operation until part ejection is accomplished. This method requires additional safeguards for full protection of the operator.

Using a semi-automatic ejection mechanism on a power press, when the plunger is withdrawn from the die area, the ejector leg, which is mechanically coupled to the plunger, kicks the completed work out.

Robots are machines that load and unload stock, assemble parts, transfer objects, or perform other tasks. Essentially, they perform work otherwise done by an operator. They are best used in high production processes requiring repeated routines. However, they may create high hazard themselves, and if they do, appropriate guards must be used.

Miscellaneous Aids: While these aids do not give complete protection from machine hazards, they may provide the operator with an extra margin of safety. Sound judgment is needed in their application.

The awareness barrier does not provide physical protection, but serves only to remind a person that he or she is approaching the danger area. Generally, awareness barriers are not considered adequate where continual exposure to the hazard exists.

Shields, another aid, may be used to provide protection from protection from flying particles, splashing cutting oils, or coolants.

Holding tools can place or remove stock. A typical use would be for reaching into the danger area of a press or press brake.

A push stick or block may be used when feeding stock into a saw blade. When it becomes necessary for hands to be in close proximity to the blade, the push stick or block may provide a few inches of safety and prevent injury.

Training: Employees must be trained on all machinery or equipment they are required to use. Only trained personnel or those undergoing supervised on-the-job training should be allowed to operate shop machinery or equipment. All operators should be trained in the proper operation, safety procedures, hazard recognition, and emergency shutdown procedures for each machine or piece of equipment they use. As a minimum, the training program should include:

- The nature of hazards for each piece of equipment.
- Safety procedures for special set-ups for each tool.
- How to use safeguards.
- What to do in case guards are missing.
- How to perform work in a safe manner.

Additionally, the training should be devised so employees can demonstrate their knowledge and skills required to perform their tasks. The supervisor or safety coordinator must determine that the employee knows and understands the features of the equipment, all applicable safety rules, and is skilled in operating the equipment. Employers should certify that employees have been trained, which includes the identity of the person trained, the signature of the employer or the person who conducted the training, and the date the training was completed.

BEHAVIOR BASED SAFETY PROGRAM

Berger Electric, Inc. encourages and supports our employees to involve themselves in our Behavior Based Safety Program Processes. In the course of working with other people, we become aware their idiosyncrasies: Normal behavior is different for everyone. If this behavior becomes something out of the ordinary, we must protect ourselves and others by getting involved to correct this behavior. Get to know your fellow employees and confront them if he/she is acting in a dangerous manner.

Behavior Based Safety is a term for programs based on using behavior modification techniques to instill and encourage safe behavior on the job. Its goal is to prevent workplace accidents by having employees at all levels of Berger Electric, Inc. make safety in the workplace a top priority. We commit to the following principles for the conduct of our Behavior Based Safety Process:

Names of employees observed will not be recorded during observation and feedback. (Notation will include job being performed and location)

No disciplinary action will be taken as a result of the observation process.

Employees will not be evaluated on the basis of safety performance recorded during observations.

Employees will voluntarily support the Behavior Based Safety Process such as, providing time for observations, goal setting and group feedback.

Employees will be encouraged to voluntarily participate in the process.

Employees will receive training in the Behavior Based Safety Processes before being asked to conduct observations and feedback.

Newly hired employees and subcontractors will be trained in Behavior Based Safety Policy and Procedures.

Observations and feedback will be conducted according to the policy and procedures.

Employees/supervisors and subcontractors will receive immediate feedback on the observations.

They will also be allowed to see the observation sheet and to ask questions.

Berger Electric, Inc. will act upon observation reports and where required policy or procedure changes will be made to enhance and provide better safety protection for Employees.

BATTERY CHARGER

1. Always read and understand the instructions before using the equipment.
2. When using a battery charger, charge only rechargeable Lead-Acid, Maintenance Free, Low-Maintenance or Deep Cycle batteries.
3. Use the attachments recommended by the manufacturer.
4. Do not operate a damaged charger.
5. Repair of a charger will be done by a qualified service center.
6. Chargers will not be located to restrict the flow of cooling through the cabinet.
7. Do not expose the charger to excessive moisture.
8. Lead cables will be protected.
9. When hooking lead cables to batteries, the unit will be disconnected from an outlet.
10. Charger units will be equipped with an on-off switch
11. Charger units shall be kept clear of any possible ignition sources.
12. While charging batteries with fill caps, do not remove the caps from the batteries.
13. DO NOT SMOKE, STRIKE A MATCH OR CAUSE A SPARK IN THE VICINITY OF A BATTERY CHARGER.
14. WEAR EYE AND HAND PROTECTION.
15. BEFORE CHARGING:
    - Check battery visually and electrically to make sure it's rechargeable with minimum danger.
    - Add distilled water to proper level.
16. CHARGING:
    - Connect and disconnect battery leads only when supply cord is disconnected and both switches are off. RED CLIP IS POSITIVE. BLACK CLIP IS NEGATIVE.
    - Connect charger output lead of proper polarity to underground battery post (not connected to the auto chassis) and opposite polarity lead to engine or chassis away from battery. Avoid carburetor and air cleaner.
    - When polarity light is on, turn time to designated setting and select proper voltage and charge rate.
    - Do not overcharge battery.
    - Reverse sequence to disconnect unit. If sulfuric acid from battery contacts skin or clothes, flush well with water. For contact with eyes, flush well with cold water and get medical attention.

REPLACE DEFECTIVE CORDS AND WIRES IMMEDIATELY!

BATTERIES AND BATTERY CHARGING

Storage and Handling

1. Store in well-ventilated areas and away from open flames or sparks.
2. Facility for drenching or flushing of the eyes and body is provided within 25 ft. of storage areas.
3. Protective clothing and fire protection shall be provided.
4. Vent caps are to remain on battery.

Charging

1. Keep sparks and flames from batteries.
2. Be sure vent caps are in place.
3. Don’t charge when battery is frozen.
4. Never put face over battery.
5. Charge in well ventilated areas.

Jump Starting

1. Turn running vehicle off.
2. Put positive end of cable on positive post of dead battery.
3. Put other positive end of cable on positive post of good battery.
4. Put negative end of cable on negative post of good battery.
5. Put other negative end of cable on negative post or ground to body of dead vehicle.
6. Start vehicle with good battery.
7. Start vehicle with bad battery. NOTE: Never put face over batteries.
8. Disconnect cables in reverse order.

LADDER SAFETY

This policy is to ensure the safe use, care and serviceability of portable ladders used in the workplace. This policy applies to all employees and subcontractors working within Berger Electric, Inc. controlled worksites.

Care and Use of Ladders

- Ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.
- Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.
- Frayed or badly worn rope shall be replaced.
- Safety feet and other auxiliary equipment shall be kept in good condition to insure proper performance.
- Before each use, employees shall inspect the ladder and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."
- Rungs should be kept free of grease and oil.
- Ladder components shall be surfaced so as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- Wood ladders shall not be coated with any opaque covering, except for identification or warning labels which may be placed on one face only of a side rail.

Use of Ladders

- Portable rung and cleat ladders shall, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the working length of the ladder (the length along the ladder between the foot and the top support).
- The ladder shall be so placed as to prevent slipping, and it shall be lashed, or held in position.
- Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds.
- Portable ladders shall be so placed that the side rails have a secure footing.
- Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.
- Ladders shall not be placed in front of doors opening toward the ladder unless the door is blocked upon, locked, or guarded.
- Ladders shall not be placed on boxes, barrels, or other unstable bases to obtain additional height.
- Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment shall not be used; improvised repairs shall not be made.
- A metal spreader or locking device shall be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.
- Short ladders shall not be spliced together to provide long sections.
- Ladders made by fastening cleats across a single rail shall not be used.

- Ladders shall not be used as guys, braces, or skids, or for other than their intended purposes.
- Tops of the ordinary types of stepladders shall not be used as steps.

Extension Ladders

When working with extension ladders, special considerations apply. Tie or secure the ladder at the top and have secure footing at the bottom. Where the ladder cannot be secured, it will be held by one person while another is climbing, descending, or working while on the ladder.

The minimum overlap for the two sections in use shall be as follows:

Size of ladder (feet)	Overlap (feet)
Up to and including 36	3
Over 36 up to and including 48	4
Over 48 up to and including 60	5

- No ladder should be used to gain access to a roof unless the top of the ladder shall extend at least 3 feet above the point of support, at eave, gutter, or roofline.
- Ladders placed at a 4:1 ratio, the ladder side rails shall extend at least 3 feet (.9m) above the upper landing surface. When ladders are not able to be extended then the ladder shall be secured at its top to a rigid support that will not deflect.
- When ascending or descending, the climber must face the ladder.
- Portable ladders shall have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts.
- Metal ladders shall not be used.
- Except when portable ladders are used to gain access to fixed ladders (such as those on utility towers, billboards, and other structures where the bottom of the fixed ladder is elevated to limit access), when two or more separate ladders are used to reach an elevated work area, the ladders shall be offset with a platform or landing between the ladders.
- Each employee shall use at least one hand to grasp the ladder when progressing up and/or down the ladder.
- An employee shall not carry any object or load that could cause the employee to lose balance and fall.

Fall Protection For Ladders

- Fall protection devices have been designed to prevent Employees falls; however, the following requirements outline certain measures which should be followed when they are used.
- All safety devices must be capable of withstanding, without failure, a drop test consisting of a 500 pound weight dropping 18 inches.
- All safety devices must permit the worker to ascend or descend without continually having to hold, push or pull any part of the device leaving both hands free for climbing.

- All safety devices must be activated within 2 feet after a fall occurs and limit the descending velocity of an Employee to 7 feet or less.
- The connection between the carrier or lifeline and the point of attachment to the body belt or harness must not exceed 9 inches in length.

Structural Defects

Berger Electric, Inc. will ensure that all ladders are thoroughly inspected to be free from any type of defects, damage or wear. Therefore, the following guidelines should be use to identify potential structural defects and implement correct repair and\or replacement procedures.

Portable ladders with structural defects, such as broken or missing rungs, cleats, steps or split rails, including corroded compounds, or contain other faulty defective compounds, must immediately be marked "DEFECTIVE - DO NOT USE" and placed out of service until repaired or replaced.

Training

Berger Electric, Inc. shall provide a training program for each employee using ladders and stairways, as necessary. The program shall enable each employee to recognize hazards related to ladders and stairways, and shall train each employee in the procedures to be followed to minimize these hazards.

- The Safety Coordinator shall ensure that each employee has been trained by a competent person in the following areas, as applicable:
- The nature of fall hazards in the work area;
- The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used;
- The proper construction, use, placement, and care in handling of all stairways and ladders;
- The maximum intended load-carrying capacities of ladders and
- Retaining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with this guideline.

WELDING, CUTTING & HOT WORK

This policy is intended as a guide for the safe use of welding and burning equipment.

This policy applies to all employees and subcontractors working within Berger Electric, Inc. controlled job sites.

GENERAL

"Hot work" means riveting, welding, flame cutting, soldering or other fire or spark-producing operation.

Only properly trained and instructed employees shall be permitted to use electric, oxygen and fuel gas welding, burning and cutting equipment. Supervisors shall also be trained in these safety requirements so that they can effectively oversee, manage and enforce safe work operations.

Employees shall be protected from radiant energy eye hazards by spectacles, cup goggles, helmets, hand shields or face shields with filter lenses. Filter lenses shall have an appropriate shade number, as indicated in the following table for the work performed. Variations of one or two shade numbers are permissible to suit individual preferences.

FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY

Operation	**Shade No.**
Soldering	2
Torch Brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1-6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Light gas welding, up to 1/8”	4 or 5
Medium gas welding, 1/8 – ½”	5 or 6
Heavy gas welding, over ½”	6 or 8
Shielded Metal-Arc Welding 1/16 to 5/32 - inch electrodes.	10
Inert-gas Metal-Arc Welding (Non-ferrous) 1/16 - to 5/32 - inch electrodes.	11
Shielded Metal-Arc Welding: 3/16 to 1/4 - inch electrodes 5/16 - and 3/8 - inch electrodes	 12 14

Authorization from the Site Supervisor or, in the shop, the supervisor in charge, before cutting or welding is permitted. The area where hot work will be performed shall be inspected by the Site Supervisor or the supervisor in charge. The supervisor shall designate precautions to be followed in granting authorization to proceed preferably in the form of a written permit.

To the extent possible, hot work shall be performed in designated locations that are free of hazards.

Hot work shall not be performed in flammable or potentially flammable atmospheres, on or in equipment or tanks that have contained flammable gas or liquid or combustible liquid or dust-producing material, until a designated person has tested the atmosphere inside the equipment or tanks and determined that it is not hazardous.

Regarding fire hazards, if the object to be welded or cut cannot readily be moved, all movable fire hazards in the vicinity shall be taken to a safe place.

When hot work must be performed in a location that is not free of fire hazards, all necessary precautions shall be taken to confine heat, sparks, and slag so that they cannot contact flammable or combustible material. If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards shall be used to confine the heat sparks and slag and to protect the immovable fire hazards.

If the safety requirements specified in this program cannot be followed, then welding and cutting shall not be performed until it can be done safely and in compliance with Berger Electric, Inc. safety rules.

Drums and containers which contain or have contained flammable or combustible liquids shall be kept closed. Empty containers shall be removed from the hot work area.

Inspect all leads torches, hoses, gauges and other equipment daily before use.

The operator should report any equipment defect or safety hazard to his supervisor and the use of the equipment shall be discontinued until its safety has been assured. Repairs shall be made only by qualified personnel.

Always check around and below before commencing hot work operations. Use blankets or other protective devices where required. Cover electrical wires to prevent damage.

Wear an approved respirator or assure some means of local exhaust ventilation when performing hot work in an area subject to accumulation of fumes and vapor. When in doubt, ask the Site Safety Supervisor/Representative for assistance. Any employee exposed to the same atmosphere as the welder or burner shall be protected by the same type of respiratory and other protective equipment as that worn by the welder or burner.

Hot work activities requiring local ventilation and/or respirators include:

- Zinc bearing base or filler metal or metals coated with zinc bearing materials.
- Lead based metals; metals containing lead other than as an impurity or metals coated with lead bearing materials.
- Cadmium bearing filler materials; or cadmium coated base materials.
- Chromium bearing metals or metals coated with chromium bearing materials.

- Beryllium containing base or filler metals. Because of its high toxicity, work involving beryllium shall be done with both local exhaust ventilation and air supplied respirators.

- Adequate spark containment methods or barricades shall be used when welding burning or cutting overhead.

- Never heat an object lying flat on a concrete floor. Be sure to provide an air space between the material and the floor, as concrete will explode under extreme heat.

ELECTRIC ARC WELDING AND CUTTING

Workmen assigned must be familiar with all aspects of welding that shall be performed.

- Personnel designated to operate arc welding equipment shall have been properly instructed and qualified to operate such equipment. Personnel assigned to operate or maintain arc welding equipment shall be acquainted with both Berger Electric, Inc. safety rules and OSHA requirements under Part 1910 Subpart Q - Welding, Cutting, and Brazing.

- Personnel performing gas-shielded arc welding shall comply with Recommended Safe Practices for Gas-Shielded Arc Welding, A6.1-1966 American Welding Society.

- All work shall have a separate and adequate ground.

- Welding leads shall not be placed in aisles, stairways or landings where they will present tripping hazards. Excessive leads and hoses should be avoided.

- Only manual electrode holders intended for arc welding and cutting and capable of handling the maximum current required for such welding or cutting shall be used.

- Current-carrying parts passing through those portions of the holder gripped by the user and through the outer surfaces of the jaws of the holder shall be insulated against the maximum voltage to ground.

- Arc welding and cutting cables shall be insulated, flexible and capable of handling the maximum current required by the operations, taking into account the duty cycles.

- Only cable free from repair or splice for 10 feet (3 m) from the electrode holder shall be used unless insulated connectors or splices with insulating quality equal to that of the cable are provided.

- Insulated connectors of equivalent capacity shall be used for connecting or splicing cable. Cable lugs, where used as connectors, shall provide electrical contact. Exposed metal parts shall be insulated.

- Ground return cables shall have current-carrying capacity equal to or exceeding the total maximum output capacities of the welding or cutting units served.

- Arc welding and cutting machine frames shall be grounded, either through a third wire in the cable containing the circuit conductor or through a separate wire at the source of the current. Grounding circuits shall have resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

- When electrode holders are left unattended, electrodes shall be removed and holders placed to prevent employee injury.

- Hot electrode holders shall not be dipped in water.

- When arc welders or cutters leave or stop work or when machines are moved, the power supply switch shall be kept in the off position.

- Arc welding or cutting equipment having a functional defect shall not be used.

- Arc welding and cutting operations shall be separated from other operations by shields, screens, or curtains to protect employees in the vicinity from the direct rays and sparks of the arc.

GAS WELDING AND CUTTING

Workmen assigned must be familiar with all aspects of welding that shall be performed.

Compressed gas cylinders:

- Shall have valve protection caps in place except when in use, hooked up or secured for movement. Oil shall not be used to lubricate caps;

- Shall be hoisted only while secured, as on a cradle or pallet, and shall not be hoisted by mallet, choker sling or cylinder caps;

- Shall be moved only by tilting or rolling on their bottom edges;

- Shall be secured when moved by vehicle;

- Shall be secured while in use;

- Shall have valves closed when cylinders are empty, being moved or stored;

- Shall be secured upright except when hoisted or carried;

- Shall not be freed when frozen by prying the valves or caps with bars or by hitting the valve with a tool;

- Shall not be thawed by boiling water;

- Shall not be exposed to spark, hot slag, or flame;

- Shall be kept away from radiators and other sources of heat;

- Shall not be permitted to become part of electrical circuits or have electrodes struck against them to strike arcs;
- Shall not be used as rollers or supports;
- Shall not have contents used for purposes not authorized by the supplier;
- Shall not be used if damaged or defective;
- Shall not have gases mixed within, except by gas suppliers;
- Shall be stored so that oxygen cylinders are separated from fuel gas cylinders and combustible materials by either a minimum distance of 20 feet (6 m) or a barrier having a fire-resistance rating of 30 minutes;
- Shall not have objects that might either damage the safety device or obstruct the valve placed on top of the cylinder when in use.

Fuel gas shall be used only as follows:

- Before regulators are connected to cylinder valves, the valves shall be opened slightly (cracked) and closed immediately to clear away dust or dirt. Valves shall not be cracked if gas could reach possible sources of ignition;
- Cylinder valves shall be opened slowly to prevent regulator damage and shall not be opened more than 1 1/2 turns. Any special wrench required for emergency closing shall be positioned on the valve stem during cylinder use. For manifold or coupled cylinders, at least one wrench shall be immediately available. Nothing shall be placed on top of a cylinder or associated parts when the cylinder is in use.
- Pressure-reducing regulators shall be attached to cylinder valves when cylinders are supplying torches or devices equipped with shut-off valves;
- Cylinder valves shall be closed and gas released from the regulator or manifold before regulators are removed;
- Leaking fuel gas cylinder valves shall be closed and the gland nut tightened. If the leak continues, the cylinder shall be tagged, removed from service, and moved to a location where the leak will not be hazardous. If a regulator attached to a valve stops a leak, the cylinder need not be removed from the workplace but shall be tagged and may not be used again before it is repaired;
- If a plug or safety device leaks, the cylinder shall be tagged, removed from service, and moved to a location where the leak will not be hazardous.
- Fuel gas and oxygen hoses shall be easily distinguishable from each other by color or sense of touch. Oxygen and fuel hoses shall not be interchangeable. Hoses having more than one gas passage shall not be used.

- When oxygen and fuel gas hoses are taped together, not more than four (4) of each 12 inches (10.2 cm of each 30.5 cm) shall be taped.

- Hose shall be inspected before use. Hose subjected to flashback or showing evidence of severe wear or damage shall be tested to twice the normal working pressure but not less than, 200 p.s.i. (1378.96 kPa) before reuse. Defective hose shall not be used.

- Hose coupling shall not unlock or disconnect without rotary motion.

- Hose connections shall be clamped or securely fastened to withstand twice the normal working pressure but not less than, 300 p.s.i. (2068.44 kPa) without leaking.

- Gas hose storage boxes shall be ventilated.

- Torch tip openings shall only be cleaned with devices designed for that purpose.

- Torches shall be inspected before each use for leaking shut-off valves, hose couplings and tip connections. Torches with such defects shall not be used.

- Personnel in charge of the oxygen or fuel-gas supply equipment, including generators, and oxygen or fuel-gas distribution piping systems shall be instructed and judged competent by their employers for this important work before being left in charge. Rules and instructions covering the operation and maintenance of oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems shall be readily available.

FIRE WATCH REQUIREMENTS

Fire watch

Fire watchers shall be required whenever welding or cutting is performed in locations where other than a minor fire might develop, or any of the following conditions exist:

- Appreciable combustible material, in building construction or contents, closer than 35 feet (10.7 m) to the point of operation.
- Appreciable combustibles are more than 35 feet (10.7 m) away but are easily ignited by sparks.
- Wall or floor openings within a 35-foot (10.7 m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
- Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
- Fire watchers shall have fire extinguishing equipment readily available and be trained in its use. They shall be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm. A fire watch shall be maintained for at least a half hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires.

- Fire Watches shall be trained at the worksite by the Site Supervisor. Training is to be documented and employees training files updated to reflect the training.
- Training shall be done when employees are initially hired and annually thereafter.
- Refer to *Appendix 1* of this section for specific policies and procedures regarding Fire Watch assignment and responsibilities.

WORKING IN CONFINED SPACES

- When hot work, welding, cutting or brazing must be performed in a confined space, only personnel who have successfully completed Berger Electric, Inc.'s safety training program and certification for confined space entry shall perform such work; and then only with prior authorization from the Site Supervisor utilizing written permit procedures as specified in Berger Electric, Inc.'s Confined Space Entry written safety program.
- For purposes of this section, a confined space shall mean a relatively small or restricted space (with comparative examples cited by OSHA being a tank, boiler, pressure vessel, or small compartment of a ship).
- Ventilation is a prerequisite to work in confined spaces.
- When welding or cutting is being performed in any confined spaces the gas cylinders and welding machines shall be left on the outside. Before operations are started, heavy portable equipment mounted on wheels shall be securely blocked to prevent accidental movement.
- Where a welder must enter a confined space through a manhole or other small opening, means shall be provided for quickly removing him in case of emergency. When safety belts and lifelines are used for this purpose they shall be so attached to the welder's body that his body cannot be jammed in a small exit opening. An attendant with a preplanned rescue procedure shall be stationed outside to observe the welder at all times and be capable of putting rescue operations into effect.
- When arc welding is to be suspended for any substantial period of time, such as during lunch or overnight, all electrodes shall be removed from the holders and the holders carefully located so that accidental contact cannot occur and the machine disconnected from the power source.
- In order to eliminate the possibility of gas escaping through leaks of improperly closed valves, when gas welding or cutting, the torch valves shall be closed and the fuel-gas and oxygen supply to the torch positively shut off at some point outside the confined area whenever the torch is not to be used for a substantial period of time, such as during lunch hour or overnight.
- Where practicable the torch and hose shall also be removed from the confined space.
- After welding operations are completed, the welder shall mark the hot metal or provide some other means of warning other workers.

HEALTH PRECAUTIONS & VENTILATION

Health protection and ventilation

- The following requirements have been established on the basis of the following three factors in arc and gas welding which govern the amount of contamination to which welders may be exposed:

- Dimensions of space in which welding is to be done (with special regard to height of ceiling).
- Number of welders.
- Possible evolution of hazardous fumes, gases, or dust according to the metals involved.
- When welding must be performed in a space entirely screened on all sides, the screens shall be so arranged that no serious restriction of ventilation exists. It is desirable to have the screens so mounted that they are about 2 feet (0.61 m) above the floor unless the work is performed at so low a level that the screen must be extended nearer to the floor to protect nearby workers from the glare of welding.
- Local exhaust or general ventilating systems shall be provided and arranged to keep the amount of toxic fumes, gases, or dusts below the maximum concentration allowed by OSHA.
- A number of potentially hazardous materials are employed in fluxes, coatings, coverings, and filler metals used in welding and cutting or are released to the atmosphere during welding and cutting. The suppliers of welding materials shall determine the hazard, if any, associated with the use of their materials in welding, cutting, etc.
- All filler metals and fusible granular materials shall carry the following notice, as a minimum, on tags, boxes, or other containers:

CAUTION

Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. Use adequate ventilation. See ANSI Z49.1-1967 Safety in Welding and Cutting published by the American Welding Society.

- Brazing (welding) filler metals containing cadmium in significant amounts shall carry the following notice on tags, boxes, or other containers:

WARNING
CONTAINS CADMIUM -- POISONOUS FUMES
MAY BE FORMED ON HEATING

Do not breathe fumes. Use only with adequate ventilation such as fume collectors, exhaust ventilators, or air-supplied respirators. See ANSI Z49.1-1967. If you develop chest pain, cough or fever after use call physician immediately.

- Brazing and gas welding fluxes containing fluorine compounds shall have a cautionary wording to indicate that they contain fluorine compounds. One such cautionary wording recommended by the American Welding Society for brazing and gas welding fluxes reads as follows:

CAUTION / CONTAINS FLUORIDES

This flux when heated gives off fumes that may irritate eyes, nose and throat.

- Avoid fumes - use only in well-ventilated spaces.
- Avoid contact of flux with eyes or skin.
- Do not take internally.

Ventilation for general welding and cutting

- Special safety procedures shall be taken when welding, cutting or hot work are performed involving fluorine compounds, zinc, lead, beryllium, cadmium, mercury, cleaning compounds, stainless steel, or other exotic metals or paints that release toxic fumes during hot work.
- When other metals are welded or cut through hot work, mechanical ventilation shall be provided:
- In a space of less than 10,000 cubic feet (284 m (3)) per welder.
- In a room having a ceiling height of less than 16 feet (5 m).
- In confined spaces or where the welding space contains partitions, balconies, or other structural barriers to the extent that they significantly obstruct cross ventilation.
  Minimum rate: Such ventilation shall be at the minimum rate of 2,000 cubic feet (57 (3)) per minute per welder, except where appropriate local exhaust hoods and booths, or airline respirators approved by the U.S. Bureau of Mines for such purposes are provided.
  Natural ventilation is considered sufficient for welding or cutting operations, except for hot work involving fluorine compounds, zinc, lead, beryllium, cadmium, mercury, cleaning compounds, stainless steel or other exotic metals or paints that release toxic fumes during hot work.
- Mechanical local exhaust ventilation may be by means of either of the following:
  Freely movable hoods intended to be placed by the welder as near as practicable to the work being welded and provided with a rate of air-flow sufficient to maintain a velocity in the direction of the hood of 100 linear feet (30 m) per minute in the zone of welding when the hood is at its most remote distance from the point of welding.
  The rates of ventilation required to accomplish this control velocity using a 3-inch (7.6 cm) wide flanged suction opening are shown in the following table:

Welding Zone	Minimum air flow (1) cubic feet / minutes	Duct diameter, inches (2)
4 to 6 inches from arc or torch	150	3
6 to 8 inches from arc or torch	275	3 1/2
8 to 10 inches from arc or torch	425	4 1/2
10 to 12 inches from arc or torch	600	5 1/2
Footnote (1) When brazing with cadmium bearing materials or when cutting on such materials increased rates of ventilation may be required.		
Footnote (2) Nearest half-inch duct diameter based on 4,000 feet per minute velocity in pipe.		

A fixed enclosure with a top and not less than two sides which surround the welding or cutting operations and with a rate of airflow sufficient to maintain a velocity away from the welder of not less than 100 linear feet (30 m) per minute.

Ventilation in confined spaces
Air replacement: All welding and cutting operations carried on in confined spaces shall be adequately ventilated to prevent the accumulation of toxic materials or possible oxygen deficiency. This applies not only to the welder but also to helpers and other personnel in the immediate vicinity. All air replacing that withdrawn shall be clean and respirable.

- Airline respirators. In circumstances for which it is impossible to provide such ventilation, airline respirators or hose masks approved for this purpose by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR part 84 must be used.

- In areas immediately hazardous to life, a full-face piece, pressure-demand, self-contained breathing apparatus or a combination full-face piece, pressure-demand supplied-air respirator with an auxiliary, self-contained air supply approved by NIOSH under 42 CFR part 84 must be used.

- Where welding operations are carried on in confined spaces and where welders and helpers are provided with hose masks, hose masks with blowers or self-contained breathing equipment approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health, a worker shall be stationed on the outside of such confined spaces to insure the safety of those working within.

- Oxygen shall ***NEVER*** be used for ventilation.

FIRST AID

- First aid equipment shall be available at all times in areas where hot work, welding, cutting or brazing are being performed.

- All injuries shall be reported as soon as possible for medical attention.

- First aid shall be rendered until medical attention can be provided.

ELECTRICAL SAFETY

Protection against shock is the principal safety requirement whenever Employees are repairing electrical circuits, fixtures, equipment or appliances; or when working with or around electric power transmissions or distribution equipment. To use electricity safely, you need to identify its most common hazards.

Electrical repair should be left to skilled, electrical trained personnel. If a hazard is spotted, do not touch anything. Report it to the Safety Coordinator immediately so that electricians can make the proper repairs. Safety coordinator shall call electricians, to perform corrections and complete a certified review of the inspection including date, equipment, and the inspector name and Berger Electric, Inc. should be documented, as to the repairs that have been made.

Here are the hazards to watch out for:

- Loose electrical connections
- Cords without insulation or frayed insulation
- Plugs that don't match their outlets -- like a 3-pronged plug in a 2-pronged outlet
- Non-waterproof cords used outdoors
- Equipment running over capacity
- Tools that smoke, smell, spark, or shock
- Wires running across the floor
- Electrical cords left near heat or water
- Electrical cords used around hazardous flammable or explosive materials and not designed for that use
- Extension cords instead of permanent wiring

Equipment such as electrical tools or appliance must be grounded or of the double insulated type.

Extension cords being used must have a grounding conductor. The workplace Supervisor must be aware if multiple plug adapters are prohibited.

If ground-fault circuit interrupters are installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed, temporary circuits must be protected by suitable disconnecting switches or plug connectors with permanent wiring at the junction.

The cover of each switch box and each circuit breaker should be marked with its voltage and the machines or lights it controls. This allows for quick identification in the event of a fire.

Do not use extension cords of the household variety or light-gauge wire to appliances, machines or tools. Only UL approved connectors and wiring or industrial type extension cords are permitted. The use of unauthorized multiple sockets anywhere is prohibited. All of these areas of concern cause overloading of the intended use for the installed wiring and are principle causes of fire.

Electricians must be aware of the following:

- Exposed wiring and cords with frayed or deteriorated insulation must be repaired or replaced.
- Flexible cords and cables must be free of splices or taps.
- Clamps or other securing means must be provided on flexible cords or cables at plugs, receptacles, tools, equipment. The cord jacket must be held securely in place.
- All cord, cable and raceway connections must be intact and secure.
- In wet or damp locations, electrical tools and equipment must be appropriate for the use or location, or otherwise protected.
- The location of electrical power lines and cables (overhead, underground, under floor, other side of walls) must be determined before digging, drilling or similar work is begun.
- All metal measuring tapes, ropes, hand lines or similar devices with metallic thread woven into the fabric are prohibited for use where they could come in contact with energized parts of equipment or circuit conductors.
- The use of metal ladders is prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or conductors.
- All disconnecting switches and circuit breakers must be labeled to indicate their use or equipment served.
- A means for disconnecting equipment must always be opened before fuses are replaced.
- All interior wiring systems must include provisions for grounding metal parts or electrical raceways, equipment and enclosures.
- All electrical raceways and enclosures must be fastened securely in place.
- All energized parts of electrical circuits and equipment must be guarded against accidental contact by approved cabinets or enclosures.
- Sufficient access and working space shall be provided and maintained around all electrical equipment to permit ready and safe operations and maintenance.
- All unused openings (including conduit knockouts) in electrical enclosures and fittings must be closed with appropriate covers, plugs or plates.

- Electrical enclosures such as switches, receptacles, and junction boxes must be provided with tight-fitting covers or plates.
- Disconnecting switches for electrical motors in excess of two horsepower must be capable of opening the circuit when the motor is in a stalled condition without exploding. (Switches must be horsepower rated equal to or in excess of the motor hp rating.)
- Low voltage protection must be provided in the control device of motor driven machines or equipment which could cause injury from inadvertent starting. A motor disconnecting switch or circuit breaker must be located within sight of the motor control device.
- Motors: a) must be located within sight of their controller; b) must have their controller disconnecting means capable of being locked in the open position; c) or must have separate disconnecting means installed in the circuit within sight of the motor.
- A controller for a motor in excess of two horsepower must be rated equal to but not in excess of the motor it services.

Employees who regularly work on or around energized electrical equipment or lines shall be instructed in cardiopulmonary resuscitation (CPR) methods.

Employees must be specifically authorized by the Safety Coordinator and trained on how to work on energized lines or equipment involving 600 volts or higher voltages.

PROTECTIVE CLOTHING AND EQUIPMENT

The protective gear you need to keep from becoming an electricity conductor varies by job, but may include:

- Nonconductive head protection
- Eye and face protection
- Tools with insulated handles
- Rubber gloves
- Rubber clothing
- Rubber-soled boots or shoes or rubber mats to stand on

Wearing metal jewelry like watches or rings, or metalized aprons is dangerous around an electrical conductor.

Proper "tagout" and "lockout" of de-energized circuits should be a standard procedure. The use of protective equipment, such as rubber gloves, rubber blankets, rubber matting barriers, and switch sticks should be a standard requirement.

Most electrical equipment and appliances installed in Berger Electric, Inc. workplace are designed to meet the National Electrical Safety Code. A special permit from the Safety Coordinator or

Supervisor is required for using extension cords for the purpose of temporary wiring or for temporary lighting in the workplace.
Employees must de-energize electrical equipment and electrical circuits before they begin repairs, or whenever the work they intend to do exposes them to the possibility of electrical contact. Power should be shut off at the source rather than via operating controls.

For most equipment, this generally can be done by unplugging them from the wall. When repairing the direct-wired machines remove the circuit breaker from the main box. This way, someone else cannot inadvertently switch on the equipment, or re-engage the breaker while work is underway and the maintenance or repair person is exposed.

When power is shut off, as a precaution against electrical contact accidents during repair work, steps must be taken to keep it shut off. Secure a Berger Electric, Inc. -approved Tagout card or label on the circuit box. If possible, lock out electrical switches or access to such switches to make sure the equipment stays de-energized.

When pulling the Main High Voltage Electrical Breakers in inside and outside buildings, **DO NOT** stand directly in front of and **DO NOT** look directly at circuit breaker boxes. Also, **DO NOT** stand in water when pulling a circuit breaker.

When Employees must make repairs to electrical equipment that cannot be de-energized, they should use insulating Personal Protective Equipment. Make sure such equipment is available and used where needed, review pre-job instructions to remind Employees when to use such equipment. Check now and then to make sure the equipment is being used.

When Employees must work close to electrically energized parts that cannot be de-energized, cover such parts with insulating materials made for that purpose. The material should provide a barrier against accidental contact while the work progresses.

It is also a good practice to have the Employee stand on special insulating mats that prevent grounding. Such mats should be used where more basic precautions cannot be applied to prevent electrical contacts. Exposed energized equipment should be roped off or otherwise barricaded when it is left unguarded at any time.

ALL electrical conductors should be regarded as energized until steps have been taken to de-energize and check them. The check is all important. Many electrical contact accidents have occurred because the wrong circuit was de-energized.

HEAVY EQUIPMENT OPERATIONS

Improper procedures used by Berger Electric, Inc. Employees can cause injury, disability, or death. By outlining and following safe operating procedures for use of heavy equipment, to ensure all employees know and understand the safe operating procedures for the safe operation and maintenance of heavy equipment.

Purpose:

To reduce the risk of a work related injury or death by maximizing personal safety during heavy equipment operations. Employees shall follow the Safe Operating Procedures for the following heavy equipment:

Backhoe, Dozers, Loaders, Road Graders, Scrapers and Ditching Machine

General Safety for Heavy Equipment:

Only trained and authorized operators shall be permitted to operate the designated equipment. Personal protective equipment is mandatory and may include the following:

Boots or safety shoes - Eye/face protection- Long pants - Hard hat- Hearing protection - Gloves

Pre-start/Walk around inspection:

- Check for loose or worn parts and repair or replace immediately.
- Check all fluid/coolant levels.
- Caution: Open the radiator cap only when the engine is cooled.
- Inspect hydraulic line connectors and hoses for leaks before applying pressure to the system. Use paper or cardboard, not your hands, to search for leaks.
- Caution: Hydraulic fluid escaping under pressure can penetrate skin and cause serious bodily harm.
- Check tires for cuts, bulges, irregularities, abnormal wear and proper inflation.
- A fire extinguisher and first aid kit shall be mounted in the cab.

Machine Maintenance:

- When servicing equipment, fasten a Do Not Operate tag on the steering wheel. Review Lockout/Tagout Procedures prior to servicing any equipment.
- Ensure the cab area is clean and free of debris and tools.
- Clean windshield, mirrors and lights.
- Remove all oil, grease or mud and snow from grab irons, hand rails, steps, pedals and floor to prevent slips and falls.
- Remove or secure any loose items such as tools, chains, or lunch boxes from the cab.

Work Site:

- Check and mark the area for underground cables, gas lines, and water mains.
- Know work area clearances - watch for overhead or underground objects, holes, drop-offs, and partially hidden obstacles and wires.

Mount properly:

DO NOT GET ON OR OFF A MACHINE THAT IS IN MOTION

- Maintain a 3-point contact with the steps and hand rails while getting on/into the machine do not use the controls or steering wheel as a handhold.
- Do not operate the machine with wet, greasy, or muddy hands or shoes.

Starting and Testing:

EXHAUST FUMES ARE DANGEROUS - ALWAYS HAVE A RUNNING MACHINE IN A WELL VENTILATED AREA.

- Fasten your seat belt and adjust the seat prior to starting.
- Controls should be in neutral and the parking brake set before starting engine.
- Start the engine only from the operator's seat.
- Warn personnel in the area that you are starting the engine.
- Check all gauges, light, instruments and warning devices to assure that they are functioning properly and the readings are within normal range.
- Test steering right and left.
- Test brakes against ground speed to be certain there is no malfunction.
- Ensure all implement controls are operating properly.
- Operator shall make sure the warning signal is operating when the equipment is backing up.

Machine Operation:

- Acquaint yourself with the controls before operating the machine.
- Only the operator is permitted to ride on the machine.
- While backing up use extra care and sound the horn to clear the area.
- If a malfunction is observed, "DO NOT OPERATE" until the proper repairs have been made.
- Drive at speeds compatible with working conditions.
- Do not coast downhill. Select a gear that will prevent excessive speed when going downhill. Do not park on a steep incline.
- Know the stopping distance at any given working speed.
- Do not permit anyone to stand or pass under the bucket or lift arms.
- Follow the manufacturer's load capacity limits. Identification plates are attached to all machines.

- If the machine is stuck, back it out or stop engine and get help.
- Do not make mechanical adjustments while the unit is in motion.
- Always follow the manufacturer's recommendations for pulling or towing.
- Lower all the hydraulic equipment before shutting down or getting off the machine.
- During snow removal, be alert for any obstructions covered by snow.

Ether - Cold Start Precautions:

- Diesel cold start systems contain ether which is explosive. Keep away from heat, sparks, and open flames. Work in a well-ventilated area.
- If swallowed, breathed or contacted on skin or eyes seek medical attention immediately. Follow recommendations on the MSDS sheets.
- Point the openings of the valve, tube or atomizer away from yourself and others while testing the diesel cold start system.
- Store replacement ether cylinders in a cool dry place away from direct sunlight. Do not keep them in the operator's compartment.

Operating a PTO:

- Shut off the engine and wait until the PTO stops completely before getting off, disconnecting or servicing the PTO unit.
- Wear snug fitting clothing when operating the power take-off or when near rotating equipment.
- When operating stationary PTO equipment, always apply the parking brake and block the rear wheels front and back to prevent any unnecessary movement.
- PTO shields are mandatory on all PTO-driven equipment.

Refueling:

- Shut off and cool the engine and any electrical equipment before fueling.
- Ensure the fueling area is well ventilated.
- Do not smoke while refueling. Keep open flames and sparks away from area.
- Ground the funnel or fuel nozzle against the filler neck to avoid sparks when refueling.
- Do not use gasoline or diesel fuel for cleaning parts.
- Check the battery and electrolyte levels according to manufacturer's instructions.
- Know where the fire extinguishers are located.

Road Rules:

- When turning, use hand or turn signals.
- Obey all traffic regulations. Know local traffic laws regarding lights, warning signs, load limits, and slow moving equipment on highways/roadways.
- When backing up in traffic, pull over and allow the vehicles to pass.
- Operator shall not use, or attempt to use any vehicle in any manner or for any purpose other than for which it is designated.

Shut Down/Parking:

- Park on level ground.
- When parking on a grade, block the wheels and set the parking brakes.
- When parking, lower all loader, buckets, hydraulics to the ground.

BACKHOES:

KNOW THE WORKING RANGE OF THE MACHINE

- Be sure attachment or load doesn't catch on obstructions when lifting or swinging.
- When lifting a load, do not lift, swing or stop unnecessarily fast.
- Be sure everyone is in the clear before swinging or moving in any direction. NEVER swing or position attachment or load over personnel or vehicle cabs.
- Never allow personnel to walk or work under any part of the machine or load while the machine is operating.
- Never allow anyone to ride the attachment or the load.
- Do not load a truck unless the driver is in a safe place. Then, load the truck from the rear or side.
- Use a signal person. The signal person must be in direct communication with the operator, and the operator must pay close attention to the signals.
- Never exceed the lifting capacity of the machine. Stay within the lifting limits shown on the Load Rating Chart. Remember - you may be able to lift the load in close, at ground level, but as the load radius and elevation change, the lifting capacity of the excavator may decrease.
- Keep the machine well back from the edge of an excavation. Avoid undercutting the machine. If necessary, provide adequate shoring to prevent the machine from falling into the excavation.
- Level off the work area if possible.
- Avoid swinging or extending the bucket farther than necessary in a downhill direction. This will reduce the stability of the machine.
- When working with the bucket on the uphill side, the excavator may tip over if the slope is too steep.
- Avoid working with the tracks across the slope, as this reduces stability and increases the tendency for the machine to slide.
- Always be sure that slings or chains used to lift the load are of adequate strength and that they are in good condition.
- Watch your boom clearance at all times.
- Turn off the engine and allow the machine to cool before working on the machine. Most fluids on the excavator are hot enough to cause severe burns at normal operating temperatures.

LOADERS:

- This is a one-person machine, NO RIDERS ALLOWED.

- Know the pinch points and wrap points on the loader.
- Operate at a speed consistent with working conditions, visibility, and terrain.
- Ensure loader has an adequate rear counterweight
- When crossing exposed railroad tracks, ditches, ridges, or curbs reduce speed and cross at an angle.
- Carry loaded buckets as close to the ground as possible. The further a loaded bucket is from the ground the more unstable the loader becomes.
- Use extreme caution when operating a loader on a side slope. Slow down and carry the bucket, loaded or empty, as close to the ground as possible.
- Stay in gear when traveling downhill - this will help control speed.
- Never move a load above the heads of other workers.
- When back filling, use extreme caution. The weight of the material plus the weight of the machine could cause the new construction to collapse.
- Keep work area level; avoid developing ruts by occasionally back dragging the bucket to smooth the surface.

DITCHING MACHINES:

- Always use the steps and handhold provided when mountain or dismounting the machine.
- Maintain three points of contact.
- Locate utility lines, power lines, and buried pipelines before starting to dig. Manually dig across lines.
- Only the operator shall be allowed on the ditcher while it is in operation.
- Seat belts shall be worn.
- Do not get off the ditcher while the machine is in operation.
- Do not add fuel to the ditcher while it is running.
- Bystanders shall stand clear of an operating machine and its load.
- When the ditcher is in tow, be sure the front end is securely fastened to the trailer.
- When the ditcher is being stored or transported on a trailer, lower the boom and leave the ditcher transmission in gear.
- Use the crawl gear when putting the ditcher on a trailer.
- Roll bars shall be installed on riding machines.
- The operator shall be fully qualified and become thoroughly familiar with the ditching machines before using it and shall read the operator’s manual carefully.

FORKLIFT OPERATIONS SAFETY

This policy contains safety requirements relating to maintenance, and use of fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines.

This policy applies to all employees and subcontractors working within Berger Electric, Inc. controlled job sites.

GENERAL

Only trained and authorized operators shall be permitted to operate a powered industrial truck.

Berger Electric, Inc. shall ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely. This shall be demonstrated by the successful completion of the training and evaluation specified in this program.

Prior to permitting an employee to operate a powered industrial truck (except for training purposes), Berger Electric, Inc. shall ensure that each operator has successfully completed the training required by this program.

All operators must be certified through Berger Electric, Inc.'s forklift operator certification program.

Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturer’s prior written approval. Capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.

If the truck is equipped with front-end attachments other than factory installed attachments, the user shall request that the truck be marked to identify the attachments and show the approximate weight of the truck and attachment combination at maximum elevation with load laterally centered.

The user shall see that all nameplates and markings are in place and are maintained in a legible condition.

Where general lighting is less than 2 lumens per square foot, auxiliary directional lighting shall be provided on the truck.

The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the trucks from rolling while they are boarded with powered industrial trucks.

Fixed jacks may be necessary to support a semi trailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.

Wheel stops or other recognized positive protection shall be provided to prevent railroad cars from moving during loading or unloading operations.

Fork trucks shall not be driven up to anyone standing in front of a bench or other fixed object.

No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.

Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

Do not place arms or legs between the uprights of the mast or outside the running lines of the truck.

When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.

A powered industrial truck is unattended when the operator is 25 ft. or more away from the vehicle which remains in his view or whenever the operator leaves the vehicle and it is not in his view.

When the operator of an industrial truck is dismounted and within 25 ft. of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized, and the brakes set to prevent movement.

A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors. Only approved industrial trucks shall be used in hazardous locations.

TRAVELING

All traffic regulations shall be observed, including authorized plant speed limits. A safe distance shall be maintained approximately three truck lengths from the truck ahead, and the truck shall be kept under control at all times.

The right of way shall be yielded to ambulances, fire trucks, or other vehicles in emergency situations.

Other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed.

The driver is required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.

The driver is required to look in the direction of, and keep a clear view of the path of travel.

Grades shall be ascended or descended slowly.

Loaded trucks shall be driven with the load upgrade when ascending or descending grades in excess of 10 percent.

On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.

Stunt driving and horseplay shall not be permitted.

The driver is required to slow down for wet and slippery floors.

Dock board or bridge plates, shall be properly secured before they are driven over. Dock board or bridge plates shall be driven over carefully and slowly and their rated capacity never exceeded.

Running over loose objects on the roadway surface shall be avoided.

While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.

LOADING

Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.

Only loads within the rated capacity of the truck shall be handled.

The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.

Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

Extreme care shall be used when tilting the load forward or backward, particularly when high tiring. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position

over a rack or stack. When stacking or tiring, only enough backward tilt to stabilize the load shall be used.

OPERATION OF THE TRUCK

If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided.
Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.

No truck shall be operated with a leak in the fuel system until the leak has been corrected.
Open flames shall not be used for checking electrolyte level in storage batteries or gasoline level in fuel tanks.

MAINTENANCE OF INDUSTRIAL TRUCKS

Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.

Those repairs to the fuel and ignition systems of industrial trucks which involve fire hazards shall be conducted only in locations designated for such repairs.

Trucks in need of repairs to the electrical system shall have the battery disconnected prior to such repairs.

All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.

Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter weighting of fork trucks shall not be done unless approved by the truck manufacturer.

Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

When the temperature of any part of any truck is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle shall be removed from service and not returned to service until the cause for such overheating has been eliminated.

Industrial trucks shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks. Low flash point (below 100 deg. F.) solvents shall not be used. High flash point (at or above 100 deg. F.) solvents may be used.

Precautions regarding toxicity, ventilation, and fire hazard shall be consonant with the agent or solvent used.

TRAINING

All operators will be trained on the contents of this policy:

- Before initial assignment;
- At least annually thereafter, and as required according to circumstances explained below;
- When an operator is involved in an incident with a fork truck, or when remedial training is required as explained below.

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

All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

Powered industrial truck operators shall receive initial training in the following topics, except in topics that Berger Electric, Inc. can demonstrate are not applicable to safe operation of the truck in Berger Electric, Inc. workplace.

Truck-related topics:

- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
- Differences between the truck and the automobile;
- Truck controls and instrumentation: where they are located, what they do, and how they work;
- Engine or motor operation;
- Steering and maneuvering;
- Visibility (including restrictions due to loading);
- Fork and attachment adaptation, operation, and use limitations;
- Vehicle capacity;
- Vehicle stability;
- Any vehicle inspection and maintenance that the operator will be required to perform;
- Refueling and/or charging and recharging of batteries;
- Operating limitations;
- Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

Workplace-related topics:

- Surface conditions where the vehicle will be operated;
- Composition of loads to be carried and load stability;
- Load manipulation, stacking, and un-stacking;
- Pedestrian traffic in areas where the vehicle will be operated;
- Narrow aisles and other restricted places where the vehicle will be operated;
- Hazardous (classified) locations where the vehicle will be operated;
- Ramps and other sloped surfaces that could affect the vehicle's stability;
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust;
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.
- The requirements of this program.

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted as to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely. Refresher training in relevant topics shall be provided to the operator when:

- The operator has been observed to operate the vehicle in an unsafe manner;
- The operator has been involved in an accident or near-miss incident;
- The operator has received an evaluation that reveals that the operator is not operating the truck safely;
- The operator is assigned to drive a different type of truck; or
- A condition in the workplace changes in a manner that could affect safe operation of the truck.
- An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years.

Berger Electric, Inc. shall certify that each operator has been trained and evaluated as required by this program. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

HANDLING OF FLAMMABLE LIQUIDS

STORAGE:

1. Compressed gases and petroleum products shall not be stored in the same area.
2. All areas that are to be used for storage of flammable liquids or gasses shall be conspicuously designated as such and "No Smoking" signs shall be posted.
3. Areas used for storage of flammable liquids and gases shall be located away from any spark producing equipment or machinery.
4. Storage structures shall be constructed of fire-resistive materials and located away from spark or welding and other operations involving flames or generation of heat.
5. Areas or structures used for storage of flammable liquids or gases shall be well ventilated. Ventilation shall be of either power ventilation (which will be large enough to control odors for size of area) or gravity flow ventilation.
6. All motors or switches, light bulbs or electrical panels shall be constructed of non-spark producing equipment in storage structures.
7. A suitable fire extinguisher shall be located within the area for easy accessibility in case of fire.
8. All containers from which flammable liquids are dispensed shall be grounded to an outside ground or other means of grounding containers.
9. When transferring flammable liquids from one container to another the transfer container and receiving container shall be bonded, using either cable with attached alligator clips for the bonding process.
10. Containers containing flammable liquids or gases shall be provided with identification of contents.
11. Containers used for one substance shall not be used for any other substance other that what it was intended for.
12. Only approved containers shall be used for flammable liquid storage. Containers shall be equipped with a spark arrester and self-closing lids.
13. Access to flammable storage areas shall be restricted to personnel trained in the hazards that are present.

HANDLING:

1. Only personnel trained in the hazards shall be permitted to enter or dispense flammable liquids or gases.
2. Care shall be taken when handling drums or containers so that containers are not punctured or damaged and that all identifications are in place.
3. All pumps, containers and other dispensing equipment shall be kept clean and in working order.
4. All tools used in storage areas shall be of non-sparking materials.
5. When mixing or transferring liquid, materials shall be done in a well-ventilated area.

When transferring flammable liquids from large container to smaller containers the two shall be bonded. Using cable with alligator clips to complete the bonding process to prevent static sparks before the transfer is begun.

Never use the contents of containers with out proper identification of contents.

PIPE HANDLING AND STORAGE

1. When handling pipe, use a clear communication system.
2. When handling threaded pipe three or more inches in diameter, use a hardwood hand stick.
3. When two or more people are carrying pipe, carry pipe on shoulders and walk out of step of each other and carry the pipe on the same shoulder.
4. NOTE: For large diameter pipe, use a pipe caliper.
5. Picked up and laid down the pipe in unison.
6. When handling pipe by mechanical means personnel will stay clear of the load.
7. When handling pipe by mechanical means do not put fingers/hands into the ends of the pipe.
8. Keep feet away from pipe when pipe is lowered or picked up.
9. Keep the pipe racks in an orderly and in a safe condition.
10. The space around pipe racks shall be kept clear of obstruction.
11. Rack the pipes evenly and joint above a joint and in a vertical direction.
12. Rack the pipe so the joint ends overlap the pipe racks evenly on both sides.
13. Pipe racked on ground racks shall not be racked higher than 10 (ten) feet above rack sills.
14. Use supports or strips between the layers of stacked pipe.
15. Pipe racks will be pined or blocked.
16. Do not park vehicles near the loading or unloading areas.
17. Do not walk on pipe racks that have not been secured.
18. When rolling pipe off racks stand behind the pipe to roll.

DUMP TRUCKS

1. Truck drivers will be properly and thoroughly trained before attempting to do any work with or on any dump truck.

2. Our motor vehicle policy, State and Federal regulations prohibit the operation of commercial motor vehicles by individuals who do not have the proper training and license. Do not attempt to operate any dump truck unless you have the proper license and training.

3. Thoroughly inspect the truck for any defects that may inhibit safe operation of the vehicle. DOT regulations require that the operator fill out an inspection form each day before placing the truck into operation. This form is an excellent tool to help the operator remember to check all necessary items.

4. Always use the steps and grab irons and face the vehicle when getting in or out of the truck.

5. Place the gearshift into neutral and set the parking brake before starting the engine.

6. Allow the engine to reach operating temperature and the air pressure to build to operating pressure before placing the truck into motion.

7. Carefully check the area around the truck before placing it into motion. Objects or people that are very close to the truck may not be visible from the driver's seat.

8. Always make sure that your seatbelt is properly fastened before driving the truck.

9. Allow adequate stopping distance between the truck and the vehicles in front of it.

10. Check the area around the truck for obstructions (tree limbs, overhead wires, etc.) before raising the dump box. The spreader chains will not be set if you intend to dump in a pile.

11. Always try to be on a level surface when you raise the dump box. As the box rises the truck's center of gravity goes up and the truck becomes less stable and more apt to tip over. If you must dump on a slope place the truck so that it faces straight up, or down the slope. Do not try to raise the box with the truck parked parallel with the slope. Remember that a dump truck is much more apt to tip over (or run into overhead obstructions) when spreading material that it is when dumping in a pile.

12. NEVER work under a raised box (not even "for just a little bit") unless the box is adequately supported by a prop rod or cribbing. Do not rely on the truck's hydraulic system to hold the box up while you work under it.

CHERRY PICKER

1. Operators shall be qualified and knowledgeable in the operation and use of equipment.
2. Never exceed the rated capacity loads.
3. Outriggers shall be used when operating or telescoping to sides.
4. When telescoping loads while extending boom weight capacities shall not be exceeded.
5. Rear axle lock-outs shall be engaged when swinging or picking loads.
6. Set up of equipment shall have a minimum of fifteen feet clearance from any energized overhead lines.
7. The reverse swing control shall not be engaged until the boom motion has stopped.
8. The transportation of loads shall be done in low speed with boom in the "over front" position and the swing lock engaged.
9. Cherry picker booms shall not be operated at the full boom length or radii, which are not specified on weight charts.
10. Cherry picker operators shall have qualified spotter personnel when placing or retrieving loads.

TRUCKS AND TRAILERS

While operating a truck that is pulling a trailer, local and state traffic laws and regulations shall be followed.

Obey the rules of the road.

1. Operators must wear seatbelts in accordance with state law.

2. On narrow roads, vehicles with loads and school buses have the right of way.

3. Observe and drive by the posted messages each road sign gives.

4. Keep a distance of at least two vehicle lengths between you and other vehicles.

5. Stop at all railroad crossings.

6. During rain, snow and ice, muddy conditions and blowing dirt or other factors of nature drive accordingly to the conditions of the road.

7. When hooking and unhooking trailers, the work area shall be clear.

8. When hooking and unhooking a trailer from a truck, wheel chocks shall be placed.

9. When unhooking from a trailer, a trailer jack shall be placed. The jack shall be placed on a firm surface.

10. All loose objects are to be secured with binders and chains, straps and tighteners.

11. Minimum tie downs is two and one every 10 feet after. (Example 30 foot cargo=3 tie downs).

12. Trucks and trailers are to have a post inspection that meets DOT requirements turned into management after the end of work shift. (daily)

13. Proofs of insurance and vehicle registration are to remain in vehicles at all times.

14. No passengers are to ride on equipment other than in the cab of the truck.

15. When towing another vehicle safe speeds are to be observed. The towrope or strap being used should have a minimum of 20-foot distance between vehicles.

16. Beds and decking of cargo trailers are to be kept clean while not being used to haul material or equipment. When winching material, never stand between the truck and material being winched.

LOADING AND UNLOADING EQUIPMENT

1. When loading or unloading equipment, the work area shall be clear.

2. When loading or unloading from a truck the brakes will be applied and wheel chocks shall be placed.

3. Chock and lock the trailer legs while unloading from a trailer.

4. When unloading from flatbeds using load dikes or platforms area shall be clear of other personnel.

5. When unloading or loading materials using hoisting equipment, tag lines shall be used to guide materials onto trucks or off trucks.

6. When backing to unload material or load material signals man or person shall be used to guide truck into place.

CHEMICAL SPILLS

1. The immediate response for any chemical spill is to stop or contain the flow of spilled chemical.

2. Spill containment kits shall be readily available.

   KITS SHALL CONTAIN:

   - Absorbent mats or materials
   - Disposable clothing
   - Chemical gloves
   - Damming materials
   - Shovels
   - Brooms
   - Squeegee

3. Employees involved in the transfer of chemicals shall wear standard chemical gear.

   STANDARD GEAR INCLUDES:

   - Goggles
   - Chemical suits
   - Face shields
   - Gloves
   - Boots

4. Employees shall be provided neutralizing solution for possible exposure to chemicals on exposed body parts.

5. Employees involved with chemical handling shall familiarize themselves with the various chemicals found in their scope of work.

6. During chemical clean up or spills, minimum movement shall be made to avoid excess agitation of liquids.

7. Employees exposed to chemical spills and clean up shall be provided eye protection and eye wash stations.

8. Open flames or smoking shall be prohibited when working with chemical spills.

9. Employees exposed to any chemicals shall receive medical treatment immediately.

(PPE) ASSESSMENTS
PERSONAL PROTECTIVE EQUIPMENT

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

This policy applies to all employees and subcontractors working within Berger Electric, Inc. controlled worksites.

RESPONSIBILITIES

MANAGEMENT and SUPERVISORS

Management and Supervisors have the primary responsibility for implementation of the PPE Program in their work area. This involves:

- Providing appropriate PPE and making it available to employees.
- Ensuring employees are trained on the proper use, care and cleaning of PPE and fitting, including proper donning, doffing.
- Maintaining records on PPE assignments and training.
- Supervising employees ensure that the PPE Program elements are followed and that employees properly use and care for PPE.
- Seeking assistance from Management and Safety Coordinator to evaluate hazards.
- Notify management and Safety Coordinator when new hazards are introduced and processes are added to or changed.

EMPLOYEES

The PPE user is responsible for following the requirements of the PPE program. This involves:

- Wearing PPE as required.
- Attending required training sessions.
- Caring for, cleaning and maintaining PPE as required.
- Informing the supervisor of the need to repair or replace PPE.

SAFETY COORDINATOR

The Safety Coordinator is responsible for the development, implementation and administration of the PPE Program. This involves:

- Conducting workplace hazard assessments to determine the presence of hazards which necessitate the use of PPE.

- Conducting periodic workplace reassessments as requested by supervisors and/or as determined by Safety Coordinator.
- Maintaining records on hazard assessments.
- Providing training and technical assistance to supervisors and employees on the proper use, care and cleaning of PPE.
- Providing guidance to the supervisor for the selection and purchase of approved PPE.
- Reviewing, updating and evaluating the overall effectiveness of the PPE Program.

APPLICATION

CONTROLLING HAZARDS

- Berger Electric, Inc. will provide employees with the proper protective equipment (PPE) for use in their specific tasks.
- PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.
- This PPE includes but is not limited to eyes, face, head, respiratory, and extremities.
- The PPE will be maintained and stored in accordance with the manufacturer's recommendations.

EMPLOYEE OWNED EQUIPMENT

Where employees provide their own protective equipment, the Site Supervisor shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

DESIGN: All PPE shall meet OSHA/NIOSH standards and approval. Where a standard may not apply competent person will analyze the equipment and give approval or disapproval for its use.

HAZARD ASSESSMENT AND SELECTION

- Selection of PPE will be based on assessment of the hazards associated with the job site and the recommendations included on the safe work permit provided.

- Prior to the beginning of any job task, Company supervisor will determine the PPE necessary to safeguard the employees assigned to do the work.

- Supervisor will ensure that the PPE is available and is included on the work permit. The information on the permit will be discussed with the crew assigned to do the work.

- When reviewing the scope of work prior to the commencement of the job, supervisor will assess the hazards associated with the work and its environment.

- PPE determined for the job will be verbally communicated to the employees during a tool box safety meeting prior to the commencement of the job.

PPE HAZARD ASSESSMENT FORM

Workplace area being evaluated:		Date of assessment:	
Name/signature of person conducting assessment:			
Place a check mark next to every category that could pose a hazard to employees working in this area. Identify the sources responsible for contributing to this hazard. Upon completion, rate each hazard category on a scale of 0-4. 0= No hazard; 1= Slight hazard; 2= Moderate hazard; 3= High hazard; 4=Extreme hazard			
Category: **Impact |** Sources: (i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects; sources of falling objects or potential for dropping objects.			
Category: **Penetration |** Sources: (i.e., sources of falling objects or potential for dropping objects; sources of sharp objects which might pierce the feet or cut the hands) (i.e., sources of flying objects/particles that might damage eyes)			
Category: **Compression (roll-over) |** Sources: (i.e., sources of rolling or pinching objects which could crush feet)			
Category: **Chemical |** Sources: (i.e., types of chemicals utilized)			
Category: **Heat |** Sources: (i.e., sources of high temperatures that could result in burns, eye injury, heat exhaustion, dehydration or ignition of protective equipment)			
Category: **Harmful Dust |** Sources: (i.e., sources of harmful dusts)			
Category: **Light (optical) Radiation |** Sources: (i.e., sources of light radiation including welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.)			
Category: **Electrical |** Sources: (i.e., sources of electrical hazards in relation to location of workers and the work performed)			
Category: **Other: (i.e., Noise) |** Sources: (i.e., sources of other hazards that may be present requiring the use of personal protective equipment)			
Based on hazard assessment, the following types of PPE will be issued to employees working in this area (be specific):			
Eye & Face Protection	Head Protection	Hand Protection	Foot Protection
Hearing Protection	Respiratory Protection	Other Protection	Other Protection

DEFECTIVE AND DAMAGED EQUIPMENT

Defective or damaged equipment will not be used. When PPE is removed for disposal it will be tagged as such, if not disposed of immediately.

TYPES PROTECTIVE EQUIPMENT

HEAD PROTECTION

Head protection will be worn when Employees are exposed to working in areas where there is a possible danger of head injury from impacts and/or penetration of falling or flying objects, or from electric shock and burns.

- All helmets used for working under impact or penetration exposures will meet the construction and structural design specifications of ANSI Z89-.1-1969.

- When Employees are required to work with high voltage, electrical shock or burn exposures the helmets will meet the ANSI Z89.2-1971 specifications.
- The Safety Coordinator will ensure that each worker required to wear a protective helmet is provided with a helmet that meets or exceeds the ANSI (American National Standards Institute) Z89.1-1986 Standard. ANSI Z89.1-1986 has three classes of helmets: A, B, & C.
- Class A: Helmets intended to protect the head from the force of impact from falling objects or electrical shock during contact with exposed low voltage conductors.
- Class B: Helmets intended to protect the head from the force of impact of falling objects or electrical shock during contact with exposed high voltage conductors.
- Class C: Helmets intended to protect the head from the forces of falling objects.
- Note: Protective helmets are commonly called safety helmets, safety hats and hard hats.
- Bump hats are not protective helmets. There are no standards for bump hats. They are used in work settings where workers are not exposed to falling objects, but generally for sanitation purposes or similar circumstances. Bump hats should never be worn in areas that require an approved protective helmet.

EYE & FACE PROTECTION

- Certain jobs and tasks at Berger Electric, Inc. require the use of eye protection. When using tools, machines or equipment, always read and follow the manufacturer's instructions regarding use of eye protection. When working with chemical products, read the label or the Material Safety Data Sheet. If either specifies eye protection, when using the product. ***DO NOT*** start work without it. When eye protection is indicated, you must be sure to use the proper type.
- If safety glasses are specified, use ANSI-approved safety glasses which have permanently attached side shields. Regular sun glasses or eye glasses are NOT considered to provide eye protection under this policy. Only American National Standard Institute Z87-Type protective eye wear is approved for use by Employees. Berger Electric, Inc. supplies glasses of this type with safety lenses and attached side shields that meet the Z87 standards. All safety glasses must have the Z87 seal stamped on the frame.
- Eye protection for Employees who wear corrective glasses must be one of the following:
- Approved safety glasses which have prescription lenses;
- Safety goggles worn over regular corrective glasses; or
- Safety goggles with corrective lenses behind the protective lenses.

CONTACT LENSES do not provide eye protection in construction or industrial environments.

- Their use without appropriate eye or face protection of industrial quality should not be permitted in hazardous environments, according to the National Society for the Prevention of Blindness and ANSI Standard Z87.1-1979.
- When there is the hazard of eye injury due to wind blown foreign objects, Employees must wear a pair of monogoggles in place of or over their safety glasses.
- An employee working in the immediate vicinity of someone operating or using equipment that requires eye protection must wear the same protection as the person operating the equipment.

- Shaded eye glasses ("sun glasses") are not allowed during dark hours, in dimly lit areas or indoor locations with artificial light. Safety Coordinators only may authorize shaded glasses for outdoor use. All the above rules apply for Berger Electric, Inc. facilities and premises, inside and outside.
- Note: Employees must be instructed in the proper use and care of protective gear. Face shields and goggles can accumulate dust, chemicals, metal filings, sawdust, etc. on the upper rim and/or seal. Whenever the device is to be removed from the face or eye, the person must tilt the head forward and down to prevent the mentioned particles from falling back into the eyes.
- DO NOT perform a task for which eye protection is required unless you are wearing eye protection appropriate to the task.
- Wear protective splash goggles when mixing or working with chemicals, liquid cleaners, solvents or other materials which could injure your eyes. Wear protective goggles during all spray applications.
- Protective eyewear is not required in offices, restrooms, break areas and similar non-production areas. Eye protection must be worn if Employees are actively involved in or directly exposed to, construction or remodeling of these facilities where conditions demonstrate the need to prevent eye injury.
- Employees working in the spray application of chemicals, paint or other hazardous materials must wear safety splash goggles. Goggles are required for the task and also during mixing and transfer of these materials from one container to another.
- Berger Electric, Inc. is greatly concerned with protecting your eyesight. It does not want your eyes damaged in any way. That is why you are provided with Personal Protective Equipment to protect your vision. Blindness is permanent darkness, and you must comply with the common sense precautions of wearing eye protection as outlined above.
- In the event proper eye protection is not available, notify your Supervisor and eye protection will be provided.
- DO NOT begin working at a task which requires eye protection unless you are wearing such protection, as stipulated in this policy.
- Failure to wear eye protection, as stipulated in safety rules, is grounds for disciplinary action. Repeated failure to comply is grounds for TERMINATION of employment.

PROTECTIVE CLOTHING & GLOVES

Protective clothing, gloves and/or aprons may be specified by manufacturers or suppliers for safe use or operation of their products. If protective clothing is recommended on product information or warning labels, or the Material Safety Data Sheet, Employees must wear and use this Personal Protective Equipment while performing the specified work.

- Protective rubber gloves are provided for working with chemicals and cleaners. Read instructions and, if necessary, the Material Safety Data Sheet prior to using the chemical or cleaner. If gloves or other Personal Protective Equipment is specified, DO NOT work with the product unless you are wearing full and proper Personal Protective Equipment.
- Leather or heavy material protective gloves are provided for tasks where the hands need protection from superficial cuts, scrapes, blisters and abrasion. Protective gloves of this

type are required for handling sharp metal parts or components; loading and unloading heavy loads; and any other similar tasks where potential hand injury is possible.

- It is important to note that, for certain tasks when hands are close to moving or rotating parts, gloves may present a HAZARD rather than a protection. Consider if the glove could get snagged or caught in the moving or rotating part, causing your fingers or hand to be pulled into a pinch point or crush injury. Check with your Supervisor regarding any such situation BEFORE you begin the task. Equipment guards or barriers may be required.
- When Employees are identified as those who should wear gloves to protect against contact with hazardous substances, the following minimum requirements should be followed:
- The Employee will be trained that when the potential for contact with hazardous substances exists, gloves must be worn. Where applicable, signs will be posted to remind Employees.
- All gloves should be tested by the Employee before using. Quick and easy field tests can be conducted by filling the glove full of air and immersing it in water then looking for bubbles. If holes or leaks are observed, the gloves should be discarded. Reused gloves must be cleaned of chemical residue and put in a storage location that is dry; temperature controlled and will not become a contamination source.
- Gloves should be provided to the workers by either a Supervisor or someone else in charge who is acquainted with the hazard, and the proper type of glove to be used. This helps ensure that Employees are given the proper type of glove to be used.
- The need for glove use by Employees should be re-evaluated when any process changes.

PROTECTIVE FOOTWEAR

- Slip-resistant steel-toed shoes are required to be worn while working and exposed to heavy loads, heavy machinery and/or any other working conditions that may possess slippery floors or foot injury hazards. The shoes must be made of a good quality industrial grade heavy leather construction that covers the ankle. No canvas or recreational-type shoes are allowed in work site areas.
- Shoes must have slip-resistant soles. This is basic protection against injury caused from slips, trips and falls. This means shoes with ribbed or textured soles of rubber or a rubber-like material. Supervisors can approve the type, construction and condition of shoes allowed in designated work areas.

CLEANING AND SANITIZING

Protectors or containers shall be capable of being cleaned and sanitized. PPE shall not be shared between employees until it has been properly cleaned and sanitized. The following protective equipment shall be provided, used and maintained in a sanitary and reliable condition whenever they are necessary based on the hazards present.

- Hard hats - meeting minimum ANSI-Z89.1 standard
- Chemical splash goggles
- Hearing protection - muffs or inserts type
- Chemical resistant gloves

- Welding hoods - with proper lens and face shield
- Full face shields for use where grinding or splashing is likely
- Toxic and hydrocarbon gas monitoring equipment
- Respiratory protection including SCBA's and filter type
- Body harnesses/ropes and lanyards

TRAINING

Berger Electric, Inc. will provide training to each employee who is required to use PPE. Training shall also include fitting, proper donning, doffing, cleaning, and maintenance. Each such employee shall be trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to properly don, doff, adjust, and wear PPE;
- The limitations of the PPE; and,
- The proper care, maintenance, useful life and disposal of the PPE.

Each affected employee shall demonstrate an understanding of the training regarding PPE, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

Supervisor has reason to believe that any affected employee who has already been trained does not have the understanding and skill required the employee shall be retrained. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.
- Supervision shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

RECORD KEEPING

Written records shall be kept of the names of persons trained, the type of training provided and the dates when training occurred. Berger Electric, Inc. shall maintain the following record for at least 3 years:

- PPE Training Certificate
- Hazard Assessment Certification Form

MATERIAL HANDLING/SAFE LIFTING

Manual material handling operations are carried out in most workplaces. Each handling task poses unique demands on the worker. However, workplaces can help workers to perform these tasks safely and easily by implementing and upholding proper policies and procedures.
Due to the repetitive nature of lifting and the cumulative nature of minor injuries, especially to the back, it is imperative that proper lifting techniques be used on every lift, regardless of weight or bulk.

Before manual lifting is performed, a hazard assessment must be completed. The assessment must consider size, bulk, and weight of the object(s), if mechanical lifting equipment is required, if two-man lift is required, whether vision is obscured while carrying and the walking surface and path where the object is to be carried. When these factors interact with each other, they can create hazards that result in injuries.

A load may be hazardous because of:

- weight
- size
- shape (making it awkward to handle)
- coupling (type of grip on the load)
- slippery or damaged surfaces
- absent or inappropriate handles, and
- imbalance (i.e., changing center of gravity)

The task or method of handling may be hazardous when it involves:

- lifting or lowering
- repetitively
- quickly
- for extended periods of time
- while seated or kneeling
- immediately after prolonged flexion
- shortly after a period of rest
- an inability to get close to the load
- moving the load over large distances
- accuracy and precision required because of
- fragile loads, or
- specific unloading locations
- materials positioned too low or too high
- hazardous movements or postures (e.g., twisting, extended bending and reaching)
- multiple handling requirements (e.g., lifting, carrying, unloading)

Environmental factors include:

- temperature
- relative humidity
- lighting
- noise
- time constraints (e.g., machine–paced work or deadline pressures)

- physical conditions such as (obstacles, floor surfaces (e.g., slippery, uneven or damaged)

Worker characteristics that affect the handling of loads include:

- general health
- physical factors
- height
- reach
- flexibility
- strength
- weight
- aerobic capacity
- pre-existing musculoskeletal problems
- psychological factors
- motivation
- stress

The best control measure is to eliminate the need for workers to perform manual handling tasks. Since this is not always possible, design manual handling tasks so that they are within the workers' capabilities. Considerations include the load itself, the design of the workstation and work practices. Providing mechanical handling devices or aids can often eliminate the task itself or ease the demands on the worker.

Task Design

Manual lifting equipment such as dollies, hand trucks, lift-assist devices, jacks, carts, hoists must be provided for employees. Other engineering controls such as conveyors, lift tables, and work station design should be considered. Use of provided equipment by employees must be enforced.

The load, reduce the weight of the load by decreasing the:

- size of the object (specify size to suppliers)
- weight of the container (e.g., plastic is
- lighter than steel)
- capacity of containers
- load in the container

Conversely, consider increasing the weight of the load so that it may only be handled mechanically. This can be done by the use of: palletized loads, and larger bins or containers

Decrease the load on the worker by: Limiting the number of objects he/she is required to handle during the day , designating heavier loads as team lifts (i.e., two or more persons), changing the size and shape of the load so that the worker can get closer to the load's center of gravity.

Work station design; reduce the distance over which the load has to be moved by relocating production and storage areas. Design work stations so that workers:

- can store and handle all material between knuckle and shoulder height; waist height is

most desirable
- can begin and end handling material at the same height
- can face the load and handle materials as close to the body as possible
- do not have to handle loads using awkward postures or an extended reach, and
- do not handle loads in confined spaces that prevent them from using good body mechanics

Facilitate access to material by:
- providing workbenches and other work stations with toe cut-outs, so that workers can get closer to the load
- supplying bins and totes with removable sides
- removing obstructions, such as unnecessary railings on bins

Work Practices

Lifting and Lowering

Eliminate the need to lift or lower manually by providing and ensuring proper use of lift trucks, cranes, hoists, scissor lifts, drum and barrel dumpers, stackers, work dispensers, elevating conveyors, articulating arms and other mechanical devices:
- gravity dumps and chutes
- power lift tail gates on trucks, and hand trucks
- to ensure easy transfer of material from the truck to ground level
- portable ramps or conveyors to lift and lower loads on to work stations

Pushing and Pulling

Eliminate pushing or pulling by ensuring the use of:
- powered conveyors, powered trucks, slides, chutes, monorails, air tables and similar mechanical aids

Make loads easier to push or pull by ensuring the use of: carts, hand trucks and dollies with large diameter casters and good bearings, and grips or handles on loads or mechanical aids, placed to provide optimal push force and prevent awkward postures

Instruct employees to:
- push rather than pull
- avoid overloading – limit the load pushed or pulled at one time
- ensure the load does not block vision
- never push one load and pull another at the same time

Carrying and Holding

Reduce carrying and holding forces by: Evaluating the work flow – determine if heavy loads can be moved mechanically over any distance converting the operation into a pushing or pulling task providing carts, slings or trolleys, providing portable containers in which to place awkward loads

providing grips or handles on loads and limiting the distance over which the load is moved
Environmental Factors

Maintain an optimum environment by ensuring that: The temperature of the work area is at an acceptable level, in a hot environment make sure that workers take frequent breaks away from the heat make sure that workers drink frequently from liquids provided near the work site

In a cold environment, make sure workers wear good insulating clothing, loads are easy to handle when gloves and heavy clothing are worn. Make sure humidity is at an acceptable level. Lifting instructions can be heard in a noisy environment, lighting levels are adequate for the work place, and the layout of the work area provides better access to the load. Make sure the aisles are clear of obstacles, signs are posted where there are gradients in the slope of the floor;

Storage

Provide proper storage facilities such as: Storage boxes and containers that can be lifted mechanically rather than requiring manual handling. Avoid deep shelving that make retrieving or placing a load difficult on racks or shelf trucks to store material, thus eliminating the need for lifting the containers. Storage bins and containers with fold down sides for easier access to loads

When storing loads, employees should: Store loads in easy to access locations, and store loads between knuckle and shoulder height.

Personal Factors

Musculoskeletal injuries caused by improper lifting must be investigated and documented. Incorporation of investigation findings into work procedures must be accomplished to prevent future injuries. Injuries must be recorded and reported per OSHA recording standard.

Clothing wear appropriate clothing and safe, comfortable shoes: Clothes that are comfortable around the hips, knees and shoulders, and that do not have exposed buttons or loose flaps, and non-slip shoes with broad based low heels. Safety footwear is essential when handling heavy loads on a regular basis.

Workers should by participating in regular exercise programs.

Incorporating exercise is easier than you think. For example:

- use the stairs, not the elevator
- walk instead of driving
- stretch or exercise when on break, or when on stand by use good body mechanics when sitting, standing, lifting, etc. For example, when lifting: maintain a curve in the lower back, stabilize the back by lightly contracting the stomach muscles.
- take regular task breaks to avoid or reduce muscle fatigue
- get adequate sleep on a good mattress
- eat sensibly (not to much) until comfortable

General Precautions

Instruct employees to take the following precautions when handling loads:

- test the weight of the load to ensure it can be lifted securely; if not, make adjustments
- grip the load securely
- protect hands against pinch points
- practice good team lifting
- get help with awkward loads
- always use the mechanical devices and aids where provided
- don’t rush or cut corners
- Where use of lifting equipment is impractical or not possible, two man lifts must be used.

Maintenance

Supervisors must periodically evaluate work areas and employees' work techniques to assess the potential for and prevention of injuries. New operations should be evaluated to engineer out hazards before work processes are implemented.

Establish a preventive maintenance program, with input from equipment manufacturers, to ensure that the following is completed on a regular basis:

- cleaning of wheels and bearings on hand carts and other mechanical aids
- lubricating as necessary
- replacing worn and defective wheels and casters or worn parts
- checking that all mechanical aids work efficiently

Training

Training should include general principles of ergonomics, recognition of hazards and injuries, procedures for reporting hazardous conditions, and methods and procedures for early reporting of injuries. Additionally, job specific training should be given on safe lifting and work practices, hazards, and controls. Traditional training has focused on proper lifting methods and safe work procedures. More recently, workplaces have introduced fitness and back education approaches. In combination with job and workplace design changes, these approaches are effective in preventing accidents and injuries.

On the job demonstrations and practice sessions are the best methods of training. Cover basic manual materials handling procedures, and the proper use of mechanical aids and techniques.

Regularly reinforce the proper techniques to ensure their continued use.

The objectives of material handling training are to teach the worker:

- how to identify hazardous loads or handling
- tasks
- the proper selection and use of mechanical

- handling aids
- safe postures and manual lifting techniques to
- minimize strain
- safe lifting techniques

Set up the lift:

- Check the surface for hazards that might cause trips or slips.
- Push or drag the load to a level area.
- Face the direction you will carry the load.

Lift using a good technique:

- Place feet about shoulder width apart, with one slightly ahead of the other for balance.
- Bend at the knees, keeping the back straight.
- Tuck in chin to keep upper spine in line.
- Grip the load firmly with both hands.
- Lift, using the legs, in one continuous move.
- Keep load close to the body, with arms extended downward.
- Turn using your feet.
- Keep your back straight and do not twist.
- Move heavy or bulky loads in stages with rest in between.

If you loose your balance or cannot maintain the load, drop it and pushing load away from you.

Set the load down using good technique:

- Stop and place feet apart.
- Lower in one motion, bending at the knees.
- Keep back straight throughout.
- When items in contact with surface (farthest edge first), release lower hand then, when hands and feet are clear, release the item.
- Stand slowly, using your legs.

When using several people to lift:

- Choose a leader who will give verbal signals.
- Be sure everyone understands the lift, movements and meaning of orders.
- Confirm that everyone has a firm grip and is ready to lift.
- Lift together and check that everyone is OK.
- The leader shall direct movement.

Lower or empty together, being careful not to over load any one person.

SKID STEER LOADER

1. Operators will be properly and thoroughly trained before attempting to do any work with or on any skid steer loader.

2. Inspect the loader before use. Make sure that all safety devices are in place and functioning properly. Never disable safety devices.

3. Set the parking brake before starting the engine. Start the engine only from the operator's seat, never from the outside.

4. After the engine has had a chance to warm up, check the control levers and pedals to insure they are in safe operating condition. The lap bar must be all the way down before the pedals will work.

5. Keep foot controls free from mud, ice, snow or other debris.

6. Make sure that your seatbelt is securely fastened before moving the loader, and stay seated when operating loader.

7. Check for personnel around the loader before moving, keep arms, legs, and head inside the cab while operating.

8. Travel and turn with the bucket as close to the ground as possible. The higher the bucket is above the ground the more unstable the loader becomes.

9. Load and unload and turn on level ground when possible, do not travel across slopes, travel straight up and down, with the heavy end of the machine pointed uphill. Back the loader up slopes when the bucket is empty to keep the loader from tipping over backwards.

10. When entering machine use three points of contact with hand holds and steps. Use additional caution never use foot or hand controls for steps or handholds.

11. Lower all raised equipment to the ground, set the parking brake and turn off the engine before getting out of the loader. Never exit the loader under a raised bucket.

12. Dismount the machine carefully. Do not jump out of the loader.

RESPIRATORS
(Zee 2303)

Respirator Fitting Instructions

1. Hold the respirator in hand with the nosepiece at your fingertips, allowing the headbands to hang freely below your hand.
2. Press the respirator firmly against your face with the nosepiece on the bridge of your nose.
3. Stretch and position the top band high on the back of your head. Stretch the bottom band over the head and position below your ears.
4. Use both hands to mold the metal nosepiece to the shape of your nose.
5. To test fit, cup both hands over the respirator and exhale vigorously. If air flows around your nose, tighten the nosepiece; if air leaks around the edges, reposition the straps for better fit.
6. Remember careful observance of these fitting instructions is an important step in safe respirator use.

Read And Understand The Following Before Use:

1. This product will not protect against gases or vapors. Do not use in a spray paint operations.
2. Do not use in sand blasting operations.
3. Do not use for protection against asbestos.
4. This product does not supply oxygen. Use the respirator only in well-ventilated areas containing sufficient oxygen to support life.
5. Do not use when concentrations of contaminants are unknown or immediately dangerous to life.
6. Leave work areas immediately if:

   (A) breathing becomes difficult.

   (B) dizziness or other signs of distress occur.
7. If user has any illness or disorders, consult a licensed medical doctor to determine suitability of use.
8. Facial hair and certain facial characteristics may prohibit effective use of this product.
9. Use only in accordance with instructions, labels and limitations relating to this product.
10. Do not alter or modify this product in any way.
11. Follow the manufacturer's instructions for fitting the respirator to the face.
12. Keep the respirators, in the display box, away from direct sunlight until use.

OXY-ACETYLENE OPERATION

1. OXYGEN CYLINDER PREPARATION

- Blow out the cylinder valve before attaching the regulator to the cylinder. Inspect the valve for dirt, grease or oil. Never use an oily valve or regulator. Oxygen + oil/grease + Spontaneous combustion (Explosion/fire). Crack the valve facing away from you.
- Release the adjusting screws on the regulator before you open up the cylinder valve (Turn out counter-clockwise).
- Stand to one side of the regulator before opening the cylinder valves.
- Open the valve slowly. Then open it all the way. A full oxygen cylinder is pressurized to 2200 PSI.

2. ACETYLENE CYLINDER PREPARATION

- Repeat steps A-C.
- Carefully opens the valve, but only 1/4 to 1/2 turn, so you can close it again quickly.

3. OTHER RULES FOR OXY-ACETYLENE SAFETY

- Do not use or compress acetylene in a free state at pressures higher than 15 psi. Common pressures are 6 psi acetylene/40 psi oxygen for cutting.
- Purge your oxygen and acetylene gas passages individually before lighting your torch.
- Light the acetylene before opening the oxygen valve on the torch.
- Never use oil on regulators, torches, fittings or other equipment in contact with oxygen.
- Don’t use oil on regulators, torches, fittings or other equipment in contact with oxygen.
- Don’t use oxygen as a substitute for compressed air.
- Keep your work area cleared of anything that will burn.
- Wear tinted eye protection.
- Use the correct regulator. Secure cylinders before uncapping or moving them.
- Close the valve on empty cylinders to keep out dust and moisture.
- Check the connections for leaks, using a soapy solution.

NEVER LIGHT AN OXY-ACETYLENE TORCH UNLESS YOU ARE SURE OF HOW TO OPERATE IT. ASK YOUR SUPERVISOR FOR HELP.

SCOTT AIR PAK

PROPER USE OF SCOTT AIR PAK

1. Check the regulator hose hand-connection at cylinder valve for tightness and open cylinder valve 1-11/2 full turns. Engage cylinder-valve, safety-lock and check by attempting to close valve. Check regulator pressure gauge for full indication.

2. Make sure that the head straps on the face piece are pulled full out. Don the face piece chin first then adjust the chin straps, then the temple straps and then the top strap last.

3. Test the face piece and hose for leaks and tightness to the face by closing off the breathing tube at the quick connect coupling with the palm of your hand and inhale slowly. The face piece should collapse to the face if no leaks are detected. Test the exhalation valve by exhaling with the hose still closed off.

4. During normal operation the emergency by-pass valve (red valve) should be fully closed (turn clock-wise) it is provided for use only in the event the automatic demand regulator has become inoperative. When turned on by pass allows for free flow of air to the face piece, by-passing the unit regulator. If emergency by pass is needed, the valve should be turned on first and the regulator valve should be shut-off. The emergency by-pass valve will control adjustments of the airflow.

5. During normal operation, the regulator shut-off valve (yellow knob) should be in full open position (turned clockwise). An automatic ratchet device will lock the shut-off valve in the open position. This valve is provided to shut-off the operation of the automatic demand regulator in the event of its failure or damage. If damaged or automatic regulator fails, push the locking ratchet tap down and turn knob (yellow) clockwise only after the emergency by-pass valve has been turned on.

6. Do not connect the face piece breathing tube to the regulator until ready to use unit for task to be performed, in this way air shall be conserved until used. HAND TIGHTEN ONLY, the quick connect to the regulator.

CLEANING AND STORAGE OF AIR PAK

1. Clean and prepare unit for storage by following these steps:

    - Inspect the unit for worn or defective parts and aging rubber damage.

    - If in good condition, carefully wash the face piece with warm water or other soft non-abrasive materials.

    - Rinse the face piece by flushing with water through the breathing tube and letting it flow out through the opening in the lens.

- Disinfect the face piece by sponging or wiping lightly with isopropyl alcohol and or swabs and let dry before closing unit.

- Rinse face piece and allow too completely dry.

- Damp sponge or lightly wipe the excess dirt or dust from the rest of the unit prior to storing in unit containers.

1. Make sure that cylinder is full before storing unit in containers.

2. Make sure that the air has been drained from the regulator so that the pressure does not cause damage to regulator diaphragm. Using the regulator by-pass valve, open unit until the air is expended.

3. Make sure that the container used for storage is clean and free from contaminates before inserting unit.

4. When storing the unit, make sure the face piece straps are fully extended. The waist belt and all other straps will be fully extended for use.

5. Protect the face piece with cover or other means to protective lens from scratches or from possible contaminates.

6. Before closing unit container make sure that all straps, or other parts are clear of the container edges, so as not to damage.

7. Where possible store unit in a cool dry place.

SLIPS, TRIPS AND FALLS

SLIPS

1. Practice safe walking skills. If you must walk on wet surfaces, take shorter steps to help maintain your center of balance under you and point your feet slightly outward. Move slowly and pay attention to the surface you are walking on.
2. Clean up spills immediately. Any kind of spill that you see, if possible clean it up yourself or report it to the appropriate person/persons. Even minor spills can be very hazardous.
3. Do not let grease, oil or fluids accumulate on shop floors, or around equipment, or in walk areas.
4. On smooth surfaces be more cautious and move slowly on floors that have been waxed, but not buffed and other very slippery surfaces.
5. Ice and snow present especially hazardous conditions on walk surfaces. When possible remove ice and snow from sidewalks, door opening walkways and walkways where melting ice or snow maybe present.
6. Where proper footwear for the conditions that maybe encountered.

TRIPS

1. Walking surfaces will be clean and no obstruction in walking path.
2. Carry loads that can be handled comfortably and where eye contact can be made with walk area.
3. Keep work areas and all walkway areas well lit, so the ability to see clearly is not interfered with.
4. Keep work areas clean and uncluttered. Do not put materials or tools on steps and aisles.
5. Put tools and materials in storage cabinets, closets, or specially designed storage areas.
6. Arrange furniture and workbenches so they do not interfere with walkways or pedestrian traffic areas.
7. Power cords for electric power tools, airline hoses and electrical extension cords shall be taped or covered so as not to create trip hazards.
8. Report all findings as to loose carpets, loose flooring, loose or broken pavement, loose tiles and loose steps or stair covering that can catch a foot or cause a tripping incident.

FALLS

1. When working on docks, trucks and work stages or areas of height, lower ones self from areas rather than jumping.
2. All hallways, stairwells and work areas will be well lit.
3. Replace or repair hazards such as loose stairs or handrails. Report these incidents to the proper person or persons for repair.
4. Do not store materials or tools on stairs, or in aisles.
5. Wear the proper footwear when working in areas that may cause falls, non-slip soles would be appropriate.
6. Always use proper protective equipment when working at higher levels.
7. Never use chairs, or any other unstable objects to perform work when reaching or climbing.

VEHICLE/TRANSPORTATION OPERATION

As motor vehicle accidents are a leading cause of accidental deaths. Drivers shall adopt a policy of defensive driving.

TRAFFIC

Follow these basic vehicle safety requirements if you are a passenger or a driver of a vehicle.

BASIC REQUIREMENTS:

1. Safety belts or shoulder harnesses shall be worn according to state and federal rules and regulations.
2. Objects that may shift or cause damage or injury shall be tied down or secured.
3. Be aware of vehicles, pedestrians, etc. Be prepared to react to wrong or careless moves that other drivers might make.

REMEMBER DEFENSIVE DRIVING is a "readiness," to act appropriately to "defend" yourself, your passengers, other drivers and pedestrians, from any threat to their safety on the highway.

POINTS TO REMEMBER IN DEFENSIVE DRIVING:

1. Plan ahead.
2. Be aware of what is around you before moving.
3. Always be alert.
4. Use signals.

RIGHT-OF-WAY

1. Knowledge of the right-of-way rules is necessary for drivers. The professional driver cannot always depend upon or expect other drivers always to obey these rules, so drivers shall always be alert to right-of-way situations.

To avoid intersection accidents, follow these rules:

1. Never enter an intersection with only limited view.
2. Do not assume that you have the right-of-way.
3. Always look both ways before entering an intersection.
4. The vehicle shall be in the proper lane, well before signaling a turn at any intersection.
5. Give the proper signals in advance to show other drivers what your intentions are.
6. Turn when it can be done safely.
7. Always be prepared. The other driver may not see or be prepared when you start to negotiate a turn or may not see your signal for turn.
8. Never pass another vehicle when near an intersection or when in an intersection.
9. Never assume that the other driver shall allow you the proper right-of-way and never assume that you have the right-of-way.

10. Do not insist on the right-of-way or any other "right" while operating a vehicle.
11. Always learn to observe other vehicles that may be a threat to themselves or others.

VEHICLE GUIDELINES

a. Vehicles used for carrying persons shall have:

    1. Guardrail to prevent falls.
    2. Seats anchored to vehicle bed or floor.
    3. Vehicles shall have steps or end gates or lifts for loading or unloading.
    4. Exhaust systems.
    5. Passengers shall not be allowed to stand.
    6. No toxic or explosive or flammable materials or substances shall be hauled in passenger area.

b. Passengers shall ride only in the cabs or body of the motor vehicle, this means:

    1. Arms and legs shall be kept inside the vehicle.
    2. No one shall be allowed to ride on running boards or steps.
    3. When the vehicle is parked, a window shall be opened at least six inches when using the heater to avoid carbon monoxide poisoning.
    4. Drivers of vehicles shall not be preoccupied with other duties.
    5. Vehicles shall be driven at speeds that are permissible by laws and to where it allows complete control of the vehicle.
    6. Vehicles shall stop at railroad crossings, when there is not a clear view of the tracks for at least 500 feet in both directions, exceptions would there are automatic gates or signals.
    7. When refueling, the engine shall be shut off.

Employee operating a vehicle will have a valid driver license. Only authorized drivers will operate a vehicle. Accidents shall be reported to the Safety Coordinator.

Before starting the engine:

1. Check the area around vehicle before entering it.
2. Adjust seat position.
3. Adjust inside and outside rear view mirrors.
4. Lock all doors.
5. Fasten safety belts.

Driving the vehicle:

1. Start engine.
2. After engine warms up for about 10 seconds, you are ready to drive. If weather is below freezing let it warm up for a few minutes before driving.
3. Do not leave vehicle while engine is warming up.

Tips for driving in various conditions:

1. Always slow down in gusty crosswind allowing you better control.
2. When parking on a hill, turn the front wheels until they touch the curb so that the vehicle will not roll. Apply the parking brake and place the transmission in "P" (Automatic) or in first or reverse (Manual). If necessary, block the wheels.
3. Washing your vehicle or driving through deep water may get the brakes wet. To see whether they are wet, check that there is no traffic near you and then press the pedal lightly. If you do not feel a normal braking force, the brakes are probably wet. To dry them, drive the vehicle cautiously while lightly pressing the brake pedal. If they still do not work safely, pull to the side of the road and call for assistance.
4. Do not rest your foot on the brake pedal while driving. It can cause dangerous overheating and needless wear.

LOSS OF DRIVING PRIVILEGES

A driver shall not be allowed to drive a vehicle if:

1. The person is under suspension or has had a driver license revoked by the state.
2. A person has been convicted of or forfeited bond or collateral for the following:

    a. A felony involving a motor vehicle.
    b. Operating a vehicle while under the influence of alcohol or drugs.
    c. A crime involving the transportation, possession, or unlawful use of controlled or restricted drugs.
    d. Leaving the scene of an accident.

STATIONARY POWER TOOLS

1. Read and know the application and limitations of tools. Read and understand owner's manual, as to the specific potential hazards peculiar to power tool.

2. Keep all guards in place and in good working order and condition.

3. All tools shall be grounded and GFCI should be used when working in damp or wet environments. All cords shall be equipped with ground prongs.

4. Before starting tool, make sure that adjusting wrenches or keys are removed from chucks, etc.

5. Keep work areas clean in make sure that floors are clean and uncluttered.

6. Do not expose tools to wet or damp areas or store in wet or damp areas and do not expose to rain.

7. Make sure that work areas are well lighted and proper tool is used for operations.

8. Keep all other employees away from area when tool is in operation.

9. Never force stock or materials into tools and make sure that the tool is operated at proper rate or speed to perform work.

10. Use the right tool for the job being performed.

11. Use proper personal protective equipment for the type of tool being used.

12. Always disconnect or use Lock-out/tag-out procedures when servicing tools.

13. Never add or manufacture accessories unless accessories are designed and provided by the tool manufacturer.

14. Always maintain tools in good working condition.

GUARD AND STAIR RAILINGS

1. A standard guard rail consists of a top rail, intermediate rail, toeboard and posts and has vertical height of 42 inches from upper surface of top rail to floor or platform.
2. The top rail has a smooth-surface with the strength to withstand at least 200 pounds. It shall be the minimum requirement that maybe applied in any direction and at any point.
3. The intermediate rail shall be halfway between the top rail and floor or platform.
4. A stair railing shall be constructed with the vertical height not more than 34 inches and not less than 30 inches from the upper surface of the top rail to the surface of the tread in line with face of the riser at the forward edge of the tread.
5. A standard toeboard is 4 inches nominal in vertical height, with not more than ¼-inch clearance above floor level.

STAIRWAY RAILINGS AND GUARDS

Every flight of stairs with four or more risers shall have standard stair railings or standard handrails as specified below. Stair width is measured clear of all obstructions except handrails.

1. On stairways less than 44 inches wide having both sides enclosed, at least one handrail shall be affixed, preferably on the right side descending.
2. On stairways less than 44 inches wide with one open side, at least one stair rail shall be affixed on the open side.
3. On stairways less than 44 inches wide having both sides open, two stair rails shall be provided, one for each side.
4. On stairways more than 44 inches wide, but less than 88 inches, one handrail shall be provided on each enclosed side and one stair rail on each open side.
5. On stairways 88 inches or more in width, one handrail shall be provided on each enclosed side, one stair rail on each open side and one intermediate stair rail placed approximately in the middle of the stairs.

A "standard stair railing" (stair rail) shall be of construction similar to a standard railing. The vertical height shall be not more than 34 inches or less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread.

FIXED INDUSTRIAL STAIRS

Fixed Industrial Stairs shall be provided for access to and from places of work where operations necessitate regular travel between levels. Requirements include:

1. Fixed industrial stairs shall be strong enough to carry five times the normal anticipated live load.
2. At the very minimum, any fixed stairway shall be able to carry safely a moving concentrated load of 1000 pounds.
3. All fixed stairways shall have a minimum width of 22 inches.
4. Fixed stairs shall be installed at angles to the horizontal of between 30^{o} and 50^{o}.
5. Vertical clearance above any stair tread to an overhead obstruction shall be at least 7 feet measured from the leading edge of the tread.

OFFICE SAFETY

1. Report any unsafe electrical cords, faulty electrical or hazardous conditions.
2. Keep the floor free of tripping hazards.
3. Pull out only one drawer of a file cabinet at a time.
4. Keep the drawers of a desk or file cabinet closed.
5. Place heavy objects on lower shelf.
6. Do not attempt to clean or adjust a machine while it is running.
7. Never use a box or chair in place of a ladder.
8. Use caution when walking around a blind corner.
9. Place all cords so they are not a trip hazard.
10. Pencils, scissors, paper clips, pens and etc. should be stored so they are not a hazard.
11. Do not run in office areas.

SEXUAL HARASSMENT POLICY

In order to provide a productive and pleasant working environment, it is important that we endeavor to maintain a workplace characterized by mutual respect. Accordingly, sexual harassment in our workplace will not be tolerated.

PROHIBITED ACTIVITIES

- Sexual harassment has been defined as a form of sex discrimination, consisting of unwanted sexual advances. Examples of prohibited sexual harassment include:
- Supervisors or managers explicitly or implicitly suggesting sex in return for a hiring, compensation, promotion or retention decision.
- Verbal or written sexually suggestive or obscene comments, jokes, or propositions
- Unwanted physical contact, such as touching, grabbing, or pinching
- Displaying sexually suggestive objects, pictures, or magazines
- Continual expression of sexual or social interest after an indication that such interest is not desired
- Conduct with sexual implications when such conduct interferes with the employees work performance or creates an intimidating work environment
- Suggesting or implying that failure to accept a request for a date or sex would adversely affect the employee in respect to a performance evaluation or promotion

HARASSMENT BY NON EMPLOYEES

We will endeavor to protect employees, to the extent possible, from reported harassment by non-employees such as from customers, vendors and other parties who have workplace contact with Employees.

COMPLAINT PROCEDURE

An employee who feels that he or she has been harassed is strongly urged to immediately bring the subject to the attention of the appropriate supervisor. Inquiries and/or complaints will be investigated as quickly as possible. Any investigation will be conducted in as confidential manner as is compatible with a thorough investigation of the complaint.

DISCIPLINE

- Any employee found to have harassed another employee or applicant for employment will be subject to appropriate disciplinary procedure action, including reprimands, suspension or termination of employment.
- A person committing sexual harassment may also be held legally liable for his or her actions under applicable law.

RESPONSIBILITY

Each manager is responsible for implementing this policy within his or her area of supervision

DISCIPLINARY PROCEDURE

Disciplinary action will be taken as a result of employer or employee insubordination, serious misconduct and or due to infractions concerning policies and procedures based on Berger Electric, Inc. safety manual.

All employer's and employee's through safety meetings, safety training and reading Berger Electric, Inc. safety manual are expected to know and are required to follow the safety guidelines. Any duties that are being performed outside these guidelines or lack of safety commitment will be considered a safety violation or infraction.

The safety department, project manager, project superintendent and/or foreman and employee being reprimanded, will correct all safety violations and infractions.

The following information will be established:

- Was this an Insubordination Act or was it Due to Lack of Individual Training?
- Was this a Serious Infraction or Conduct Which May Have Caused a Serious Injury to Another Employee?
- Could a Fatal Injury Occur from Employee Actions?
- Was There Property Damage Due to Infraction or Conduct?
- Has this Type of Infraction or Conduct Occurred Before?
- What Corrective Actions Will Be Taken to Prevent the Infraction or Conduct from Happening Again.
- Was it Due to Federal, State or Lack of Policies and Procedures That an Infraction or Misconduct Occurred.

Through the above information gathered the type of discipline will be submitted and carried out. This may include and may lead to but not limited to IMMEDIATE SUSPENSION. All reports shall be filled out stating the action to be taken. Management and or Supervisors, Safety Advisor and employee being disciplined shall sign formal report. Once the report has been signed and disciplinary action taken and a copy of the report shall be placed within the employee file and shall stay with his/her file while still employee or quite or be terminated.

Safety violations or infractions will be identified through the following:

- Incident/Accident Reports
- Job Site Inspections
- Visual Observation of Employees, Management and Supervisors

This policy provides for each employee to have an equal opportunity to file a disciplinary report that is necessary. Disciplinary reports maybe filed from Management through employee and in turn Employees may file reports towards Management and or Supervisors.

ELEVATED WORK PLATFORMS
(Scissor Lifts)

1. All employees shall inspect and set-up equipment according to manufacture recommendations.
2. Set brakes and fully extend outriggers/stabilizers (if equipped).
3. Position on stable surfaces or use pads/appropriate cribbing arranged in a stable configuration. (NOTE: If the outriggers/stabilizers cannot be fully extended, operate within the manufacture's limitations).
4. Complete a survey of the worksite to identify and control potential hazards, such as drop-offs, holes at operating level, un-tamped earth fills, inadequate operating surface support, ground level and overhead obstructions, weather conditions and falling objects.
5. Operate equipment on level surfaces or within the slope limits given by the manufacture. (NOTE: Wheel chocks shall be used when working on inclines).
6. Ensure that area surrounding the work platform is clear of personnel and equipment before lowering the platform.
7. Do not locate personnel or tools and equipment where there is a possibility of contact with energized overhead high voltage lines. (Over 50 kilovolts must be located at least 10 feet from lines).
8. Provide safety barriers around lifts operated in restricted areas so that employee's cannot be caught between rotating equipment or fixed objects.
9. Always stand in basket never sit, do not climb out of basket or use railings, planks, ladders or other devices to achieve additional working height or reach.
10. Use an approved means of ascending or descending platform (e.g., ladderway or ladder) if lift is not already equipped with means of ascending or descending.
11. Do not use lift for hoisting materials or equipment if weight exceeds manufacture limitations or load capacity of lift.
12. Employees shall wear fall protection when using lifts. Fall protection shall consist of full body harness, lanyard and shall when using lanyard be connected to an approved anchorage on the equipment on platform. (NOTE: Fall protection is not required in lifts or telescoping platforms which are fully enclosed).
13. Do not tie off to an adjacent pole, structure or another piece of equipment while working on elevated platform.

Do not move an elevated work platform when the platform is occupied unless the unit is specifically designed for this type of operation. (NOTE: Units that can be moved in elevated positions have interlocks that keep vehicle from moving or controlling the speed to a rate that does not affect the stability of the platform when raised).

ERGONOMICS PROCEDURE
(Repetitive Motion Injury Prevention)

Ergonomics is the process of reducing physical strain by designing or modifying the workstation work methods and tools to eliminate excessive exertion and awkward postures and to reduce repetitive motion. Berger Electric, Inc. shall strive to optimize and reduce strain and stress by reducing the number of repetitive motions performed on the job.

Ergonomics is the science of workplace design that tries to make the job fit the person rather than the person fitting the job. Earlier identification of repetitive motion problems the more likely you will be able to do something about the situation before they become problems by paying attention to any warning signs such as pain or soreness by being especially alert to symptoms such as numbness, tingling and apparent loss of muscle strength.

CTD's or Cumulative Trauma Disorders are becoming more commonplace in the work world and are caused by repetitive movements over long periods of time.

Fatigue or tiredness in muscles and/or joints is a person's way of the body telling them to change their pattern of working. Doing the same motion over and over or using certain types of positions or grips can cause pain and inflammation. Some of the most common inflammations are:

***Tendentious**-inflammation of the tendons can be caused by performing repeated motions incorrectly or in awkward positions.

***Tenosynovitis**-a condition in which both the tendon and its covering can become inflamed can be caused by improper or repetitive bending in the wrist.

***Carpal Tunnel Syndrome**-painful squeezing of the median nerve in the wrist causes loss of grip, muscle pain, weakness and numbness in the thumb and first two fingers. If after an appropriate time period, rest and medication do not relieve symptoms surgery may be required.

Work Practices will include a program with key elements such as proper work techniques, employee conditioning, inspections and feedback from employees and maintenance.

***Proper Work Techniques** includes training on the correct lifting procedures and correct use of ergonomically designed work stations, fixtures and tools or machinery.

***Employee Conditioning** may include employees gradually being worked into a full workload as appropriate for the specific job. Employees reassigned to new jobs shall also have a break in training period.

***Inspections** shall be conducted periodically to ensure safe operating procedures are being followed.

***Feedback** will provide a system for employees to notify management about conditions with potential ergonomic hazards. **Employees are to be instructed to report ergonomically related symptoms to their supervisors immediately.** Symptoms may include:

* Numbing, burning or tingling in fingers.
* Pain in the wrists.
* Loss of grip or muscle weakness.
* Fatigue or abnormal tiredness.
* Pain in their backs, legs, feet, neck or shoulders.

***Maintenance** is the preventative program for monitoring mechanical equipment and tools to ensure that they are in proper working condition.

Administrative Controls shall be adopted to reduce the duration, frequency and severity of exposures to ergonomic hazards. Options to be considered may include:

Pacing: reducing the number of repetitions per hour of work.
Breaks: providing short rest periods to relieve fatigue and or tiredness.
Job Rotation: rotates employees periodically to different tasks involving different types of movements.

Exercise is an important part of the prevention program. Fit employees are less likely to experience physical problems and are more likely to recover more quickly if physical problems may occur. Examples of two simple exercises are:

Body Stretch: reaching up and pulling or stretching whole body.
Side Bends: bending to either side in slow and easy motion.
Upper Body Twist: with hands on hips twist to the right and then to the left. Do this about 4-6 times.
Shoulder Shrugs: inhale and bring shoulders up trying to touch bottom of ears. Exhale and allow shoulders to drop.
Finger Stretch: spread fingers wide. Hold for about 5 seconds and then relax. Do about 3-5 times alternating hands.
Wrist Stretch: with opposite hand gently pulls fingers back allowing wrist to bend. Hold for 3 seconds. Relax. Do about 3-5 times alternating hands.
Thumb Stretch: extends one hand and with the other hand gently pulls back on your thumb for 3 seconds. Relax. Do about 3-5 times alternating hands.
Finger Squeeze: makes a fist around a firm or softball then squeeze towards your palm. Do about 5-10 times. Do on each finger.
Shake: while standing or sitting drop your arms to your sides. Gently shake out your arms and hands for a few seconds. Relax. Do about 3 times.

Berger Electric, Inc. will try to minimize and prevent and limit repetitive motions by examining problem areas where high repetitive motions are required. We shall also minimize and work to reduce the possibility of Cumulative Trauma Disorders by trying to avoid some of the following examples:

- Repetitive twisting movements usually in combination with poor body positioning.
- Exposure to temperature changes in combination with repetitive motions.
- Excessive standing, sitting and/or walking with considerations to being able to vary positions.
- Use of arm supports where feasible and applicable.
- Use of proper hand tools and electrical tools with considerations towards grip, vibrations and use of larger machinery or equipment.
- Being aware of possible physical forces using shoulders, arms, legs and back.
- Being aware of motions using bending or twisting motions.

It is up to Supervisors and Management to work with employees who may be working in poor ergonomic conditions. It is also up to employees to notify Supervisors and Management of poor ergonomic conditions so that physical injuries do not occur. When analyzing specific jobs for ergonomic problems the following points must be considered:

- Weight of objects and materials being handled.
- Positioning of body in certain moves and lifting.
- Repetitive movements in certain job tasks.
- How employees grasp and carry objects or materials.

To eliminate ergonomic hazards from occurring procedures shall be put in place to correct or control the identified hazards through engineering, work practices and/or administrative controls.

Engineering Controls is one method of control. This can be accomplished through the following procedures:

Work Station Design Work stations will be made easily adjustable and either designed or selected to fit the task so that employees are comfortable in using the stations.

Design of Work Methods Work methods should be designed to reduce static, extreme and awkward postures and/or repetitive motion and excessive forces.

Tool and Handle Design A variety of sized tools to achieve proper fit and to reduce ergonomic risk. And use of the proper tool could reduce risk on specific jobs.

Cumulative Trauma Disorders *Defined as those disorders that are caused or aggravated by repeated exertions or movements of the body, which can occur in any part of the body but appear most frequently in the muscles and tendons of the upper limbs results in conditions of fatigue and inflammation*. These can sometimes be misdiagnosed as the same symptoms caused by elbow and neck pressure. Other CTD's that may be avoided are eyestrain and discomfort. When symptoms are reported by employees or start to appear in workplace it is then time to evaluate the situations and find cause and eliminate cause to reduce risk ergonomic injury from occurring.

FIRE PROTECTION AND FIRE SAFETY PLAN

SCOPE

This policy applies to all facilities owned or operated by **Berger Electric, Inc.** To provide adequate fire protection equipment and training to allow employees to protect themselves and in some cases the equipment in the event of a fire. Human safety is more important than equipment. Fight the fire only if in your judgment you can do so without unnecessary risk.

PROCEDURE

A. Portable and Wheeled Fire Extinguisher:

1. All portable extinguishers are to be of a type approved by the National Fire Protection Association (NFPA). Any replacements for defective or damaged extinguisher must be of the same type and size.

2. Extinguisher shall be located in conspicuous and accessible locations. Where machinery may block the view of an extinguisher there will be visible markers placed to aid personnel in locating the unit. Whenever possible, extinguisher shall not be obstructed from view. Equipment, stored materials or machinery shall not block access to extinguisher.

3. Extinguisher must be properly maintained and accurate record of the maintenance kept. All portable extinguisher must be inspected as outlined below:

    a. Continuous - extinguisher should be checked for evidence of discharge, visibility, operability and access on a continuous basis.
    b. Monthly - extinguisher are to be inspected for operability and accessibility. The inspector should look for evidence of tampering, discharge of or physical damage to the extinguisher.
    c. Annual - extinguisher are to be examined for all of the above and additionally:

Stored pressure types - the seal must be in place and the gauge in the operating range.
Cartridge operated units - the charging handle seal must be in place with the cartridge seal intact.
The person inspecting shall date and initial the extinguisher as well as note it on a permanent record. This record is to be kept in office for audit purposes.

Stored pressure types:

Carbon Dioxide
--Examine the tank for evidence of corrosion or damage. Any rust, corrosion or dents indicate that the unit must be taken out of service until it can be repaired.
--Examine and note the hydrostatic test date (CO_2 extinguisher have a five (5) year hydrostatic test interval). If the unit is due for hydrostatic test it must be taken out of service until this has been done.
--Weigh the extinguisher and compare it to the weight stamped on the extinguisher. It should be within five (5) percent of the stamped weight. If it is not the unit is in need of recharge.

Dry Chemical
--Examine the tank for evidence of corrosion or damage. Any rust, corrosion or dents indicate that the unit must be taken out of service until it can be repaired.
--Examine and note the hydrostatic test date (Dry Chemical stored pressure extinguisher have a twelve (12) year hydrostatic test interval). If the unit is due for hydrostatic test it must be taken out of service until this has been done.
--Check the hose of nozzle for signs of discharge. If there are traces of chemical the extinguisher may be in need of recharge. Weigh and compare to the full weight shown on the unit. Recharge if necessary.
--Check the gauge for indicated pressure and or damage. Do Not use the gauge as the only indicator that the unit is properly charged. Other indicators could be a missing pin or a broken seal.

Dry Chemical-Cartridge operated
--Examine the tank for evidence of corrosion or damage. Any rust, corrosion or dents indicate that the unit must be taken out of service until it can be repaired.
--Examine and note the hydrostatic test date (Dry Chemical cartridge type extinguisher have a twelve (12) year hydrostatic test interval). If the unit is due for hydrostatic test it must be taken out of service until this has been done.
--Examine the cartridge for rust or corrosion and hydrostatic test date cartridges stamped 3A have a hydrostatic test interval of 10 years and cartridges stamped 3E do not have to be hydrostatic tested.
--Examine the seal on the cartridge for evidence of physical damage or corrosion. If there is any indication of damage, replace the cartridge.
--Weigh the cartridge and compare it to the weight stamped on the side. If the weight is more than one (1) ounce less than the stamped weight, replace the cartridge.
--Remove the hose and make sure the nozzle, hose and handle are not plugged.
--Open the top of the unit and make sure the chemical is the type specified by the label on the extinguisher and is not caked or contaminated. If it is dump it out and replace the chemical.
--With the cartridge removed, check the operation of the charging handle. Make sure the parts are not binding or bent.
--Check all 'O Rings' for cracking and hardness. Replace if necessary.
--Check all hoses for cracks and indications of weathering.

All extinguisher or irregularities must be noted on the permanent record sheets.
Fire Prevention

a. Smoking or open flames are prohibited at or in the vicinity of operations, which constitute a fire hazard. This includes all plant process areas, laboratories, field compressors and dehydrator stations, paint storage and usage areas and shops where flammable materials are kept or worked on. Smoking shall be permitted in authorized areas.
b. Only NFPA approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids. These cans shall be maintained with flame arrester intact and proper hose connections. Safety cans shall be used to handle flammable liquids, such as methanol and gasoline. Safety cans shall mean an approved container of not more than 5 gallons capacity having a spring-close lid and spout cover

and so designed that it will safely relieve internal pressure when subjected to fire exposure. (Flammable liquids are defined as those liquids having a flash point below 100E F) such as diesel fuel or stoddard solvent.

c. Bonding or grounding between containers shall be required when transferring flammable or combustible liquids.
d. Quantities of flammable or combustible liquids in excess of twenty-five (25) gallons shall be stored outdoors or in approved flammable storage cabinets. Standards for these cabinets are found in CFR 1926.152 OSHA Construction Standards. The maximum allowable storage of liquids stored in such a cabinet is sixty (60) gallons for FLAMMABLE LIQUIDS and one hundred twenty (120) gallons for COMBUSTIBLE LIQUIDS.
e. Flammable or combustible liquids shall not be stored in areas normally used as exits.
f. Flammable liquids such as gasoline shall not be used for cleaning purposes. Only high temperature flash point (140E F and above) safety solvents such as stoddard or mineral spirits and others shall be used.
g. Used cleaning rags and oil absorbent materials shall be placed in NFPA approved fire resistant containers. These containers shall be emptied weekly or more frequently if needed.
h. All vehicles transporting flammable or combustible liquids shall have a portable fire extinguisher with at least a 20 BC rating.
i. Engines of equipment being refueled shall be shut off while being refueled.
j. The Hot Work Permit system shall be used in field operations where combustible or flammable materials are involved. Portable equipment using gasoline engines require a Hot Work Permit.
k. The supervisor shall assure that the proper fire protection equipment is present before work is started on any job involving hot work or where flammable or combustible materials are involved. All equipment is to be checked out prior to starting work.

Fire Training

Employees required to work with or around flammable or combustible materials shall be trained annually in the proper techniques and methods of fire fighting. Wherever possible this training shall include hands-on fire fighting at a properly supervised training site.

FIRE SAFETY PLAN

PURPOSE:

The purpose of this plan is to prevent potential injuries and deaths and to protect Berger Electric, Inc. property from damage or loss due to fire. This plan includes fire prevention, building exits, fire extinguishing, emergency evacuation and employee training. This plan will be reviewed with all new employees when they begin their job and with all employees when the plan is changed.

FIRE PREVENTION:

Our first line of defense against fire is to prevent it in the first place. It is the responsibility of all employees to prevent fires. All employees will be apprised of the potential fire hazards in their work area and they will be trained in safe work procedures and practices. Employees are

expected to follow proper procedures to prevent fires and to notify their supervisor or other management personnel if they observe any condition that could lead to the ignition of a fire or could increase the spread of a fire. The following are some general fire prevention practices and procedures that should be followed:

* All ignition sources (i.e., open flames, cutting torches, spark producing equipment, electric motors, heating equipment, etc.) should be controlled and contact with combustible and flammable materials must be avoided. Keep all combustible materials at least five feet from such ignition sources and all flammable liquids at least twenty feet away.
* Extensive use of electrical extension cords should be avoided. Any damaged or frayed electrical wiring, equipment cords, extension cords, etc. should be removed from service immediately and replaced or repaired.
* Any use of flammable liquids must be done in a manner that prevents spills and prevents the flammable liquid or its vapor or spray from coming in contact with any ignition source. All flammable liquids must be stored in flammable liquid storage containers and kept in the proper storage cabinets.
* Housekeeping and storage practices are critical to preventing fires. Any combustible materials must be stored in neat stacks with adequate aisle space provided to prevent easy spread of fire and to allow for access to extinguish any fire that may start. Trash, scrap and other unnecessary combustibles must be cleaned up immediately and placed in proper disposal containers.
* Smoking is prohibited on our premises.

BUILDING FIRE EXITS:
Each area of the building has at least two means of escape remote from each other that are to be used in a fire emergency. The location of exits and the path of egress are shown on maps posted throughout the building. Fire exit doors must not be blocked or locked to prevent emergency use when employees are within the building. Exit routes from our building must be clear and free of obstructions. All exits are marked with signs designating exits from the building.

FIRE EXTINGUISHERS:
Each area of our building has a full complement of the proper type of fire extinguisher for the fire hazards present. Our fire extinguishers will be inspected annually by fire protection equipment Berger Electric, Inc. and tagged with the date of inspection. If a fire extinguisher is used or discharged for any reason it must be removed from service and replaced with another properly charged extinguisher while it is being recharged. Employees who are expected or anticipated to use fire extinguishers will be instructed on the hazards of fighting fires, how to properly operate the fire extinguishers available and what procedures to follow in alerting others to the fire emergency. These employees will attempt to extinguish only small incipient fires. If a fire cannot be immediately and easily extinguished with a fire extinguisher the employees will evacuate the building rather than try to fight the fire. All employees who are not trained and designated to fight fires are to immediately evacuate the building at the first sign of fire or initiation of the fire alarm and are prohibited from using an extinguisher.

EMERGENCY EVACUATION:
If any employee discovers a fire or smoke the employee will immediately pull the nearest fire alarm box. If there is time and it is safe to do so the employee will also call the front office receptionist to report the fire. If the fire does not involve the office the receptionist will call 911 and report the fire to the fire department. The receptionist will then make an announcement over the public address system that there is a fire, give the location of the fire and instruct all employees to evacuate the building. The receptionist will then exit the building. When the fire alarm sounds or a fire is otherwise announced all employees (except those designated and trained to use fire extinguishers) are expected to immediately exit the building by proceeding to the nearest exit in an orderly fashion. If fire or smoke blocks the nearest exit the employees should proceed to an alternate exit. There should be no running, shouting, pushing, etc. A calm orderly evacuation is the safest for all concerned. Upon exiting the building, all employees are to proceed to the designated meeting area(s) so that they are away from the building are not hampering access by fire fighters and can be counted and accounted for. The designated meeting area(s) for our building is (inserting the location(s) where employees are to meet outside the building). Supervisors and managers will account for all of their employees to ensure that no one is still in the building and unaccounted for. If needed special procedures for helping physically impaired employees will be established. This will be done on a case by case basis when the employee is first hired or when the physical impairment first occurs.

EMPLOYEE TRAINING:
All new employees will receive fire prevention and emergency evacuation training when they are hired. All employees will receive refresher training and a review of this plan on an annual basis. We will hold fire drills that will include a practice evacuation of the building at least annually. These drills will be used to evaluate employee response and behavior and will help us determine where more training is needed. Those employees who are designated and authorized to use fire extinguishers to fight small fires will receive training in the proper use of extinguisher, how to extinguish a fire, the hazards involved in fighting fires and when not to fight a fire and evacuate the area instead.

(GFCI) AND ASSURED GROUNDING PROGRAM

This policy applies to all employees and subcontractors working within controlled worksites. This assured equipment grounding conductor program covers all cord sets, receptacles which are not a part of the building or structure, and equipment connected by cord and plug which are available for use or used by employees on construction sites.

All 120-volt, single-phase 15-and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground-fault circuit interrupters for personnel protection. Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5kV, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with ground-fault circuit interrupters.

General Requirements

Employees shall not use any equipment that has not met the requirements of this program.

A copy of this program is kept on the job site with the Site Safety Supervisor.

The Site Supervisor is responsible for implementing and monitoring the GFCI and assured grounding program.

The GFCI is not a replacement for visually checking all chords, wires, and other electrical devices for defects.

All 120 volt, single phase, 15 and 20 ampere receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacles in accordance with applicable requirements of the National Electrical Code.

All 120 volt cord sets (extension cords) shall have an equipment grounding conductor which shall be connected to the grounding contacts of the connectors on each end of the cord. Extension cord sets used with portable electric tools and appliances shall be of the three-wire type and shall be designed for heavy or extra heavy-duty usage. Flexible cords used with temporary and portable lights shall be designed for heavy or extra heavy-duty usage.

The exposed non-current-carrying metal parts of 120 volt cord and plug connected tools or equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of the National Electrical Code.

Employees shall visually inspect receptacles, flexible cord sets (extension cords), electrical equipment and electrical tools before each day’s use for external defects such as:

- Deformed or missing pins;
- Insulation damage;
- Indication of possible internal damage.

Where there is evidence of damage the item shall be taken out of service until tests or any required repairs have been made.

Testing
All 120-volt, single-phase 15- and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure, 120 volt flexible cord sets and 120 volt cord and plug connected equipment which are in use by employees, shall be tested.

Testing, tagging and documentation of testing of all equipment-grounding conductors will be performed only by a qualified electrician.

All equipment-grounding conductors will be tested for continuity and they shall be electrically continuous. A continuity inspection device will be used or a voltmeter that is specifically designed to test for continuity.

Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment-grounding conductor. The equipment-grounding conductor shall be connected to the proper terminal.

All required tests shall be performed:

Before its first use;

1. Before the equipment is returned to service following any repairs;
2. Before the equipment is used after any incident that can be reasonably suspected to have caused damage (for example, when a cord is run over).
3. At intervals not exceeding 3 months, except that cord sets and receptacles, which are fixed and not exposed to damage, shall be tested at intervals not exceeding 6 months.

Test verification shall be by means of a color coded marking tape on the receptacle, cord set or equipment to identify that it has passed the test and to indicate the quarter as illustrated in the following table:

Quarter	Month	Color Code	Number
1st	January	White	1
1st	February	White	2
1st	March	White	3
2nd	April	Green	1
2nd	May	Green	2
2nd	June	Green	3
3rd	July	Red	1
3rd	August	Red	2
3rd	September	Red	3
4th	October	Orange	1
4th	November	Orange	2
4th	December	Orange	3
	Repair Color	Brown	

Training

- Training Program
- Video – (Current available videos to be used at the instructors discretion)
- What the standard covers – OSHA 29 CFR 1926.404

Ground-fault circuit interrupters

All 120-volt, single-phase 15- and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground-fault circuit interrupters for personnel protection. Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5kV, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with ground-fault circuit interrupters..

Assured equipment grounding conductor program

The employer shall establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part of the building or structure, and equipment connected by cord and plug which are available for use or used by employees.

HYDROGEN SULFIDE (H2S) POLICY

Berger Electric, Inc. is required to inform employees of the hazards and hazards associated with working and use of equipment when working in an H2S environment. The equipment and training will be provided by Berger Electric, Inc. to protect and educate our employees on H2S.

The principal hazard associated with working in an H2S contaminated area is: **"Death By Inhalation"**

The physical properties of H2S are as follows:

-Extremely toxic
-Colorless
-Distinctive odor of "rotten eggs"
-Highly corrosive
-Heavier than air
-Highly explosive
-Low ignition point
-Soluble in water and liquid hydrocarbons
-Irritant to eyes, throat, and respiratory system
-Paralyzes the sense of smell
-When burned produces another deadly gas (sulfur-dioxide)

Toxicity Table and or Harmful Amounts

Amount of H2S	Effect on employees
10ppm (1/1000 of 1%)	Can be worked in for a (8) eight-hour period of exposure.
100ppm (1/100 of 1%)	Destroys sense of smell within 15 minutes, may cause eye and throat irritation.
200ppm (2/100 of 1%)	Causes severe eye, and respiratory tract irritation after one hour of exposure.
500ppm (5/100 of 1%)	Loss of consciousness and possible death in thirty minutes to one hour.
700ppm (7/100 of 1%)	Rapid unconsciousness, cessation (stopping or pausing) of respiration’s and death.
1000ppm (1/10 of 1%)	Death may occur immediately.

ppm = Parts of gas per million + part of air by volume = amount of gas 1% of H2S is equal to 10,000 ppm of gas.

Detection

To determine the amounts of H2S present in a work area one of the following detection Berger Electric, Inc. has provided devices:

1. Personal electronic monitors

2. Lead acetate tape strips or ampoules

3. Air sampling gas detection tubes

Personal Electronic Monitors- when used will sound an audible alarm when the concentration of H2S has exceeded 10 ppm. Some units will also give a measured readable amount of H2S present. These units' maybe worn on employee belts or hand held.

Lead Acetate Tape Strips or Ampoules-when used will change color (usually turns brown or black) in the presence of an H2S concentration of over 10 ppm. The color change will determine the amount of H2S present. (Not very accurate but will detect the presence of H2S).

Air Sampling Detection Tubes-when used the tube will change color when H2S is present, by pulling samples of air through the detection tube.

Where To Use Detection Equipment

Where any H2S concentrations are known to exist or where vapors are given off, such as crude oil, condensate sour gas, and sludge. Other places H2S maybe found are as follows:

a. gas scrubbers
b. sewer pipes and manholes
c. enclosed buildings
d. flair systems
e. vessels and/ or storage tanks
f. some excavations

NOTE: When working in H2S concentrations wind direction shall be noted before entering locations.

Always, approach the H2S areas from the upwind side, with the Detection Device in front of you.

Personal Protective Equipment

Berger Electric, Inc. will furnish breathing equipment to employees for work being performed in an H2S environment. The following personal protective equipment shall be used.

a. 30 minute self contained unit
b. 5 minute work unit

30 minute self contained unit shall be inspected on a monthly basis and shall be inspected after each use.

5-minute work units shall be provided where work requires confined or limited space to work. Units shall be inspected after each use and on a monthly basis. Crew supervisors will be responsible for the care and maintenance of the equipment assigned to the crew trucks.
For proper personal protection fit the following agents may cause improper sealing of unit masks, Facial Hair, Glasses, and if dentures are removed.

NOTE: Facial hair shall not be more than one day's growth and if an employee wears glasses (and a glass kit is not available in unit) or employees with dentures removed, shall not attempt to use protective equipment, when working in an H2S area.

Other factors that may cause problems in respirator usage are: contact lenses, psychological disturbances such as a person being claustrophobic. Some employees may not be able to wear units due to scars, hollow temples, prominent cheekbones or deep skin creases.

Safety Measures When Approaching H2S Jobsites

Where applicable, a copy of the lease operator's contingency plan should be obtained to better understand the location and areas potential for H2S. Contingency plan shall spell out the emergency plans for the site.

Employees shall at all times observe the following when approaching a potential H2S work area.

- H2S Poison Gas Signs (make sure that they are posted)
- Always check for wind direction on work sites
- Watch other personnel and there activity
- Enter the jobsite slowly
- NEVER SMOKE on jobsite
- Make sure a cascade system is in place and functional

Employees shall be informed as to where the safe briefing area is located. When an alarm has sounded on location, employee shall move 90 degrees from well bore and move upwind to a designated safe area.

Treatment If Employee Comes In Contact With H2S

If an employee is overcome (inhalation of H2S) get employee to fresh air as soon as possible, keep the employee is kept warm and rested. If respiration's become labored slowed or irregular, artificial respiration may have to be applied. If employee is unconscious but breathing, observe and watch so that breathing does not cease, monitor until help arrives or an ambulance.

If an employee is splashed with products containing H2S, get person to safe area and continue to flush eyes with water, when finished flushing protect eyes with cool damp cloth, this will protect from aggravating eyes more.

If an employee comes in contact with products containing H2S, and is splashed on exposed parts of the body, get the person to safe area and wash exposed parts of body with mild soap and water.

Initiating Disciplinary Action

1. Disciplinary action maybe initiated by the supervisor, management, or an employee.

2. A written warning will be given to the employee stating the reason for disciplinary action. A conference will be held between the supervisor, management and employee, to discuss the problem and the directions for improvement or correction. The person implementing said action, employee, supervisor and management must sign the warning. The employee's signature does not signify agreement or admission of guilt or wrongdoing, but is an acknowledgment that he/she received the information and reason for warning.

3. After a written warning has been received (no more than three written warnings) and employee has not improved or adhered to policies or procedures, the employee maybe suspended or receive a deduction in pay and or work hours, and or maybe terminated, depending upon the circumstances of the infraction.

4. Misconduct resulting in serious circumstances will result in IMMEDIATE suspension or termination of employment.

Documentation of Disciplinary Actions

1. All notices of disciplinary action shall be written and signed by the employee and his/her supervisor and management.

2. All notices of disciplinary action will be filed in the employee's personnel file.

Disciplinary Action

1. Using the following form will enforce disciplinary action policy. All forms shall be signed and dated by the employee, supervisor and or management. Type of disciplinary action taken will depend upon the circumstances of the infraction.

2. A maximum of three warnings maybe given. Upon warnings being given, employee will be told as to what other disciplinary actions maybe taken if corrections have not been made (i.e. how many written warnings that an employee shall receive before more serious action shall be taken to correct infractions.

3. Decrease in work hours: employees maybe subject to decreased work hours due to an employee's inability to work his/her scheduled hours or due to infractions of policies and procedures.

Types of infractions that may warrant Disciplinary Action

- Unexcused absenteeism (no-call, no-show)
- First incident - written warning
- Second incident- maybe suspension, lost work hours or termination

(Serious misconduct-immediate termination (e.g. intoxication, use of illegal drugs, theft of property, insubordination and etc.)

- Berger Electric, Inc. shall report and document any and all allegations made against any employee, supervisor or management, and all reports shall be filed.
- Any and all reports shall be brought to the attention of management, so that management is aware and knowledgeable in the type of incidents and infractions that are occurring.

EXAMPLE OF COMPANY DISCIPLINARY ACTION REPORT USED IS ATTACHED

If any of the preceding incidents occur, after administrating the steps above, the employee shall be immediately taken to Hospital, Clinic so that they are examined by a Physician.

Rescue Of Employee Overcome By H2S

NOTE: Never attempt a rescue if the rescue will but your well being or life in jeopardy.

To attempt rescue if an employee is overcome by H2S, the following steps shall be followed:

1. Put on your rescue unit (30 minute air unit) before attempting to rescue person from an H2S situation.

2. Remove the victim immediately to fresh air.

3. If breathing, maintain the victim at rest and administer oxygen if available.

4. If the victim is not breathing, administer artificial respiration (CPR) immediately.

5. Call for help or an Ambulance and get victim to medical treatment.

MEDICAL SERVICE FIRST AID AND AED PROCEDURE

DEFINITION: FIRST AID (FROM AMERICAN RED-CROSS)

Immediate and temporary care given the victim of an accident or sudden illness until the services of a physician can be obtained.

FIRST AID TRAINING:
If there is no dispensary, clinic or hospital in close proximity (i.e. within 3-4-minutes of work-site to treat employee, at least on employee must be adequately trained to render FIRST AID.

ALL EMPLOYEES WILL BE TRAINED:

In Adult CPR and First Aid by a certified American Red-Cross Trainer.

TRAINING MATERIAL WILL COVER:
What to do if an emergency occurs, know whom to call, what care to provide, the Safety Advisor along with the Management will ensure that up date training will be offered in required time by a certified trainer.

EMERGENCY MEDICAL SERVICES (EMS) consists of:

- Police/Sheriff
- Fire/Rescue
- Ambulance

In areas where 911 is not available, the emergency numbers for listed above shall be conspicuously posted.

EMERGENCY MEDICAL SERVICES (EMS) can be contacted by using the 911 call system.

FIRST AID SUPPLIES:
All trucks will have Equip First Aid Kits in a weatherproof container. These will be equipped with: All shall be contained in sealed individual packages.

Antiseptic Spray Clean	Wipes Sterile gauze Pads	Eye Wash	Elastic Roller Gauze
Adhesive Tape	Latex Protective	Gloves	Bandages (Sizes)
Tweezers	Instant Ice Pack	Easy First Aid Guide\Burn Jell	

May be replaced with material from the master First Aid Kit stored in the shop office. The employer will ensure that the kits will be equipped with the above mentioned on initial handout and the Truck Foreman is required to inspect the kits before going on a job, on a weekly basis. All components must be approved by a consultant physician and withstand the hazards that may occur.

PROCEDURES:

If needing EMS your call is the most important thing you could do. If a phone is unavailable call the shop on the 2-way system. The person answering the 2-way is responsible for making the call.

When EMS is not necessary but the victim needs to be transferred to a Medical Facility:

- Call on-duty Supervisor if he/she is in Area he/she ill transport the victim.
- Ask for assistance from Berger Electric, Inc. that is on location.
- Inform your Duty Supervisor that you are taking the victim to a Medical Facility

NOTE: IN AN EMERGENCY SITUATION THE CLOSEST MEDICAL FACILITY WILL BE USED.

When employees are exposed to corrosive material such as chemicals, acids or any other material that may spray or come in contact with will have these available:

- Eye Wash Station/Bottle
- Shower/Available Water

They will be used to flush or drench the victim while removing contaminated clothes. Start First Aid Procedure.

The Safety Advisor and Safety Consultant while performing self-inspection will check the shop area thoroughly.

All emergency phone numbers will be posted in the Conference Room in the shop located by the telephone.

PROCEDURE FOR AED USE

Note: If AED is not immediately available, perform CPR until AED arrives on the scene.
Use of the AED is authorized by any personnel trained in CPR and the use of the AED.

PROCEDURE:

First responder or witness assesses the scene for safety and determines unresponsiveness by tapping the shoulder and shouting, “Are you okay?”

With unresponsiveness confirmed, responder activates (if appropriate) and directs someone to:

- activate EMS by calling 911, and
- get the defibrillator
- If the responder is alone, he/she does this her/himself
- If available, appoint a person to chart times, actions, treatment and responses for “post AED use” documentation.

After determining un-responsiveness, open the airway, using the head tilt/chin lift procedure.

1. Check for breathing. Look, listen and feel. If no breathing assessed, give 2 rescue breaths using the barrier mask if available, or mouth-to-mouth.

2. Check for signs of circulation, such as coughing or movement. {Selected responders may check for pulse (carotid site in adults and children, brachial in infants) if such was included in their training.}

3. If there are no signs of breathing, coughing or movements, perform CPR until the AED arrives. Compress and release the bare chest 30 times at a rate of 80-100 compressions per minute. Give 2 breaths for every 30 compressions and continue until the AED arrives.

4. Place the AED on the user's side of the victim, near the head or shoulder. Turn ON if not already done so and follow the voice prompts.

5. Apply the appropriate electrodes [adult or child] to the victim's bare chest. Apply according to diagram on the back of package or on the AED case. Dry chest with towel if necessary. Press pads firmly to skin. Be observant for an obvious swelling or lump indication an implanted pacemaker or AICD. Remove any medication patch observed. For an excessively hairy chest, be prepared to pull off the first set of electrodes and shave any remaining excessive chest hair {do so if hair prevents a good seal between electrode and skin- the machine will prompt you to "check electrodes".}

6. Stand clear of victim while machine analyzes heart rhythm. If necessary, remind any other responders to not touch the patient during this time.

IF SHOCK IS ADVISED:

Clear area, making sure no one is touching the victim. Push SHOCK button when instructed. Device will analyze up to three times. After three shocks, device will prompt to check for signs of pulse, breathing or movement, and if absent, start CPR. If pulse and/or signs of circulation such as normal breathing and movement are absent, perform CPR for one minute. Device will countdown one minute of CPR and will re-analyze when CPR time is over.

IF NO SHOCK IS ADVISED:

Device will prompt to check for pulse, breathing or movement and if absent, start CPR. Perform CPR for one minute. IF these signs are present, check for normal breathing. Remember, irregular gasping is NOT breathing! If victim is not breathing normally, give rescue breaths at a rate of 12 per minute. AED will re-analyze after one minute. · Continue cycles of analyses, shocks (if advised), and CPR until professional help arrives. Victim must be transported to the hospital. Leave AED and electrodes attached until EMS arrives and disconnects AED or links electrodes to their monitor. After use, the AED will be wiped clean and post-usage maintenance checks will be performed.

AED POST-USE PROCEDURE

Materials: Disinfectant wipes, replacement Infant/Child and Adult electrode pads, gauze, medium and large gloves, scissors, razor, towel, CPR mask, post-use forms (see example) and maintenance check sheets.

Procedure:

- Person or persons responsible for the AED program, and as such is responsible for evaluation of post event review forms and digital files downloaded from the AED.

- Within 24 hours of a medical event, (a) an accident report form shall be completed and (b) a copy of AED use information shall be presented to Person or persons responsible for the AED Program.

- Person or Persons responsible for the downloading and transcription of data from the AED, notification of the overseeing M.D., organizing a review of the event.

- Person or Persons responsible for the AED Program shall decontaminate and clean the AED per manufacturer's guidelines.

- They will replace any supplies used and order additional replacements as necessary. Post-use maintenance checks shall be performed per guidelines, once data has been collected, including battery re-insertion, set-up confirmation and return to service of the device.

- Following use of the AED, a review shall be conducted to learn from the experience. All key participants in the event shall participate in the review. Included in this review will be the identification of actions that went well and collection of opportunities for improvement, as well as critical incident stress debriefing, either informal or formal dependent upon circumstances.

HOUSEKEEPING GENERAL

1. Housekeeping is the responsibility of all employees to maintain cleanliness and order within work areas.

2. Work areas, passageways, storerooms, restrooms and service rooms must be kept clean and orderly.

3. Work areas on construction sites shall be kept clean of loose materials, waste, loose tools, drinking materials such as empty bottles.

4. Storage areas must be kept clean and free from materials that may cause tripping, fire and explosions or insect or rodent infestation.

5. Work areas shall be kept free of protruding nails, splinters, holes or loose boards.

6. Oil and grease or other liquid spills shall be cleaned up immediately.

7. Waste disposal shall be controlled with the placing of waste containers on site, with receptacles labeled as to contents (i.e. wood, paper, or oily materials) and each receptacle shall be provided with lids.

8. Tools, electrical cords and other small equipment shall be properly stored at the end of the workday.

9. Use of vans, utility trailers or other forms of equipment, product transportation to locations shall be kept clean and orderly.

10. Housekeeping should be part of the daily routine, with clean up being a continuous procedure.

WORKPLACE VIOLENCE PREVENTION

Purpose

The purpose of this procedure is to clearly outline steps to be taken to prevent and/or minimize risks to staff, volunteers, clients and visitors associated with acts of violence within the County. This procedure will apply to all Management, Committee members, Coordinator, support workers and volunteers within the County Employment and requires co-operation and assistance of all personnel.

Definitions

Violence:

Includes verbal and emotional threats and physical attack to an individual's person or property by another individual or group. Violent acts include:

- Verbal abuse in person or over the phone
- Threats of a sexual nature
- Threats of violence
- "ganging up" by a group over an individual
- Physical or sexual assault

Procedure
Assessing the Potential for Violence
In order to assess the potential for violence, the Coordinator is required to keep records of all major and minor violent incidents, actual or implied. Each incident should be checked against previous incidents to establish whether there is a trend. The point, at which the procedures failed can then be reviewed, added to the checklist and reinforced through training and meetings.

Controlling Violence
Control procedures should be put in place wherever risks of violence are identified and assessed. Violence control measures should be:

- A part of standard workplace procedures
- Implemented following a review of a violent incident

Assessment and Conduct
In order to minimize the risk of violence, the Coordinator and support workers need to know whom they are dealing with and are required to let clients and employees know exactly what is expected of them.

The Coordinator and support workers are therefore required to:

- Make admission criteria clear to clients, employees during the initial assessment interview. This will include clients and employee's who display violent or aggressive behavior will be. If need be Termination from employment. Or removal from facility.
- Make the code of behavior for clients and employee's clear during the initial assessment interview. That is, verbalize the required code of behavior which includes:
- Clients and employee's are to act in a manner, which respects the rights of other clients, employee's volunteers and staff.
- Clients and employee's are to play their part in helping to provide Information to the County if violence is observed.
- Outline the consequences of failure to comply with the required code of behavior during the initial interview.
- Refer clients and employee's who need psychiatric treatment, detoxification and drug and alcohol rehabilitation to other services as appropriate.
- Verify all information received during the interview, wherever possible, prior to accepting the client to the County employment or facilities.
- Inform clients, employee's that they have a right to be protected from abuse by staff and volunteers and that action will be taken in the event that this occurs.

Volunteers

All volunteers must have explained to them that violent and/or aggressive behavior is not tolerated and any evidence of this type of behavior from volunteers will result in them being requested to leave County Facilities. Likewise, volunteers need to understand that they are not to tolerate aggressive/violent behavior from clients, employee's staff or other volunteers. Action will be taken in the event of this occurring.

Coordinator

All acts of aggression incurred within the County facilities shall be immediately reported to Management, Supervisors and Coordinator for immediate follow-up and remission of violent acts or verbal acts of violence.

EMERGENCY ACTION / EMERGENCY EVACUATION PLAN

Purpose: Establish policies regarding management and employee response to various emergency situations.

Examples of an emergency:

- Fire Reporting and Response
- Lightning
- Tornado Preparation and Emergency
- First Aid
- Evacuation
- Hazardous Material Spill

If any of the above mentioned are encountered, immediately call 911 or the appropriate County, State or City telephone for response.

Policy: Berger Electric, Inc. has developed plans that address emergency situations that may arise within Berger Electric, Inc. may threaten human health, safety and damages to Berger Electric, Inc.'s assets. Management is responsible for implementing the Emergency Action Plans.

Emergency Action Plan shall be kept in main office and shall be available to employees for review.

These Emergency Action Plans will meet the following objectives:

- Provide a means of notifying employee's customers and local authorities of an emergency situation.
- Provide for a safe and orderly method of evacuation of employees and customers from Berger Electric, Inc.'s premises.
- Account for all employees who occupied Berger Electric, Inc.'s premises at the time of evacuation should one occurs. All employees shall evacuate in case of any emergency.

Emergency Numbers

For Emergency's	911
Police Department	911
Sheriff's Department	911
Disaster Emergency Services	911
Fire Department	911

Berger Electric, Inc. shall keep a list of all employees' within Berger Electric, Inc. If and when an evacuation is required this list shall be used for head count when reach safe area. The ***SAFE AREA*** for Berger Electric, Inc. shall be located as to put employees out of harms way.

Evacuation if required shall be by nearest ***EXIT*** from the building and again gather at the designated ***SAFE AREA.***

Names of supervisors and management shall be posted in work areas, if employees are in need of more information regarding action plan, information about the plan or an explanation of their duties under the plan. Contact information will be provided to employees who need additional information pertaining to the plan or to their respective duties?

Berger Electric, Inc. will have and maintain a system to alert employees of emergencies. Either alarm systems shall be distinctive and recognizable as a signal to evacuate the work area or perform actions designated under the emergency action plan. For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm provided all employees can hear the alarm.
An employer must designate and train employees to assist in a safe and orderly evacuation of other employees.

Fire Reporting Procedures

Any person discovering a fire or smoke should (IN ORDER OF IMPORTANCE):

- Activate manual fire alarm pull station if available or call Emergency Operator (911).
- Notify:
- Emergency Operator (911)

Information for the operator:

- Your name and company.
- Exact location of fire or smoke in building.
- Type and extent of fire or smoke.
- Other information requested by the operator.

If you are trapped in the building and cannot find an escape route:

- Notify Emergency (911).
- Give your exact location to the Emergency Operator.
- Remain calm, help is on the way.

Fire Evacuation Procedures

- When the fire alarm sounds, leave the building immediately.
- After leaving the building, assemble in the pre-arranged location or safe area.

Emergency Instructions

1. STAY CALM. AVOID PANIC AND CONFUSION.
2. KNOW THE LOCATION OF EXITS. BE SURE YOU KNOW THE MOST DIRECT ROUTE AND ALTERNATE ROUTE TO EXIT FROM ANY LOCATION IN THE BUILDING.
3. KNOW THE LOCATION OF ALL FIRE EXTINGUISHERS. LEARN PROPER USE OF ALL TYPES OF EXTINGUISHERS.

4. KNOW HOW TO REPORT A FIRE OR OTHER EMERGENCY. SOUND ALARM WITHOUT DELAY; NOTIFY EMERGENCY OPERATOR (911)
5. WALK TO EXIT AND MAINTAIN ORDER AND QUIET.
6. REMEMBER: IT IS YOUR JOB TO PREVENT FIRES!

Lightning

1. Typical lightning bolt contains several hundred million volts at 30,000 or more amperes.
2. Stay away from open doors or windows during an electrical storm.
3. Avoid using electrical appliances and stay away from all metal objects during a storm.
4. Do not go outside.

If you are outside:

1. Avoid tree lines.
2. Stay away from flag poles, towers, trees and metal fences.
3. A closed automobile provides a protective metal shell-if car is struck don't touch anything metal in the interior.
4. If you are caught out in the open stay low. If your hair begins to stand on end, crouch low to the ground and balance yourself on the balls of your feet. Do not touch the ground with your hands, knees, elbows, etc.

Tornadoes

1. Do not leave the building during a tornado.
2. All occupants should evacuate and assemble in a crouched position along the walls in the hallway. Head should be tucked between knees with hands protecting the back of the head.
3. Occupants should remain in this position until notified otherwise by the emergency personnel.

If you are in a vehicle:

1. Never try to outrun a tornado in your vehicle.
2. Drive to the nearest building or seek shelter in a ditch or ravine.
3. If at home or in building, go to an interior room on the lowest level (bathroom, closet, etc.). Get under a sturdy piece of furniture if possible.

Medical Service/First Aid

DEFINITION:FIRST AID
Immediate and temporary care given the victim of an accident or sudden illness until the services of a physician can be obtained.

FIRST AID TRAINING:
If there is no dispensary, clinic or hospital in close proximity (i.e. within 15-minutes of work-site to treat employee, at least on employee must be adequately trained to render First Aid.

ALL EMPLOYEES WILL BE TRAINED:

In Adult CPR and First Aid by a certified trainer

TRAINING MATERIAL WILL COVER:

- What to do if an emergency occurs.
- Know who to call.
- What care to provide.

The Safety Advisor along with the Management will ensure that up date training will be offered in required time by a certified trainer.

EMERGENCY MEDICAL SERVICES (EMS) consists of:

Police/Sheriff
Fire/Rescue
Ambulance

Emergency Medical Services can be contacted by using the 911-call system.

FIRST AID SUPPLIES:

All trucks will have Equip First Aid Kits in a weatherproof container. These will be equipped with:

Antiseptic Spray	Clean Wipes	Sterile gauze Pads	Burn Jell Eye Wash
Elastic Roller Gauze	Adhesive Tape	Latex Protective Gloves	Bandages (Sizes)
Tweezers	Instant Ice Pack	The Easy First Aid Guide	

May be replaced with material from the master First Aid Kit stored in the shop office.
The employer will ensure that the kits will be equipped with the above mentioned on initial handout and the Truck Foreman is required to inspect the kits on a weekly basis. All components must be approved by a consultant physician and withstand the hazards that may occur.

PROCEDURES:

If needing EMS, your call is the most important thing you do. If a phone is unavailable, call the shop on the 2-way system. The person answering the 2-way is responsible for making the call.

When EMS Is Not Necessary, but the Victim Needs to be transferred to a Medical Facility:

- Call on duty Supervisor if he/she is in area he/she will transport the victim.
- Ask for assistance from Berger Electric, Inc. that is on location.
- Inform your Duty Supervisor that you are taking the victim to a Medical Facility

NOTE: IN AN EMERGENCY SITUATION THE CLOSEST MEDICAL FACILITY WILL BE USED.

When Employees are exposed to corrosive material such as chemicals, acids or any other material that may spray or come in contact with will have these available:

- Eye Wash Station/Bottle.
- Shower/Available Water.
- They will be used to flush or drench the victim while removing contaminated clothes.
- Start First Aid Procedure.
- The Safety Advisor and Safety Consultant while performing self-inspection will check the shop area thoroughly
- All emergency phone numbers will be posted in the Conference Room in the shop located by the telephone:

Evacuation Procedure

To ensure the orderly and safe evacuation of all personnel in the event of an emergency:

1. A pre-determined evacuation plan minimizes confusion and achieves a state of readiness to respond as quickly as possible at the onset of an emergency.
2. Notification of evacuation may announce verbally by public address system or by a warning signal.
3. Conditions that may prompt an evacuation include:
   - ♣ Fire, explosion or threat of explosion.
   - ♣ Chemical or gas leak or spill.
   - ♣ Bomb threat.
   - ♣ Uncontrollable situation that threatens life (i.e., weather emergencies).
4. Employer shall designate employees responsible for the safe evacuation of each job area when an emergency does arise.
5. All employees shall evacuate orderly in accordance with pre-established evacuation routes.
6. All employees shall assemble in the pre-designated area for head counts
7. A secondary assembly point should also be established should conditions (i.e. wind, traffic) make it unsafe to assemble at the original pre-designated area.

Emergency action plans shall be re-evaluated with employees covered by plan:

- When the plan is developed or the employee is assigned initially to a job.
- When the employee's responsibilities under the plan change.
- When the plan is changed.

HEAT STRESS PREVENTION

***Purpose*:** The purpose of this program is to provide guidance for protecting employees from hazards of high heat conditions and to provide information on engineering, administrative and PPE controls. Being uncomfortable is not the major problem with working in high temperatures and humilities. Workers who are suddenly exposed to working in a hot environment face additional and generally avoidable hazards to their safety and health.

Responsibilities

Management:

- ♣ provide information to workers on signs of heat stress
- ♣ provide means of preventing heat stress and other heat related health hazards

Hazard Control

Engineering Controls

- ♣ Ensure all inside areas have adequate ventilation
- ♣ Provide shaded awnings for outside work when possible
- ♣ Provide portable ventilation when possible

Administrative Controls

- ♣ Provide training to all affected employees
- ♣ Provide adequate and sanitary drinking facilities and utensils
- ♣ Rotate workers during high heat operations

Protective Equipment

- ♣ Provide cooling PPE when appropriate

How the Body Handles Heat

The human body, being warm blooded, maintains a fairly constant internal temperature, even though it is being exposed to varying environmental temperatures. To keep internal body temperatures within safe limits, the body must get rid of its excess heat, primarily through varying the rate and amount of blood circulation through the skin and the release of fluid onto the skin by the sweat glands. These automatic responses usually occur when the temperature of the blood exceeds 98.6^{o}F and are kept in balance and controlled by the brain. In this process of lowering internal body temperature, the heart begins to pump more blood, blood vessels expand to accommodate the increased flow and the microscopic blood vessels (capillaries) which thread through the upper layers of the skin begin to fill with blood. The blood circulates closer to the surface of the skin and the excess heat is lost to the cooler environment. If heat loss from increased blood circulation through the skin is not adequate, the brain continues to sense overheating and signals the sweat glands in the skin to shed large quantities of sweat onto the skin surface. Evaporation of sweat cools the skin, eliminating large quantities of heat from the body.

As environmental temperatures approach normal skin temperature, cooling of the body becomes more difficult. If air temperature is as warm as or warmer than the skin, blood brought to the body surface cannot lose its heat. Under these conditions, the heart continues to pump blood to

the body surface, the sweat glands pour liquids containing electrolytes onto the surface of the skin and the evaporation of the sweat becomes the principal effective means of maintaining a constant body temperature. Sweating does not cool the body unless the moisture is removed from the skin by evaporation. Under conditions of high humidity, the evaporation of sweat from the skin is decreased and the body's efforts to maintain an acceptable body temperature may be significantly impaired. These conditions adversely affect an individual's ability to work in the hot environment. With so much blood going to the external surface of the body, relatively less goes to the active muscles, the brain and other internal organs; strength declines; and fatigue occurs sooner than it would otherwise. Alertness and mental capacity also may be affected. Workers who must perform delicate or detailed work may find their accuracy suffering and others may find their comprehension and retention of information lowered.

Safety Problems

Certain safety problems are common to hot environments. Heat tends to promote accidents due to the slipperiness of sweaty palms, dizziness, or the fogging of safety glasses. Wherever exists molten metal, hot surfaces, steam, etc., the possibility of burns from accidental contact also exists. Aside from these obvious dangers, the frequency of accidents, in general, appears to be higher in hot environments than in more moderate environmental conditions. One reason is that working in a hot environment lowers the mental alertness and physical performance of an individual. Increased body temperature and physical discomfort promote irritability, anger and other emotional states which sometimes cause workers to overlook safety procedures or to divert attention from hazardous tasks.

Health Problems

Excessive exposure to a hot work environment can bring about a variety of heat-induced disorders.

Heat Stroke

Heat stroke is the most serious of health problems associated with working in hot environments. It occurs when the body's temperature regulatory system fails and sweating becomes inadequate. The body's only effective means of removing excess heat is compromised with little warning to the victim that a crisis stage has been reached. A heat stroke victim's skin is hot, usually dry, red or spotted. Body temperature is usually 105_F or higher and the victim is mentally confused, delirious, perhaps in convulsions, or unconscious. Unless the victim receives quick and appropriate treatment, death can occur. Any person with signs or symptoms of heat stroke requires immediate hospitalization. However, first aid should be immediately administered. This includes removing the victim to a cool area, thoroughly soaking the clothing with water and vigorously fanning the body to increase cooling. Further treatment at a medical facility should be directed to the continuation of the cooling process and the monitoring of complications, which often accompany the heat stroke. Early recognition and treatment of heat stroke are the only means of preventing permanent brain damage or death.

Heat Exhaustion

Heat exhaustion includes several clinical disorders having symptoms, which may resemble the early symptoms of heat stroke. Heat exhaustion is caused by the loss of large amounts of fluid by sweating, sometimes with excessive loss of salt. A worker suffering from heat exhaustion still

sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. In more serious cases, the victim may vomit or lose consciousness. The skin is clammy and moist, the complexion is pale or flushed and the body temperature is normal or only slightly elevated. In most cases, treatment involves having the victim rest in a cool place and to drink plenty of liquids. Victims with mild cases of heat exhaustion usually recover spontaneously with this treatment. Those with severe cases may require extended care for several days. There are no known permanent effects.

- ***CAUTION Persons with heart problems or those on low sodium diet that work in hot environments should consult a physician about what to do under these conditions.***

Heat Cramps

Heat cramps are painful spasms of the muscles that occur among those who sweat profusely in heat, drink large quantities of water, but do not adequately replace the body's salt loss. The drinking of large quantities of water tends to dilute the body's fluids, while the body continues to lose salt. Shortly thereafter, the low salt level in the muscles causes painful cramps. The affected muscles may be part of the arms, legs, or abdomen, but tired muscles (those used in performing the work) are usually the ones most susceptible to cramps. Cramps may occur during or after work hours and may be relived by taking salted liquids by mouth.

- ***CAUTION: Persons with heart problems or those on a low sodium diet who work in hot environments should consult a physician about what to do under these conditions.***

Fainting

A worker who is not accustomed to hot environments and who stands erect and immobile in the heat may faint. With enlarged blood vessels in the skin and in the lower part of the body due to the body's attempts to control internal temperature, blood may pool there rather than return to the heart to be pumped to the brain. Upon lying down, the worker should soon recover. By moving around and thereby preventing blood from pooling, the patient can prevent further fainting. Heat Rash Heat rash, also known as prickly heat, is likely to occur in hot, humid environments where sweat is not easily removed from the surface of the skin by evaporation and the skin remains wet most of the time. The sweat ducts become plugged and a skin rash soon appears. When the rash is extensive or when it is complicated by infection, prickly heat can be very uncomfortable and may reduce a worker's performance. The worker can prevent this condition by resting in a cool place part of each day and by regularly bathing and drying the skin.

Transient Heat Fatigue

Transient heat fatigue refers to the temporary state of discomfort and mental or psychological strain arising from prolonged heat exposure. Workers unaccustomed to the heat are particularly susceptible and can suffer to varying degrees, a decline in task performance, coordination, alertness and vigilance. The severity of transient heat fatigue will be lessened by a period of gradual adjustment to the hot environment (heat acclimatization).

Preparing for the Heat

One of the best ways to reduce heat stress on workers is to minimize heat in the workplace. However, there are some work environments where heat production is difficult to control, such

as when furnaces or sources of steam or water are present in the work area or when the workplace itself is outdoors and exposed to varying warm weather conditions. Humans are, to a large extent, capable of adjusting to the heat. This adjustment to heat, under normal circumstances, usually takes about 5 to 7 days, during which time the body will undergo a series of changes that will make continued exposure to heat more endurable. On the first day of work in a hot environment, the body temperature, pulse rate and general discomfort will be higher. With each succeeding daily exposure, all of these responses will gradually decrease, while the sweat rate will increase. When the body becomes acclimated to the heat, the worker will find it possible to perform work with less strain and distress. Gradual exposure to heat gives the body time to become accustomed to higher environmental temperatures. Heat disorders in general are more likely to occur among workers who have not been given time to adjust to working in the heat or among workers who have been away from hot environments and who have gotten accustomed to lower temperatures. Hot weather conditions of the summer are likely to affect the worker who is not acclimatized to heat. Likewise the heat in the work environment may affect workers who return to work after a leisurely vacation or extended illness. Whenever such circumstances occur, the worker should be gradually reacclimatized to the hot environment.

Lessening Stressful Conditions

Many industries have attempted to reduce the hazards of heat stress by introducing engineering controls, training workers in the recognition and prevention of heat stress and implementing work-rest cycles. Heat stress depends, in part, on the amount of heat the worker's body produces while a job is being performed. The amount of heat produced during hard, steady work is much higher than that produced during intermittent or light work. Therefore, one way of reducing the potential for heat stress is to make the job easier or lessen its duration by providing adequate rest time. Mechanization of work procedures can often make it possible to isolate workers from the heat sources (perhaps in an air-conditioned booth) and increase overall productivity by decreasing the time needed for rest. Another approach to reducing the level of heat stress is the use of engineering controls, which include ventilation and heat shielding.

Number and Duration of Exposures

Rather than be exposed to heat for extended periods of time during the course of a job, workers should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work-rest cycles. Work-rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat and provide greater blood flow to the skin.

Workers employed outdoors are especially subject to weather changes. A hot spell or a rise in humidity can create overly stressful conditions. The following practices can help to reduce heat stress:

- Postponement of nonessential tasks
- Permit only those workers acclimatized to heat to perform the more strenuous tasks
- Provide additional workers to perform the tasks keeping in mind that all workers should have the physical capacity to perform the task and that they should be accustomed to the heat.

Thermal Conditions in the Workplace
A variety of engineering controls can be introduced to minimize exposure to heat. For instance, improving the insulation on a furnace wall can reduce its surface temperature and the temperature of the area around it. In a laundry room, exhaust hoods installed over those sources releasing moisture will lower the humidity in the work area. In general, the simplest and least expensive methods of reducing heat and humidity can be accomplished by:

- Opening windows in hot work areas
- Using fans
- Using other methods of creating airflow such as exhaust ventilation or air blowers.

Rest Areas
Providing cool rest areas in hot work environments considerably reduces the stress of working in those environments. There is no conclusive information available on the ideal temperature for a rest area. However, a rest area with a temperature near 76 degrees F appears to be adequate and may even feel chilly to a hot, sweating worker, until acclimated to the cooler environment. The rest area should be as close to the workplace as possible. Individual work periods should not be lengthened in favor of prolonged rest periods. Shorter but frequent work-rest cycles are the greatest benefit to the worker.

Drinking Water
In the course of a day's work in the heat, a worker may produce as much as 2 to 3 gallons of sweat. Because so many heat disorders involve excessive dehydration of the body, it is essential that water intake during the workday be about equal to the amount of sweat produced. Most workers exposed to hot conditions drink less fluid than needed because of an insufficient thirst drive. A worker, therefore, should not depend on thirst to signal when and how much to drink. Instead, the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body. There is no optimum temperature of drinking water, but most people tend not to drink warm or very cold fluids as readily as they will cool ones. Whatever the temperature of the water, it must be palatable and readily available to the worker. Individual drinking cups should be provided, never use a common drinking cup. Heat acclimatized workers lose much less salt in their sweat than do workers who are not adjusted to the heat. The average American diet contains sufficient salt for acclimatized workers even when sweat production is high. If, for some reason, salt replacement is required, the best way to compensate for the loss is to add a little extra salt to the food. Salt tablets should not be used.

- ***CAUTION Persons with heart problems or those on low sodium diet that work in hot environments should consult a physician about what to do under these conditions.***

Protective Clothing
Clothing inhibits the transfer of heat between the body and the surrounding environment. Therefore, in hot jobs where the air temperature is lower than skin temperature, wearing clothing reduces the body's ability to lose heat into the air. When air temperature is higher than skin temperature, clothing helps to prevent the transfer of heat from the air to the body. However, this advantage may be nullified if the clothes interfere with the evaporation of sweat. In dry climates, adequate evaporation of sweat is seldom a problem. In a dry work environment with very high

air temperatures, protective clothing could be an advantage to the worker. The proper type of clothing depends on the specific circumstance. Certain work in hot environments may require insulated gloves, insulated suits, reflective clothing, or infrared reflecting face shields. For extremely hot conditions, thermally- conditioned clothing is available. One such garment carries a self-contained air conditioner in a backpack, while another is connected a compressed air source which feeds cool air into the jacket or coveralls through a vortex tube. Another type of garment is a plastic jacket, which has pockets that can be filled with dry ice or containers of ice.

Employee Awareness

The key to preventing excessive heat stress is educating the employer and worker on the hazards of working in heat and the benefits of implementing proper controls and work practices. The employer should establish a program designed to acclimatize workers who must be exposed to hot environments and provide necessary work-rest cycles and water to minimize heat stress.

Special Considerations

During unusually hot weather conditions lasting longer than 2 days, the number of heat illnesses usually increases. This is due to several factors, such as progressive body fluid deficit, loss of appetite (and possible salt deficit), buildup of heat in living and work areas and breakdown of air-conditioning equipment. Therefore, it is advisable to make a special effort to adhere rigorously to the above preventive measures during these extended hot spells and to avoid any unnecessary or unusual stressful activity. Sufficient sleep and good nutrition are important for maintaining a high level of heat tolerance. Workers may be at a greater risk of heat illnesses are the obese, the chronically ill and older individuals. When feasible, the most stressful tasks should be performed during the cooler parts of the day (early morning or at night). Double shifts and overtime should be avoided whenever possible. Rest periods should be extended to alleviate the increase in the body heat load. The consumption of alcoholic beverages during prolonged periods of heat can cause additional dehydration. Persons taking certain medications (e.g., medications for blood pressure control, diuretics, or water pills) should consult their physicians in order to determine if any side effects could occur during excessive heat exposure. Daily fluid intake must be sufficient to prevent significant weight loss during the workday and over the workweek.

CELL PHONE SAFETY

Business pressure today tends to make everyone look for ways to maximize their time. Car phones or cellular phones have become the most popular way to stay in touch with business contacts and family. Car phones or cellular phones can pose a serious hazard, if the person gets distracted or does not pay attention to driving.

Consider the following when using a car phone or cellular phone.

1. Consider purchasing a car phone or cellular with a voice activated microphone or hands free answering system.

2. Learn to operate phone without having to divert your attention to phone to dial or answer.

3. Where possible if another person is available in vehicle, allow then to place, or answer calls if driving, or come to complete stop out of traffic to answer or use.

4. To place a call, use the phone function of speed-dial or memory-dial. Load the most frequently used numbers into these functions before you drive.

5. Placement or mounting in vehicle of car phone or cellular phone carrier should be mounted so as to reduce stretching, leaning, or straining or having to look for phone to answer.

6. When answering phone let party that is calling that you are on a car phone so that they can be prepared if you have to answer to an emergency situation.

7. Do not write down or look for material to write down messages or numbers while driving, use phone “electronic scratch pad” system to keep numbers.

8. Use your voice mail function to retrieve calls that you may not be able to answer while driving.

9. Always pull over to the side of the road to take notes or messages.

10. If new to use of car phone or cellular phone in vehicle, become familiar with phone functions before going on the road.

11. Do not use car phone or cellular phone in areas where they’re maybe an explosive atmosphere. If you are in area where “warning signs” are posted shut phone off.

HAZWOPER FIRST RESPONDER
(Awareness Level)

First responders at the awareness level are personnel who are likely to witness or discover a hazardous substance release or spill.

1. Shall initiate an emergency response by notifying the proper authority.

2. An emergency response includes, but is not limited to the following situations:

   - The hazard substance release requires evacuation of all employees in the area.

   - The release poses or has potential to cause conditions that are dangerous to life and health.

   - The release poses serious threat of fire or explosion.

   - The release requires immediate attention because of imminent danger.

   - There is uncertainty that personnel in work area can handle the severity of the hazard with the personal protective equipment available or provided in work area.

   - The situation is unclear, or data is lacking on important factors of release or spill.

3. First responders shall be adequately trained, to react to possible release or spill of hazardous materials.

4. First responders shall be capable of responding to a release or spill in a safe manner.

5. First responders take no further action beyond notifying proper authority of the release or spill of hazardous materials.

HAZARD ANALYSIS

Hazard identification begins with analyses of the specific hazards associated with various operations. Through a study of all work site conditions as well as of each worker's job and each major phase of activity, work site analyses identify the specific safety, health ergonomic hazards associated with a particular operation or process. When the tasks performed by workers assigned to a specific job are analyzed, the result is a "Job Hazard Analysis" (JHA) or "Job Safety Analysis" (JSA).

The objectives of hazard analysis are to:

- Identify the hazards associated with a particular job, work activity, or phase of the project;
- Identify the control measures and procedures necessary to protect employees from these hazards;
- Identify activities or phases of work that require further analysis or the development of specifically designed protective measures; and
- Designate and identify the qualifications of the competent person, authority, or engineer who will conduct work site inspections.

Berger Electric, Inc. is responsible for conducting a hazard analysis describing the hazards associated with that phase of the project, methods of reducing or eliminating them, equipment to be used and inspection requirements for equipment phase-specific training requirements.
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Hazard Prevention and Control/Abatement

Managing work site hazards effectively is perhaps the single most important element in reducing occupational injuries and fatalities. It is also essential that safe work procedures be established and communicated to employees. The application of the controls necessary to eliminate or mitigate identified hazards routine inspections of the work site and enforcement of safety rules to ensure that equipment is being maintained and that site conditions pose no unnecessary risks.

Provisions must also be made to abate any hazards identified through implementation of corrective actions; in all but a few cases, abatement should occur immediately so that work can continue safely. In those cases where immediate hazard abatement is not possible, interim measures that provide employees with full protection should be implemented signs should be posted to warn employees of the danger.

Inspections

Frequent work site inspections are essential to maintaining safe conditions. These should be conducted by competent persons and should include inspections of the work site, equipment all

materials to be used in performance of the job. Workers should be encouraged to report unsafe conditions to their supervisors promptly any unsafe practices identified should be immediately corrected.

Training/Safety Meetings

Training is an essential component of any safety and health program; its effectiveness often depends on the degree to which it is tailored to the hazards of the particular work site and job. Supervisors, who have day-to-day responsibility for safety and health, must be trained in hazard identification and control as well as in methods of encouraging safe practices.

For example, some employers may require an initial, formal orientation session, followed by informal weekly "tool box" meetings that address safety or health topics directly relevant to the work being undertaken at the time. Attendance at training sessions must also be documented.

Contractor/Subcontractor Relationship for Safety and Health Activities

Maintaining safety and health on projects is complicated by the presence on site of many employers, work crews, as well as by the ever-changing nature of work. The contractual and working relationships among these entities and individuals are also complex lines of authority, reporting relationships work activities must be carefully coordinated if appropriate attention is to be paid to worker safety and health.

ENVIRONMENTAL SAFETY AND HEALTH PROGRAM

Berger Electric, Inc. is committed to protecting the environment and to providing employees a safe and healthful place to work.

The Environmental Safety and Health Program consist of six parts.

- Management Commitment and Employee Involvement
- Work Site Analysis
- Hazard Prevention and Control
- Training for Employees, Supervisors, and Managers
- Recordkeeping
- Review and Revision of the Program

Management Commitment and Employee Involvement

The safety and health of each employee of Berger Electric, Inc., our subcontractors, customers, and visitors is of primary importance. Preventing occupational injuries and illnesses has precedence over productivity. Management will provide the mechanical and physical facilities required for personal safety and health in keeping with the highest standards.

Berger Electric, Inc. is committed to protecting the environment by minimizing waste, substituting less hazardous materials, preventing and reducing releases to the air, water, or land, and by training and education.
Employees are involved in these activities through training, safety meetings, and self-inspections.

Work Site Analysis

Work areas and tasks are evaluated for potential hazards. Routine inspections are performed to identify changing hazards such as electrical, machine guarding, emergency first aid facilities, fire protection equipment, hazardous chemical use and storage.

Facilities have trained and assigned safety coordinators, fire wardens, and hazardous waste coordinators. These on-site coordinators perform inspections, document the results, and report problems.

The hazards of chemicals are evaluated using the Material Safety Data Sheets and by sampling.

Sampling is performed for confined space entries where there is a potentially hazardous atmosphere and also for hot work near fuel sources.

Injury and illness data is reviewed and analyzed for trends. Corrective actions include the purchase of additional personal protective equipment, retraining, and changing operating procedures.

Hazard Prevention and Control

Whenever possible, hazards are eliminated by substitution of a less toxic material or through engineering controls that can be built in. When hazards cannot be eliminated, they are controlled by safe work practices or by personal protective equipment. Work rules are enforced by disciplinary action as needed.

A preventative maintenance program prevents breakdowns of equipment that can create hazards. First aid facilities are readily available including eyewashes and showers. Key employees are trained in first aid and CPR.

Emergency medical care is provided by Ambulance Service. Emergency rescue services are coordinated with the Fire Department. Both of these can be reached by dialing 911.

Training for Employees, Supervisors, and Managers

No employee is expected to undertake a job until he has received job instructions on how to do it properly and has been authorized to perform that job. An employee should not perform a job that appears unsafe. Work practices are rules are emphasized during safety meetings.

Training is provided in the following topics: Hazard Communication, Bloodborne Pathogens, Fall Protection, Permit-required Confined Spaces, Lockout/Tagout, Personal Protective Equipment, Electrical, Back Safety, Heat Stress, Ladders, Welding, Forklifts, Stevedore Supervisor, Lead Awareness, Hearing Conservation, Scaffolds, Walking Working Surfaces, Trenching and Excavations, Fire Safety, Hazardous Waste, HAZWOPER (40 hour), 1st Responder Awareness, Marine Oil Spill Response, and Asbestos.

Several leads, supervisors, and managers attended the OSHA 10-Hour Outreach classes and received their "OSHA Cards" from the OSHA Training Institute.

Recordkeeping

The following records are maintained: Injury and Illness Log (OSHA 300 Log), investigations, first notices of injury, safety meeting rosters, training rosters, certificates, and inspections. Medical records are maintained separately and are locked.

One copy of the Environmental Safety and Health Program procedure are available in the office.

Review and Revision of the Program

The Environmental Safety and Health Program is routinely reviewed, revised, and improved. The recommended annual schedule for review and revision is listed below.

An Example: Review and Revision will based upon annual job performances.

January	Respiratory Protection Program
February	Use Of Motor Vehicles
February	Trenching and Excavations
March	H2S Safety
April	Emergency Response Plans (Hazardous Materials Spills)
May	Heat Stress Program
May	Equipment Operations
June	Hearing Conservation Program
June	Safety Manual
June	Ladder Safety
July	Emergency Action Plan
July	Fire Prevention Program
August	Exposure Control Plan (Bloodborne Pathogens)
September	Fall Protection Plan, General
October	Hazard Communication Program
November	Lead Awareness
December	Control of Hazardous Energy (Lockout/Tagout Program)
December	Permit-Required Confined Space Program

HAZARDOUS WASTE MANAGEMENT PROGRAM

The Hazardous Waste Management Program is maintained to ensure compliance with federal, state and local regulations governing disposal of hazardous chemicals. These hazardous waste streams may include waste chemicals. Waste minimization is strongly encouraged with Berger Electric, Inc.

Program Description

In compliance with federal state and local hazardous waste disposal regulations, Berger Electric, Inc. requires that arrangements for disposal of hazardous materials will be collected and transported to an appropriate disposal facility for hazardous waste management. Hazardous waste materials will be collected and transported to an appropriate disposal facility.

- Providing appropriate training, protective equipment and procedures to their personnel
- Management of hazardous waste generated in the area
- Providing for proper storage, labeling and pickup of waste materials;
- Conducting regular inspections of the area to ensure proper hazardous waste management;
- Being familiar with the current legal requirements on hazardous waste
- Contacting Berger Electric, Inc. if questions arise.

Waste Pick-up Procedure

All waste materials must be identified by the generator regarding hazardous characteristics. This information must be, **both for safety and regulatory reasons**. Waste Hazards will be picked up and transported to a waste facility. If cannot be picked up may be scheduled by a phone call to Berger Electric, Inc.

Emergency

All emergency response operations regarding releases of (or substantial threats or releases of) hazardous substances, without regard to the location of the incident, must be carried out in accordance with OSHA regulation 29 CFR 1910.120 which covers Emergency Response Operations. This regulation and policy require that only properly trained personnel will respond to hazardous material incidents. In the event of a chemical spill or release of toxic or hazardous material, immediately notify all personnel in the area of the spill or release.

- If the spill or release presents a potential for personal injury, chemical overexposure, or exposure to a chemical of unknown health risk or any other situation immediately dangerous to life, health or property Immediately evacuate all personnel from the area
- Call 911 to secure Emergency Help
- Stay in a safe area to meet emergency responders and provide detailed information upon request.
- DO NOT perform rescue operations or re-enter the spill area.
- DO NOT expose yourself or allow personnel to be exposed to any unknown substances.
- Use caution and remember that toxic substances may have no odor or other warning properties at air concentrations that can cause severe health damage.

All supervisors and other personnel are expected to be prepared to take these appropriate actions.

Used Oil, Oil Filter and Oily Debris Management and Disposal

Oil Filters

Oil filters must be managed in accordance with Federal and State regulations. Oil filters are exempt from Hazardous Waste laws should they be drained and free from any other hazardous contaminants. The filter must be drained: “to the extent possible such that there are no visible signs of free-flowing oil.

Filters Management and Disposal Protocol

- Oil filters will be gravity drained at or above 60
- The filters should be drained by puncturing the anti-drain back valve or filter dome.
- The filters will be drained into an appropriate "Used Oil" collection container for a minimum of 12 hours.
- Once the filter has drained for 12 hours it will be discarded into the scrap metal waste

Used Oil

Used Oil Management and Disposal Protocol

- Used oil must be collected in a suitable container, which is in good condition. No evidence of dents, corrosion, weakness or holes.
- The container must be stored in secondary containment and the containment must be large enough to contain 110% of the contents of the largest container.
- The container must be stored closed except when waste is being added or removed.
- The container must be properly labeled with a "Used Oil" label.
- The label should be marked with any possible hazardous contaminants.
- Berger Electric, Inc. will remove the container for disposal once it has reached its capacity.

Oily Debris

The EPA does not regulate oily rags as a waste as long as the rags do not have any free-flowing oil, are free of any other hazardous contaminant and do not meet the definition of a characteristic hazardous waste. Rags, which contain free-flowing liquid, must be treated as used oil products. Rags, which contain hazardous contaminants or meet the definition of a characteristic waste, must be handled as hazardous waste.

The same would be true for other means of oil contaminated debris. This would include materials such as sorbent pads and oil dry. Berger Electric, Inc. should collect these materials for disposal in order to alleviate any concerns regarding environmental compliance. The best solution for oily rags is to have them collected, cleaned and reused.

Oily Debris Management and Disposal Protocol

- Must be collected in a suitable container, which is in good condition. No evidence of dents, corrosion, weakness or holes.
- The material may be bagged first in order to facilitate removal from the collection container.
- The container must be stored in secondary containment and the containment must be large enough to contain 110% of the contents of the largest container.
- The container must be stored closed except when waste is being added or removed.
- The container must be properly labeled with an “Oily Debris” label.
- The label should be marked with any possible hazardous contaminants.
- Berger Electric, Inc. will remove the contents of the container for disposal once it has reached its capacity.
- Rags, which are collected and managed through a laundry service, are exempt from these protocols.

Battery Collection Program

The Battery Collection Program assists personnel with disposal of waste batteries in compliance with environmental regulations. Most waste batteries are classified as hazardous waste, regardless of size or shape. Therefore, they must be disposed of through the appropriate waste battery disposal procedure: Battery Collection Boxes have been placed in the shop area and near the front office door. When containers are full call waste service to remove from work site.

Used Electronic Equipment Recycling Program

Berger Electric, Inc. used (end of life) electronic equipment shall be disposed of in a manner compliant with current environmental regulations. Affected equipment includes all devices which contain cathode ray tubes (CRT’s, computer monitors, TV’s, video display units, etc.) and electronic devices containing complex electronic circuitry, circuit boards, or signal processing capabilities for processing or displaying information. These items can include objects such as computers (monitors and CPU’s), fax machines, printers, copy machines, televisions, cell phones, etc.

Due to the levels of some metals, including lead (an EPA regulated waste), commonly found in these products, they must be managed as a special “hazardous” waste. Current regulatory exemptions apply to these "end of service life" devices when properly managed. However, improper accumulation and or storage of devices not reasonably foreseen to be reusable may be a violation of regulatory requirements. As in the past, electronic devices may not be placed into the solid waste stream (i.e. dumpster) for disposal. Used electronic equipment that no longer is suitable for re-use must be disposed of through the Local Waste Service Company with whom Berger Electric, Inc. has contracted.

GAS-LINE LOCATE PROCEDURE

Berger Electric, Inc. has adopted the following procedure, and all employees shall be trained and familiar of locates procedure.

1. All gas lines when located shall be potholed, found and clearly marked.

2. Gas lines over two (2) inches shall have supervisor present to oversee crossing.

3. Gas lines over two (2) inches shall be cleaned out so there is an eighteen (18) inch visual area on all sides of line. This allows for proper visibility to determine size and allows for passage of drill head

4. Visual area shall not be less than eighteen (18) inches; this allows for proper visibility to determine size and allows for passage of drill head.

5. Any gas line, which may get gouged, scraped, bumped hard or punctured, shall be reported immediately to supervisor and appropriate action taken to fix or repair problems.

6. Any gas line that may be damaged, shall be reported to local service company and where required Emergency 911.

SHORT SERVICE EMPLOYMENT PROGRAM

Purpose:

Berger Electric, Inc. has developed the Short Service Employee Program to help new employees to be properly trained and develop better understanding of work performed by. A Short Service employee is considered short service with less than 6 months experience in the same job type or with his/her present employer.

1. Upon hire, employee shall receive orientation training on Safety Policies and Procedures.

2. Upon hire, new employee shall receive the necessary safety training needed to work within Berger Electric, Inc. and oil field (i.e. H2S Safety, Respiratory and PPE. Equipment).

3. Upon completion of above orientation, employee is assigned to an experienced supervisor and crew.

4. New employee shall work closely with the supervisor and other employees to learn duties.

5. New employee will be evaluated as to tasks and knowledge on a weekly basis until supervisor and management feel the employee has been properly trained.

6. While in training, new employees are required to have affixed to hard hats, an (SSE) sticker allowing other persons to know and understand that person is new employee in training. Or may be required to wear different colored hard hats to distinguish new employee from experienced employees.

7. New employee also, where available will be instructed in routine maintenance and operations of the equipment with which they are exposed to on the job site and within shop or yard.

8. Supervisor and management shall consult on new employee progress and will make the determination as to employee hiring status.

9. New employee shall be evaluated and evaluation report kept until new employee is considered trained to perform duties with out supervisory attention.

Definition of Crews: Listed is what defines use of Short Service Policy

1. Single person crew cannot be an SSE.

2. Crew sizes of less than five shall have no more than one SSE.

3. Crews that have more than 20 percent SSE personnel shall only be permitted with written Variance Form, which serves as a mitigation plan, by the appropriate Manager or Supervisor.

The proposed crew make-up must be outlined in the Short Service Employee Form. Prior to the job mobilization, contractors will submit the completed SSE Form to the project coordinator, contractor contact or on-site supervisor for all jobs containing SSE personnel. If an SSE arrives on operator property for whom an SSE form has not been submitted, operator management may elect to send the SSE back to contractor's facility at the contractor's expense. Operator work owner or person in charge will determine approval status and retain the original form in project files.

Contractor must have in place some form of mentoring process, acceptable to the operator, designed to provide guidance and development for SSE personnel. A mentor can only be assigned one SSE per crew and the mentor must be onsite with the SSE to be able to monitor the SSE.

Berger Electric, Inc. shall also require that outside contractors follow the same procedures as full time employees.

NEW EMPLOYEE STATUS REPORT

Employee: _____ Date of Hire: _____

Date status reporting began: _____Competent Equipment Trainer: _____

Week Status Report: Date: _____ Equipment or Number: _____
Comments:_____
_____
_____

Week Status Report: Date: _____ Equipment or Number: _____
Comments:_____
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Week Status Report: Date: _____ Equipment or Number: _____
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Week Status Report: Date: _____ Equipment or Number: _____
Comments:_____
_____
_____

Week Status Report: Date: _____ Equipment or Number: _____
Comments:_____
_____
_____

Supervisor: _____ Date: _____

Management: _____ Date: _____

CADMIUM EXPOSURE PROGRAM

Berger Electric, Inc., in accordance with the OSHA adopted standards, which regulate occupational exposures to cadmium in general, industries. Berger Electric, Inc. has developed this program to reduce occupational and environmental exposure to cadmium by Employees.

PURPOSE: To develop work procedures where there is potential of disturbing cadmium containing materials and to identifying construction and maintenance activities, that may generate cadmium waste.

PERSONAL EXPOSURE: Berger Electric, Inc. shall make determinations of jobs where possible exposure to cadmium or cadmium-based materials shall make during cadmium abatement or clean up. Until an initial assessment has been performed for the identified job task, involved personnel shall presume exposures will exceed exposure levels as prescribed by OSHA. Initial exposure assessments shall be performed and records will be maintained of exposure levels.

REDUCTION OF CADMIUM EXPOSURE: Various methods are available to maintain cadmium personal exposure levels below the OSHA prescribed levels. . Personal protection will be used to reduce employee exposure when alternative controls cannot be implemented. Resulting from construction or demolition has the potential to meet the definition of "hazardous waste." The list below provides examples of typical building components that may be regulated when disposed. Because of their regulatory status, these items must be removed prior to demolition and managed for disposal or recycling.

1• *Thermostats*. Thermostats often contain mercury, an element that is regulated under the hazardous waste laws. ***Mercury Containing Items***.

1• *Batteries*. Batteries, other than alkaline variety, may contain heavy metals (such as silver, cadmium, and lead) and are regulated under the hazardous waste laws when disposed. ***Battery Disposal***.

2• *Removable equipment and consumables*. Cleaning and maintenance supplies (i.e., paint, toilet and glass cleaners, oils, etc.), as well as electronic equipment (i.e., computers, monitors, remote controls, cellular telephones, etc.) may be regulated as "hazardous waste" when disposed. ***Computers, Electronic Equipment, and Smoke Detectors***.

3• *Transformers*. Older transformers may be filled or contaminated with PCBs. Transformers must be tested prior to removal and disposal.

4• *Exit signs*. Exit signs may operate off batteries or radioactive sources (i.e., tritium). If battery operated, the batteries must be removed prior to demolition.

5• *Smoke detectors*. Smoke detectors contain toxic metals and are regulated under the hazardous waste laws when disposed. Some smoke detectors also contain a small amount of radioactivity. These items can not be disposed at a permitted municipal solid waste or construction and demolition landfill. ***Computers, Electronic Equipment, and Smoke Detectors***.

DEMOLITION CONSIDERATIONS: Prior to any demolition (partial or whole building) project: Remove potentially hazardous building components (i.e., switches/relays, thermostats, batteries, fluorescent lamps, ballasts, tritium exit lamps, smoke detectors, etc.),
TRAINING: All employees that may come into contact with cadmium containing materials shall receive training. This training shall include information pertaining to cadmium exposure. Employees shall receive this training with Hazard Communication training. Training shall include:

- Requirements under the cadmium standard.
- Specific nature of operations which could result in exposure to cadmium above the action level.
- Purpose and selection of personal protective equipment, including fitting and limitations of respiratory protection.
- Purpose and explanation of medical services.
- Information concerning health affects associated with extreme exposures to cadmium.
- Employee's right to access MSDS and Cadmium Standard for general review.

SIGNAGE: Berger Electric, Inc. shall provide the following warning sign at each area where employees may be exposed to cadmium removal above the permissible. The signs shall be maintained in a clean and readily visible condition. Additional signs will be used s required. WARNING, CADMIUM WORK AREA and NO SMOKING OR EATING

RECORD KEEPING: Berger Electric, Inc. shall maintain employee exposure records. The records shall include:

- Exposure Assessment-all monitoring and data used in conducting an assessment (i.e. date(s), number, duration, task, location, results sampling procedures).In addition, the type of respiratory protective device worn and environmental variables affecting measurements

- Medical Services-records shall contain employee medical history, medical examination results and results of biological monitoring. Records will be maintained at the Facility conducting medical monitoring.

- Medical Removal-all information pertaining to removal of an employee from a current exposure to cadmium. This information will include, date of each occasion the employee was removed as well as the corresponding date the employee returned, the cause of removal and statements explaining how the removal was handled.

- Objective Data for Monitoring Exemptions-information demonstrating a particular product, material, procedure, operation or activity where release of cadmium dust or fumes below the action levels

All records shall be made available upon request to the affected employees, former employees and their designated representatives.

SEATBELT SAFETY PROGRAM

To assure the safety of all personnel, seatbelts shall be worn by drivers and passengers in all vehicles owned, leased or rented by Berger Electric, Inc**.** at all times. This also applies to the operation of privately owned or other vehicles if used on-duty.

1. Berger Electric, Inc. personnel shall use the safety belts installed by the vehicle manufacturer properly adjusted and securely fastened when operating or riding in any vehicle so equipped if used on business.

2. Lap belts shall be properly secured in those vehicles equipped with automatic safety systems that require the lap portion of the belt to be manually secured.

3. The driver of the vehicle is responsible for insuring compliance by all occupants of the vehicle they are operating. Approved child safety restraints shall be used for all children of age, size or weight for which such restraints are prescribed by law.

4. No person shall operate a vehicle in which any safety belt in the drivers seating portion is inoperable.

5. No person shall modify, remove, deactivate or otherwise be transported in a vehicle which the safety restraint system has been altered except for vehicle maintenance and repair and not without the expressed authorization from the proper authority.

6. Personnel who discover an inoperable restraint system shall report the defect to the appropriate supervisor. Prompt action will be taken to replace or repair the system.

7. It is strongly recommended that safety belts be utilized by personnel and their families at all times in vehicles while in an off-duty capacity to further reduce the risk of death or injury.

8. If negligence or noncompliance with the requirements of this order is displayed, appropriate corrective or discipline action shall be initiated.

WALKING & WORKING SURFACES / LADDERS

GENERAL REQUIREMENTS

HOUSEKEEPING

Some of the most frequently overlooked general requirements involve housekeeping:
All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.

- The floor of every workroom shall be maintained in a clean and, so far as possible, a dry condition.
- Where wet processes are used, drainage shall be maintained and gratings, mats, or raised platforms shall be provided.
- Every floor, working place and passageway shall be kept free from protruding nails, splinters, holes, or loose boards.

AISLES AND PASSAGEWAYS

Aisles and passageways shall be kept clear and in good repair with no obstruction across or in aisles that could create a hazard.

- Permanent aisles and passageways shall be appropriately marked.
- Where mechanical handling equipment is used, aisles shall be sufficiently wide.
- Improper aisle widths coupled with poor housekeeping and vehicle traffic can cause injury to employees, damage the equipment and material, and can limit egress in emergencies.
- Covers and Guardrails

Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, and the like.

FLOOR LOADING PROTECTION

Load rating limits shall be marked on plates and conspicuously posted. It shall be unlawful to place, or cause, or permit to be placed, on any floor or roof of a building or other structure, a load greater than that for which such floor or roof is approved.

GUARDING FLOOR AND WALL OPENINGS AND HOLES

Floor openings and holes, wall openings and holes, and the open sides of platforms may create hazards. People may fall through the openings or over the sides to the level below. Objects, such as tools or parts, may fall through the holes and strike people or damage machinery on lower levels.

OSHA standards for guarding openings and holes use the following definitions:

Floor Hole - An opening measuring less than 12 inches but more than 1 inch in its least dimension, in any floor, platform, pavement or yard, through which materials but not persons may fall.

Floor opening - An opening measuring 12 inches or more in its least dimension, in any floor, platform, pavement, or yard, through which persons may fall.

Platform - A working space for persons, elevated above the surrounding floor or ground.

Wall hole - An opening less than 30 inches but more than 1 inch high, of unrestricted width, in any wall or partition.

Wall opening - An opening at least 30 inches high and 18 inches wide, in any wall or partition, through which persons may fall.

PROTECTION FOR FLOOR OPENINGS

Standard railings shall be provided on all exposed sides of a stairway opening, except at the stairway entrance. For infrequently used stairways, where traffic across the opening prevents the use of a fixed standard railing, the guard shall consist of a hinged floor opening cover of standard strength and construction along with removable standard railings on all exposed sides, except at the stairway entrance.

A "standard railing" consists of top rail, mid rail, and posts, and shall have a vertical height of 42 inches nominal from the upper surface of top rail to floor, platform, runway, or ramp level. Nominal height of mid rail is 21 inches.

A "standard toe board" is 4 inches nominal in vertical height, with not more than one quarter inch clearance above floor level. Floor openings may be covered rather than guarded with rails.

When the floor opening cover is removed, a temporary guardrail shall be in place, or an attendant shall be stationed at the opening to warn personnel.

Every floor hole into which persons can accidentally walk shall be guarded by either:

- A standard railing with toe board, or
- A floor hole covers of standard strength and construction.

While the cover is not in place, the floor hole shall be constantly attended by someone or shall be protected by a removable standard railing.

OPEN-SIDED FLOORS, PLATFORMS, AND RUNWAYS

One of the most frequently overlooked requirements in walking-working surfaces is the requirement that every open-sided floor or platform 4 feet or more above adjacent floor or ground level shall be guarded by a standard railing on all open sides, except where there is an

entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a toe board wherever, beneath the open sides:

- Persons can pass,
- There is moving machinery, or
- There is equipment with which falling materials could create a hazard.

Every runway shall be guarded by a standard railing, or the equivalent, on all sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toe board shall also be provided on each exposed side.
Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards shall be guarded with a standard railing and toe board.

STAIRWAY RAILINGS AND GUARDS

Every flight of stairs with four or more risers shall have standard stair railings or standard handrails as specified below. Stair width is measured clear of all obstructions except handrails.

- On stairways less than 44 inches wide having both sides enclosed, at least one handrail shall be affixed, preferably on the right side descending.
- On stairways less than 44 inches wide with one open side, at least one stair rail shall be affixed on the open side.
- On stairways less than 44 inches wide having both sides open, two stair rails shall be provided, one for each side.
- On stairways more than 44 inches wide, but less than 88 inches, one handrail shall be provided on each enclosed side and one stair rail on each open side.
- On stairways 88 inches or more in width, one handrail shall be provided on each enclosed side, one stair rail on each open side, and one intermediate stair rail placed approximately in the middle of the stairs.

A "standard stair railing" (stair rail) shall be of construction similar to a standard railing, but the vertical height shall be not more than 34 inches nor less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread.

A "standard handrail" consists of a lengthwise member mounted directly on a wall or partition by means of brackets attached to the lower side of the handrail in order to keep a smooth, unobstructed surface along the top and both sides of the handrail. They shall hold the rail 3 inches from the wall and be no more than 8 feet apart.

The height of handrails shall be no more than 34 inches or less than 30 inches from the upper surface of the handrail to the surface of the tread in line with the face of the riser or to the surface of the ramp.

Winding stairs shall have a handrail that is offset to prevent people from walking on any portion of the treads where the width is less than 6 inches.

FIXED INDUSTRIAL STAIRS

This section contains specifications for the safe design and construction of fixed general industrial stairs. This includes interior and exterior stairs around machinery, tanks, and other equipment, and stairs leading to or from floors, platforms or pits. This section does not apply to stairs used for fire exit purposes, to construction operations, to private residences, or to articulated stairs, such as may be installed on floating roof tanks, the angle of which changes with the rise and fall of the base support.
Fixed Industrial Stairs shall be provided for access to and from places of work where operations necessitate regular travel between levels. OSHA requirements include:

- Fixed industrial stairs shall be strong enough to carry five times the normal anticipated live load.
- At the very minimum, any fixed stairway shall be able to carry safely a moving concentrated load of 1000 pounds.
- All fixed stairways shall have a minimum width of 22 inches.
- Fixed stairs shall be installed at angles to the horizontal of between 30^{o} and 50^{o}.
- Vertical clearance above any stair tread to an overhead obstruction shall be at least 7 feet measured from the leading edge of the tread.

When inspecting the condition of stairways in your place of work, here are some items to watch out for.

- Handrails and Stair rails:
  - ⇒ Lack of handrail(s) and/or stairs
  - ⇒ Placement
  - ⇒ Smoothness of surface
  - ⇒ Strength
  - ⇒ Clearance between rail and wall or other object

- Treads:
  - ⇒ Strength
  - ⇒ Slip resistance
  - ⇒ Dimensions
  - ⇒ Evenness of surface
  - ⇒ Visibility of leading edge

- Improper/inadequate design, construction or location of staircases.
- Wet, slippery, or damaged walking or grasping surfaces.
- Improper illumination...There is no general OSHA standard for illumination levels. The Illuminating Engineering Society publications should be consulted for recommendations.
- Poor housekeeping

The length of a staircase is important. Long flights of steps without landings should be avoided whenever possible. The OSHA standards do not specify any exact number or placement of landings. The National Safety Council recommends landings at every tenth or twelfth tread. Intermediate landings and platforms on stairways shall be no less than the stair width and a minimum of 30 inches in length measured in the direction of travel.

PORTABLE LADDERS

The main hazard when using a ladder is falling. A poorly designed, maintained, or improperly used ladder may collapse under the load placed upon it and cause the employee to fall.

A ladder is an appliance consisting of two side rails joined at regular intervals by crosspieces on which a person may step to ascend or descend.

The various types of portable ladders include:

- Stepladder - A self-supporting portable ladder, non-adjustable in length, having flat steps and hinged back.
- Single Ladder - A non self-supporting portable ladder, nonadjustable in length, consisting of but one section. Its size is designed by overall length of the side rail.
- Extension Ladder - A non self-supporting portable ladder adjustable in length.

Requirements for portable ladders include:

- Portable stepladders longer than 20 feet shall not be used.
- Stepladders shall be equipped with a metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in open position.
- Single ladders longer than 30 feet shall not be used.
- Extension ladders longer than 60 feet shall not be used.
- Ladders shall be maintained in good condition at all times.
- Ladders shall be inspected frequently and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."

Proper use of ladders is essential in preventing accidents. Even a good ladder can be a serious safety hazard when used by workers in a dangerous way.

Safety precautions for ladder use:

- Ladders shall be placed with a secure footing, or they shall be lashed, or held in position.
- Ladders used to gain access to a roof or other area shall extend at least 3 feet above the point of support.
- The foot of a ladder shall, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the working

length of the ladder (the length along the ladder between the foot and the support). See figure above.

- The worker shall always *face* the ladder when climbing up or down.
- Short ladders shall not be spliced together to make long ladders.
- Ladders shall never be used in the horizontal position as scaffolds or work platforms.
- The top of a regular stepladder shall not be used as a step.
- Use both hands when climbing and descending ladders.
- Metal ladders shall never be used near electrical equipment.

FIXED LADDERS

A fixed ladder is a ladder permanently attached to a structure, building or equipment.

A point to remember is that fixed ladders, with a length of more than 20 feet to a maximum unbroken length of 30 feet shall be equipped with cages or a ladder safety device.

A "cage" is a guard that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder.

Cages shall extend a minimum of 42 inches above the top of a landing, unless other acceptable protection is provided.

Cages shall extend down the ladder to a point not less than 7 feet or more than 8 feet above the base of the ladder.

A ladder safety device is any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls and may incorporate such features as life belts, friction brakes, and sliding attachments.

Another feature of fixed ladders is the landing platform which provides a means of interrupting a free fall and serves as a resting place during long climbs.

When fixed ladders are used to ascend to heights exceeding 20 feet (except on chimneys), landing platforms shall be provided for each 30 feet of height or fraction thereof, when cages are used, except that, where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof.

Ladder safety devices may be used on tower, water tank, and chimney ladders over 20 feet in unbroken length in lieu of cage protection. No landing platform is required in these cases.

The preferred pitch of fixed ladders shall be considered to come in the range of 75 degrees and 90 degrees with the horizontal. Fixed ladders shall be considered to be substandard if they are installed within the pitch range of 60 and 75 degrees with the horizontal. Substandard fixed ladders are permitted only where it is found necessary to meet conditions of installation. This substandard pitch range shall be considered as a critical range to be avoided, if possible.

Ladders having a pitch in excess of 90 degrees with the horizontal are prohibited.
As with all ladders, fixed ladders shall be maintained in a safe condition and inspected regularly.

SAFETY REQUIREMENTS FOR SCAFFOLDING

This section establishes safety requirements for the construction, operation, maintenance, and use of scaffolds used in the maintenance of buildings and structures.

There are a number of different types of scaffolds available. No attempt will be made here to deal with every unit individually.

It is important, however, to note some of the general requirements which apply to all scaffolds, namely:

- The footing or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement. Unstable objects, such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks.
- Scaffolds and their components shall be capable of supporting at least *four times* the maximum intended load.
- Scaffolds shall be maintained in a safe condition and shall not be altered or moved horizontally while they are in use or occupied.
- Damaged or weakened scaffolds shall be immediately repaired and shall not be used until repairs have been completed.
- A safe means must be provided to gain access to the working platform level through the use of a ladder, ramp, etc.
- Overhead protection must be provided for personnel on a scaffold exposed to overhead hazards.
- Guardrails, midrails, and toe boards must be installed on all open sides and ends of platforms more than 10 feet above the ground or floor. Wire mesh must be installed between the toe board and the guardrail along the entire opening, where persons are required to work or pass under the scaffolds.
- Employees shall not work on scaffolds during storms or high winds or when covered with ice or snow.
- As noted earlier, there are a number of scaffold types, and 1910.28 should be reviewed carefully for special requirements that apply to each type.

MANUALLY PROPELLED MOBILE LADDER STANDS AND SCAFFOLDS

This section contains requirements for the design, construction, and use of mobile work platforms (including ladder stands but not including aerial ladders) and rolling (mobile) scaffolds (towers).

As in the previous section, there is a wide variety of materials and design possibilities involved, and no attempt will be made to discuss detailed design criteria at this time.

General requirements include:

All exposed surfaces of mobile ladder stands and scaffolds shall be free from sharp edges, burrs, or other safety hazards.

The maximum work height shall not exceed four times the minimum base dimension unless outriggers, guys or braces are added to provide stability.

This standard requires guardrails and toe boards for work levels 10 feet or more above the ground or floor.

DOCK BOARD SAFETY PROCEDURES

- Portable dock boards (bridge plates) shall be secured in position, either by being anchored or equipped with devices which will prevent their slipping.

- Movement of the dock board during material handling operations can result in forklifts overturning, or falling off the dock, often causing serious injury or death to the driver, and damage to equipment and material.

- A major contribution to accident experience comes from material handling. Handholds shall be provided on portable dock boards to permit safe handling when the dock board must be repositioned or relocated.

ARC FLASH ELECTRICAL

Electric hazards

Electricity-related hazards include electric shock and burns, arc-flash burns, arc-blast impacts, and falls.

Electric shock and burns: An electric shock occurs when electric current passes through your body. This can happen when you touch an energized part. If the electric current passes across the chest or head, you can be killed. At high voltages, severe burns can result.

Arc-flash burns: An electric arc flash can occur if a conductive object gets too close to a high-amp current source or by equipment failure (for instance, while opening or closing disconnects). The arc can heat the air to temperatures as high as 35,000 F, and vaporize metal in the equipment. The arc flash can cause severe skin burns by direct heat exposure and by igniting clothing.

Arc-blast impacts: The heating of the air and vaporization of metal creates a pressure wave that can damage hearing and cause memory loss (from concussion) and other injuries. Flying metal parts are also a hazard.

Falls: Electric shocks and arc blasts can cause falls, especially from ladders or unguarded scaffolding.

Electric Safety Principles

Plan every job: Decide on your approach and step-by-step procedures. Write down first-time procedures. Discuss hazards and procedures in a job briefing with your supervisor and other workers before starting a job. Your employer should already have or develop a permit system for working on live circuits, if a circuit must be worked live.

Identify the hazards: Do jobs hazard analysis (see fig. 1). Identify steps that could create electric shock or arc-flash hazards.

Minimize the hazards: De-energize the equipment or insulate or isolate exposed live parts so you cannot contact them. If this is impossible, get proper personal protective equipment (PPE) and tools.

Anticipate problems: If it can go wrong, it might. Make sure you have the right PPE and tools for the worst-case scenario.

Get training: Make sure you and everyone working with you is a qualified person with appropriate training for the job.

Identify the hazards: Do a job hazard analysis, Identify steps that could create electric shock or arc-flash hazards.

Minimize the hazards: De-energize the equipment or insulate or isolate exposed live parts so you cannot contact them. If this is impossible, get proper personal protective equipment (PPE) and tools.

Anticipate problems: If it can go wrong, it might. Make sure you have the right PPE and tools for the worst-case scenario.

Get training: Make sure you and everyone working with you is a qualified person with appropriate training for the job.

To De-Energize or Not to De-Energize

One of the most important decisions in planning an electric task is whether to de-energize. Whenever possible, live parts to which you might be exposed should be put into an **electrically safe work condition**, unless your employer can demonstrate that de-energizing creates more or worse hazards, or is not practical because of equipment design or operational limitations. If you need to work live to avoid interrupting life-support systems, deactivating emergency alarm systems, or shutting down ventilation equipment for hazardous locations, for instance. De-energizing would not be practical during testing of live electric circuits or work on circuits that are part of a continuous process that cannot be completely shut down.

De-Energizing

An Electrically Safe Work Condition

The most important principle of electric safety is, a**ssume electric circuits are energized unless you make sure they are not.** Test every circuit and conductor every time you work on them. The National Fire Protection Association lists six steps to ensure conditions for electrically safe work.

- Identify all sources of power to the equipment.
- Interrupt the load current, and then open the disconnecting devices for each power source.
- Where possible, visually verify that blades of disconnecting devices are fully open or that drawout-type circuit breakers are fully withdrawn.
- Apply lockout/tagout devices in accordance with a formal, written policy.
- Test each phase conductor or circuit part with an adequately rated voltage detector to verify that the equipment is de-energized. Check the voltage detector before and after each test to be sure it is working.
- Properly ground all possible sources of induced voltage and stored electric energy (such as, capacitors) before touching. If conductors or circuit parts that are being de-energized could contact other exposed conductors or circuit parts, apply ground-connecting devices rated for the available fault current.

The process of de-energizing is "live" work and can result in an arc flash due to equipment failure. When de-energizing, follow the procedures described below in "Working On or Near Live Circuits."

Lockout/tagout program: Establish a written lockout/tagout program and train employees in the program. The program should cover planning for locating and labeling energy sources, identifying employees at risk, how and by whom the equipment is de-energized, releasing of stored energy, verifying that the circuit is de-energized and can't be restarted, voltage testing, grounding requirements, shift changes, coordination with other jobs in progress, a procedure for keeping track of all involved personnel, applying and removing lockout/tagout devices, return to service, and temporary re-energizing for testing/positioning. Lockout/tagout procedures should be developed for each machine or piece of equipment that will require servicing.

Lockout/tagout application: Each person who could be exposed to electric energy must be involved in the lockout/tagout process.

- After de-energizing, each employee at risk should apply an individual lockout/tagout device to each source of electric energy. Pushbuttons or selector switches cannot be used as the only way to de-energize.
- A lockout device is a key or combination lock with a tag that can be attached to a disconnecting device to prevent the re-energizing of the equipment being worked on without removal of the lock. The lockout device should have a way of identifying whose lock it is. Individual lockout devices with your name and picture on them are preferred. You must be the only person who has the key or combination for a lockout device you install, and you should be the only person to remove the lock after all work has been completed.
- A tagout device is a tag and a way to attach it that can withstand at least 50 pounds of force. Tagout devices should be used alone only when it is not possible to install a lockout device.
- The tag used in conjunction with a lockout or tagout device must have a label prohibiting unauthorized operation of the disconnecting means or unauthorized removal of the device.
- Before beginning work, you must verify through testing that all energy sources have been de-energized.
- Electric lockout/tagout procedures should be coordinated with all other site procedures for controlling exposure to electric energy and other types of energy sources.

Individual qualified-employee control procedure: For minor servicing, maintenance, inspection, on plug-connected equipment, work may be done without attaching lockout/tagout devices if the plug is next to where you are working and is always easy to see, and you do not ever leave the equipment alone.

Complex lockout/tagout procedures: Special procedures are needed when there is more than one energy source, crew, craft, location, employer, way to disconnect, or lockout/tagout procedure - or work that lasts beyond one shift. In any of these cases, one qualified person should be in charge of the lockout/tagout procedure with full responsibility for ensuring all

energy sources are under lockout/tagout and to account for all people on the job. There should be a written plan addressing the specific details and naming the person in charge.

Removal of lockout/tagout devices: Lockout and tagout devices should be removed only by the person installing them. If work is not completed when the shift changes, workers arriving on shift should apply their locks before departing workers remove their locks.

Return to service: Once work is completed and lockout/tagout devices removed, tests and visual inspection must confirm that all tools, mechanical restraints, electric jumpers, shorts, and grounds have been removed. Only then is it safe to re-energize and return to service. Employees responsible for operating the equipment and needed to safely re-energize it should be out of the danger zone before equipment is re-energized.

Temporary release: If the job requiring lockout/tagout is interrupted for testing or positioning equipment, follow the same steps as in return to service (above).

Working On or Near Live Circuits

Working on live circuits means actually touching energized parts. Working near live circuits means working close enough to energized parts to pose a risk even though you make be working on de-energized parts. Common tasks where you need to work on or near live circuits include:

- Taking voltage measurements
- Opening and closing disconnects and breakers
- Racking breakers on and off the bus
- Removing panels and dead fronts
- Opening electric equipment doors for inspection.

There should be standard written procedures and training for these common tasks. For instance, when opening and closing disconnects, use the **left-hand rule** when possible (stand to the right side of the equipment and operate disconnect with your left hand). For other situations where you need to work on or near live circuits, your employer should institute a written live work permit system which must be authorized by a qualified supervisor.

Live-work permit system

A live work permit should, at a minimum, contain this information:

- A description of the circuit and equipment to be worked on and location
- The date and time covered by the permit
- Why live work will be done
- Results of shock hazard analysis and determination of shock protection boundaries
- Results of flash hazard analysis and determination of flash protection boundary
- PPE to be worn and description of safe work practices to be used
- Who will do the work and how unqualified persons will be kept away
- Evidence of completion of job briefing, including description of job-specific hazards.

Approach distances to exposed live parts

The National Fire Protection Association defines three approach distances for shock hazards and one for arc flash.

- The **limited approach boundary** is the closest distance an unqualified person can approach, unless accompanied by a qualified person.
- The **restricted approach boundary** is the closest distance to exposed live parts a qualified person can approach without proper PPE and tools. Inside this boundary, accidental movement can put a part of your body or conductive tools in contact with live parts or inside the prohibited approach boundary. To cross the restricted approach boundary, the qualified person must:

Have a documented plan that is approved by the manager responsible for the safety plan.

- Use PPE suitable for working near exposed live parts and rated for the voltage and energy level involved.
- Be certain that no part of the body enters the prohibited space.
- Minimize the risk from unintended movement, by keeping as much of the body as possible out of proper written work procedures and justifying the need to work that close.
- Do a written risk analysis, the restricted space and body parts in the restricted space should be protected.

The **prohibited approach boundary** is the minimum approach distance to exposed live parts to prevent flashover or arcing. Approaching any closer is comparable to making direct contact with a live part. To cross the prohibited approach boundary, the qualified person must:

(a) Have specified training to work on exposed live parts.
(b) Have a documented plan with
(d) Have (b) and (c) approved by the manager responsible for the safety plan.
(e) Use PPE appropriate for working near exposed live parts and rated for the voltage and energy level involved.

Arc flash: The flash protection boundary is the distance at which PPE is needed to prevent incurable burns (2nd degree or worse) if an arc flash occurs. (You still can get 1st or 2nd degree burns.) For systems of 600 volts and less, the flash protection boundary is 4 feet, based on an available bolted fault current of 50 kA (kiloamps) and a clearing time of 6 cycles (0.1 seconds) for the circuit breaker to act, or any combination of fault currents and clearing times not exceeding 300 kA cycles. For other fault currents and clearing times, *see* NFPA 70E.

Remember; when you have de-energized the parts you are going to work on, but are still inside the flash protection boundary for nearby live exposed parts: If the parts cannot be de-energized, you must use barriers such as insulated blankets to protect against accidental contact or you must wear proper PPE.

Proper Personal Protective Equipment

In addition to protecting parts of the body that may come into direct contact with electricity, it is important to protect against arc flash hazards. Arc flash is when a high amperage current arcs through the air to another surface, like lightning, causing heat and pressure waves and launching projectiles. All electrical systems are susceptible to arc flash, and so the National Electric Code recently adopted a standard requiring persons working on live systems to use protective clothing in addition to safety glasses and proper hand protection. The type of outfit required depends on the activity, as shown in the table below. OSHA requires all employees be trained in which situations require what level of personal protective equipment as part of their job function at the start of the job with annual retraining.

Once the hazard/risk category has been identified, check requirements for clothing and other PPE when working on or near energized equipment within the flash protection boundary. These PPE requirements protect against electric shock and incurable arc-flash burns. They do not protect against physical injuries from arc blasts.

Typical Protective Clothing Systems [based on NFPA 70E-2004 Table 130.7(C)(9a)&(11)]

Typical Activities (see NFPA 70E for additional activity listings)	**Clothing Description {Number of clothing layers in parenthesis}**
Circuit breaker operation below 240V or below 600V with enclosure doors closed. Working on live systems below 120V.	Non-melting, flammable materials (untreated cotton, wool, rayon, silk or blends of these materials) with a fabric weight of at least 4.5 oz/yd² {1}
Measuring voltages below 240V Working on live systems below 240V. Circuit breaker operation below 600V with enclosure doors open.	Fire resistant outfit (shirt and pants or coveralls) {1}
Measuring voltages above 240V and below 600V. Working on energized systems below 600V.	Cotton underwear (short sleeve shirt and briefs/shorts) PLUS fire-resistant outfit {2}
Unbolting safety shields for systems over 240V and under 600V or moving motor starters or circuit breakers (powered)	Cotton underwear PLUS two layers of fire-resistant outfits {3}
Activities on systems over 600V; see NFPA 70E for more information.	Cotton underwear PLUS fire resistant outfit PLUS flash suit {3+}

Approach boundaries to live parts for shock prevention

	Limited approach boundary			
Nominal system voltage range, phase to phase	**Exposed movable conductor**	**Exposed fixed-circuit part**	**Restricted approach boundary (allowing for accidental movement)**	**Prohibited approach boundary**
0 to 50 volts	Not specified	Not specified	Not specified	Not specified
51 to 300 volts	10 ft. 0 in.	3 ft. 6 in.	**Avoid contact**	Avoid contact

301 to 750 volts	10 ft. 0 in.	3 ft. 6 in.	1 ft. 0 in.	0 ft. 1 in.
751 to 15,000 volts	10 ft. 0 in.	5 ft. 0 in.	2 ft. 2 in.	0 ft. 7 in.

Hazard risk category classification (within flash protection boundary)

For low-voltage tasks (600 volts and below), this table applies only when there is an available short-circuit capacity of 25 kA or less, and when the fault clearing time is 0.03 seconds (2 cycles) or less. For 600-volt-class motor control centers a short circuit current capacity of 65 kA or less and fault-clearing time of 0.33 seconds (20 cycles) is allowed. For 600-volt-class switch gear, you need a short circuit current capacity of 65 kA or less and fault-clearing time of 1 second (60 cycles). For tasks not covered in this table and tasks involving equipment with larger short-circuit current capacities or longer fault-clearing times, a qualified person must conduct a flash hazard analysis (see section 2-1.3.3, Part II, NFPA 70E).

RIG AND LOCATION SITE GENERAL SAFETY

Rig locations offer unique hazards. Personnel must be aware of possible safety hazards that can be associated with work around drilling rigs, workover rigs, pumping units and other contractors working on location.

- Report immediately to the person in charge of rig or location. Sign is required on many locations; make sure that you are aware of these locations.
- Make sure location procedures are explained to you and if there are any circumstances that you should be aware of.
- Make sure that you are familiar with all emergency procedures, exit routes, and emergency reporting.
- Do not throw anything on locations (ie: garbage etc) and report any substances or debris seen on location to either person in charge or call lease operator.
- Follow all rules and regulations designed to prevent environmental hazards.
- While traveling on lease roads or County roads, make sure that posted speeds are followed. (County Roads 45 mph, Lease Roads 25 mph.)
- When working on location around other contractors, and or rigs, immediately report any unsafe acts or conditions to your supervisor or to the lease operator or person in charge if working around rigs. (i.e. escaping gas or oil or gas leaks, broken grading or guarding etc.)
- Participate in all toolbox or other safety meetings on location, if given by other contractors, and or rigs. Include all affected individuals to assure total communication.
- Stay off rig floor or derrick unless your job requires you be there.
- Make sure that you have permission to approach rig floor or work over rig floor or operator stand before starting any work.
- Do not operate contractor's equipment unless specifically authorized to do so.
- Wear all appropriate PPE (personal protective equipment) on location while performing job.
- Do not stand near pressurized lines or valves.
- When working around energized equipment make sure that Lockout/Tagout procedures are followed.
- Never perform work while the rig crew is assembling or dismantling the rig, making connections or pulling pipe.

Equipment Operation

Oil field equipment may be similar in appearance, but they have their own operating characteristics and associated hazards. Equipment age, manufacturer, field modifications, controls and power sources will affect the safety of using oilfield equipment.

Only qualified personnel who have been instructed and trained in the equipment's safe and proper use, are allowed to operate equipment. Operators (i.e: rig operator, driller, supervisors and trained equipment operators) will be responsible for the inspection of equipment before use. If the equipment becomes defective, notify lease operator or main office at once.

Qualified operators shall know and understand the limitations of equipment in use. Do not exceed the limitations of equipment. Do not use equipment for any operation other than what it is intended to be used for.

Use of Tools

- Always use the proper tool for the work to be performed.
- Follow manufactures' instructions and/or safe work practices when utilizing hand tools.
- Always inspect hand tools prior to use and do not use broken or damaged tools.
- Do not, under any circumstances, ***ALTER*** tools from the manufactures' specifications.
- Use explosion proof and non-sparking tools/equipment and extension cords where potentially explosive atmospheres may exist.
- Make sure that electrical hand tools are properly insulated and grounded. Check cords for cuts, abrasions prior to use of tool.
- Portable power tools, which require guards shall have guards in place and not removed.
- When working in an elevated position make sure that tools are secured and cannot fall or slip off flat surfaces, secure tools with safety lines.
- Long handled tools, such as shovels, crowbars, chain tongs or other long handled tools are in racks or some how secured not just left on the ground, left leaning in corners or against walls.
- Cutting tools when kept sharp are safer to use than dull cutting tools. Use proper cutting tool for job to be performed. ***AVOID use of Pocketknives.***
- When using hammers, sledge or other driving tools, use a tool holder for the use of chisels, bar or other tool/equipment being struck.
- Make sure that other employees' are not in the area and clear before using striking tools.
- Check to make sure those clearances overhead and behind are clear before using striking tools.
- Ensure that fixed or portable grinders have protective shields and tool rests where required. That tool rests are properly adjusted to wheel on pedestal grinder is at 1/8 inch clearance from stone or wire brush, also make sure that if equipped with peripheral guard must be adjusted again at 1/8 inch clearance of stone or wire wheel. Portable grinder's blades must be changed out when disc id within 1 inch of secure nut.
- When operating grinders or any spark producing tools, proper eye protection shall be worn.
- Maintain ladders in good condition and inspect prior to each use. Remove defective ladders, and tag them to be repaired or replaced.
- Never use a ladder as a scaffold member or for any purpose other than for which it is intended.
- Do not use cheaters or extensions on wrench handles to break out or make up connections. If use of the largest wrench available has not worked to break connection, use of cheater or extension rod must fit the full length of the wrench handle so as to protect wrench from damage and so that it will not slip off handle.
- Cheater pipes and cheater bars can only be used as a last resort to break connections.
- Never step on, jump on or use personnel on wrenches to break connections when additional force is needed.

- Do not use air line hose for cleaning or blowing particles off work areas, clothing, hair or face and skin. When using air for projects proper eye protection shall be used.
- Air hose shall be equipped with a regulator to reduce the air pressure to less than 30 psig.

Material Handling/Lifting

- Failure to lift properly may result in serious back injuries. Anytime you find yourself doing one of the following:
- Heavy lifting-especially repetitive lifting over long period of time.
- Twisting at the waist while lifting or holding a heavy load.
- Reaching and lifting-over your head, across a work bench, across truck beds or out of a back of truck.
- Lifting or carrying objects with awkward or oddly shaped.
- Working in an awkward and/or uncomfortable position such as kneeling, squatting or bending over for long periods of time.
- Sitting or standing to long in one position.

Reduction of Back Strain

- Never try to lift more than you feel you can handle safely. Consider size, shape and weight of material.
- Always ask for help when needed.
- Avoid lifting and bending whenever possible.
- Check intended route of travel before making lift.
- Place objects off the floor for easier handling.
- Raise or lower shelves-the best height for lifting is between your shoulders and your waist. Put heavier objects on shelves at waist level.
- Use mechanical devices, such as cranes, hoists, lift tables and other lift assist devices whenever possible.

Lifting Procedure

- Take a balanced stance with your feet about shoulder-width apart. One foot can be behind the object and the other next to object.
- Squat down bending knees keeping back straight, keep heels on the floor, get close to object and lift using leg muscles, do not jerk load.
- Use your palms (not just your fingers) to get a secure grip on object.
- Once object has been hoisted, step into the direction to which you are going to carry load, do not cross feet or twist at the waist.
- When setting the load down, reverse the steps for picking materials.

Fall Protection

Falls from elevated work places cause serious injuries and fatalities. Fall protection shall be used at anytime employees are working at a height of six (6) feet or more. The employer shall provide all fall protection equipment, for employee use.

Types of Fall Protection Systems

Climbing Systems:

- This system (such as a ladder safety device) helps prevent the worker from falling, while climbing.

Positioning System:

- This system (such as the belt and straps used by a derrick hand in the crow's nest) help prevent falls holding the worker in place.

Fall-Arrest System:

- This system catches a worker if he has fallen.
- Fall-arrest systems use the following equipment:
  - ✓ An anchorage point.
  - ✓ Body harness
  - ✓ Lifelines
  - ✓ Lanyards

General Fall Protection Guidelines

- Lanyards shall be secured to an anchorage above the work area.
- Lanyards shall be secured to an anchorage capable of holding the fall arrest force up to 400 pounds.
- Lanyards should be secured to reduce the chance of falling into obstacles or objects.
- Lanyards shall be secured to prevent a free fall greater than six (6) feet. Free fall can be limited by the following:
  - ✓ Using a shorter lanyard.
  - ✓ Reducing the slack in the lanyard by securing it to a higher anchorage point.

- Body harness shall fit snugly. Use of a body belts are not allowed.
- Body harnesses attach, in the back, at shoulder level, to the lanyard.

Rigging Safety

- Do not tie knots in sling chains, rope slings, or wire cables to shorten.
- Do not place bolts or other material between links of chain to shorten or splice chain.
- Do not exceed the hoist load rating and check the general condition before using the chain, wire cable, or rope slings.
- Do not lift or hoist any object of unknown weight.
- Check the certification tag on each chain, sling or wire rope for maximum lifting capability prior to using.
- Inspect all rigging equipment before each use. Immediately discard defective lifting equipment.
- Avoid sharp edges, sharp bends and protect slings from abrasions.

- Set loads down on proper blocking-never directly on a sling.
- Attach cable clips properly. The saddle should be on the load cable, the U-bolt on the dead end.
- Never stand or walk under a suspended load.
- Do not leave suspended loads unattended at any time. Use tag lines of sufficient length to control the lift.
- Personnel must be trained in the proper use of hand signals when working with rigging and hoisting.

General Housekeeping

- Housekeeping is the responsibility of every employee.
- Keep work areas free from spills (i.e., oils, chemicals, dirt, etc).
- Always keep openings covered or place guards or barricades around openings.
- Dispose of waste in the proper designated containers. If no container is available take waste with you and dispose in shop or local dump ground facility.
- Visually inspect the work area before you start work. Make sure area is clean and no obstruction to insure a safe work area.
- Secure and mark any tripping hazards, such as cords, hoses, rocks, piles of gravel and holes any thing that would cause trips in the work area.
- Use caution on icy walkways and working surfaces. Keep hands free and out of pockets. Use railings when and where available.

EXCAVATION & TRENCHING SAFETY

The purpose of policy is to comply with the OSHA standard guidelines for the protection of all employees working in and around excavations and trenches.

This Excavation and Trenching Safety Program has been developed to protect employees from safety hazards that may be encountered during work in trenches and excavations. Excavation and Trenching Program is intended to assure that:

- Employees who perform work in excavations are aware of their responsibilities and know how to perform the work safely.
- Has appointed one or more individuals within Berger Electric, Inc. to assure compliance with the requirements of this program.
- The responsibilities of Supervisor and Safety Coordinator and workers are clearly detailed.
- All persons involved in excavation and trenching work have received appropriate training in the safe work practices that must be followed when performing this type of work.

Program applies to all of work locations that are controlled by where an employee or subcontract personnel may be occupationally exposed to excavations and trenches.

Compliance is mandatory to ensure employee protection when working in or around excavations. The programs in this manual on confined space, hazard communication, lockout/tagout, respiratory protection, and any other safety programs or procedures deemed essential for employee protection, are to be used in conjunction with this program.

RESPONSIBILITIES

It is the responsibility of management and each Site Supervisor to implement and will maintain the procedures and steps set forth in this program. Each employee involved with excavation and trenching work is responsible to comply with all applicable safety procedures and requirements of this program in administering the Excavation Safety Program.

- Monitor the overall effectiveness of the program.
- Provide atmospheric testing and equipment selection as needed.
- Provide personal protective equipment as needed.
- Provide protective systems as needed.
- Provide training to affected employees and supervisors.
- Provide technical assistance as needed.
- Preview and update the program on at least an annual basis, or as needed.

The Safety Coordinator or Supervisor acts as the competent person for in reference to this program, and must assure that:

- The procedures described in this program are followed.

Employees entering excavations or trenches are properly trained and equipped to perform their duties safely.

- All required inspections, tests, and record keeping functions have been performed.

DEFINITIONS

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

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

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

DURATION OF EXPOSURE - The longer an excavation is open, the longer the other factors have to work on causing it to collapse.

EXCAVATION - Any man-made cut, trench, or depression in an earth surface, formed by earth removal.

HAZARDOUS ATMOSPHERE - An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

PROTECTIVE SYSTEM - A method of protecting employees from cave-in's from materials which could fall or roll from an excavation or from a collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide necessary protection.

SHIELD - A structure that is capable of withstanding the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Shields can be pre-manufactured or job-built in accordance with 1926.652(c) (3) or (c) (4). Shields are also referred to as "trench boxes" or "trench shields."

SLOPING - A method of protecting workers from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences such as soil type, length of exposure, and application of surcharge loads.

SURCHARGE LOADS - Generated by the weight of anything in proximity to the excavation, push starts for a cave-in (anything up top pushing down). Common surcharge loads:

- Weight of spoil pile
- Weight of nearby buildings, poles, pavement, or other structural objects.
- Weight of material and equipment

TRENCH - A narrow excavation below the surface of the ground, less than 15 feet wide, with a depth no greater than the width.

UNDERMINING - Undermining can be caused by such things as leaking, leaching, caving or over-digging. Undermined walls can be very dangerous

VIBRATION - A force present on construction sites and must be considered. The vibrations caused by backhoes, dump trucks, compactors and traffic on job sites can be substantial.

TRAINING

- All personnel involved in trenching or excavation work shall be trained in the requirements of this program with assistance from the appropriate supervisors.
- Training shall be performed before employees are assigned duties in excavations.
- Retraining will be performed when work site inspections indicate that an employee does not have the necessary knowledge or skills to safely work in or around excavations, or when changes to this program are made.
- Training records will be maintained by Berger Electric, Inc. and shall include:

    1. Date of the training program;
    2. Name(s) of the instructor(s) who conducted the training;
    3. A copy of the written material presented; and
    4. Name(s) of the employee(s) who received the training.

- The training provided to all personnel who perform work in excavations shall include:
- The work practices that must be followed during excavating or working in excavations.
- The use of personal protective equipment that will typically be required during work in excavations, including but not limited to safety shoes, hardhats, and fall protection devices.
- Procedures to be followed if a hazardous atmosphere exists or could reasonably be expected to develop during work in an excavation.
- The OSHA Excavation Standard, 29 CFR 1926, Subpart P.
- Emergency and non-entry rescue methods, and the procedure for calling rescue services.
- Berger Electric, Inc. policy on reporting incidents that, cause injury to employees.

The Safety Coordinator and Supervisors shall receive the training detailed in this program as well as training on the requirements detailed in the OSHA Excavation Standard.

The Program Manager shall:

- Coordinate, actively participate in, and document the training of all employees affected by this program.
- Ensure on a daily basis, or more often as detailed in this program, that worksite conditions are safe for employees to work in excavations.
- Determine the means of protection that will be used for each excavation project.
- Ensure, if required, that the design of a protective system has been completed and approved by a registered professional engineer before work begins in an excavation.

Make available a copy of this program and the OSHA Excavation Standard to any employee who requests it.

EXCAVATION REQUIREMENTS

- Utilities and Pre-Work Site Inspection
- Prior to excavation, the site shall be thoroughly inspected by ***Responsible Person*** to determine if special safety measures must be taken.
- Surface Encumbrances
- All equipment, materials, supplies, permanent installations (i.e., buildings or roadways), trees, brush, boulders, and other objects at the surface that could present a hazard to employees working in the excavation shall be removed or supported as necessary to protect employees.
- Underground Installations

The location of sewer, telephone, fuel, electric, water, or any other underground installations or wires that may be encountered during excavation work shall be determined and marked prior to opening an excavation. Arrangements shall be made as necessary by with the appropriate utility entity for the protection, removal, shutdown, or relocation of underground installations.

If it is not possible to establish the exact location of these installations, the work may proceed with caution if detection equipment or other safe and acceptable means are used to locate the utility.

Excavation shall be done in a manner that does not endanger the underground installations or the employees engaged in the work. Utilities left in place shall be protected by barricades, shoring, suspension, or other means as necessary to protect employees.

Barricades, walkways, lighting, and posting shall be provided as necessary for the protection of the public prior to the start of excavation operations.

1. Guardrails, fences, or barricades shall be provided on excavations adjacent to walkways, driveways, and other pedestrian or vehicle thoroughfares. Warning lights or other illumination shall be Berger Electric, Inc. maintained as necessary for the safety of the public and employees from sunset to sunrise.
2. Wells, holes, pits, shafts, and all similar hazardous excavations shall be effectively barricaded or covered and posted as necessary to prevent unauthorized access. All temporary excavations of this type shall be backfilled as soon as possible.

3. Walkways or bridges protected by standard guardrails shall be provided where employees and the general public are permitted to cross over excavations. Where workers in the excavation may pass under these walkways or bridges, a standard guardrail and toeboard shall be used to prevent the hazard of falling objects.

Stairs, ladders, or ramps shall be provided at excavation sites where employees are required to enter trench excavations over four (4) feet deep. The maximum distance of lateral travel (along the length of the trench) necessary to reach the means of egress shall not exceed 25 feet.
Structural Ramps

1. Structural ramps used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a person qualified in structural design, and shall be constructed in accordance with the design.
2. Ramps and runways constructed of two or more structural members shall have the structural members connected together to prevent movement or displacement.
3. Structural members used for ramps and runways shall be of uniform thickness.
4. Cleats or other appropriate means used to connect runway structural members shall be attached to the bottom of the runway or shall be attached in a manner to prevent tripping.
5. Structural ramps used in place of steps shall be provided with cleats or other surface treatments on the top surface to prevent slipping.

Ladders

1. When portable ladders are used, the ladder side rails shall extend a minimum of three (3) feet above the upper surface of the excavation.
2. Ladders shall have nonconductive side rails if work will be performed near exposed energized equipment or systems.
3. Two or more ladders, or a double cleated ladder, will be provided where 25 or more employees will be conducting work in an excavation where ladders serve as the primary means of egress, or where ladders serve two-way traffic.
4. Ladders will be inspected prior to use for signs of damage or defects. Damaged ladders will be removed from service and marked with “Do Not Use” until repaired.
5. Ladders shall be used only on stable and level surfaces unless secured. Ladders placed in any location where they can be displaced by workplace activities or traffic shall be secured, or barricades shall be used to keep these activities away from the ladders.
6. Non self-supporting ladders shall be positioned so that the foot of the ladder is one-quarter of the working length away from the support.
7. Employees are not permitted to carry any object or load while on a ladder that could cause them to lose their balance and fall.

Employees exposed to vehicular traffic shall be provided with, and shall wear warning vests or other suitable garments marked with or made of reflectorized or high-visibility material. Warning vests worn by flagmen shall be red or orange, and shall be reflectorized material if worn during night work. Emergency lighting, such as spotlights or portable lights, shall be provided as needed to perform work safely.

No employee is permitted underneath loads being handled by lifting or digging equipment. Employees are required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may be in the cabs of vehicles being loaded or unloaded when the vehicles provide adequate protection for the operator during loading and unloading operations.

Warning System for Mobile Equipment

A warning system shall be used when mobile equipment is operated adjacent to the edge of an excavation if the operator does not have a clear and direct view of the edge of the excavation. The warning system shall consist of barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.

Hazardous Atmospheres

Responsible Person will test the atmosphere in excavations over four (4) feet deep if a hazardous atmosphere exists or could reasonably be expected to exist. A hazardous atmosphere could be expected, for example, in excavations in landfill areas, areas where hazardous substances are stored nearby, or near areas containing gas pipelines.

1. Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or forced ventilation of the workspace.
2. Forced ventilation or other effective means shall be used to prevent employee exposure to an atmosphere containing a flammable gas in excess of ten (10) percent of the lower flammability limit of the gas.
3. When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, continuous air monitoring will be performed by Responsible Person. The device used for atmospheric monitoring shall be equipped with an audible and visual alarm.
4. Atmospheric testing will be performed using a properly calibrated direct reading gas monitor. Direct reading gas detector tubes or other acceptable means may also be used to test potentially toxic atmospheres.
5. Each atmospheric testing instrument will be field checked immediately prior to use to ensure that it is operating properly.
6. Each atmospheric testing instrument shall be calibrated by Responsible Person on a schedule and in the manner recommended by the manufacturer. In addition:

    - Any atmospheric testing instrument that has not been used within 30 days shall be recalibrated prior to use.

    - Each atmospheric testing instrument shall be calibrated at least every six (6) months.

Personal Protective Equipment

1. All employees working in trenches or excavations shall wear approved hardhats and steel-toed shoes or boots.

2. Employees exposed to flying fragments, dust or other materials produced by drilling, sawing, sanding, grinding, and similar operations shall wear approved safety glasses with side shields.
3. Employees performing welding, cutting, or brazing operations, or are exposed to the hazards produced by these tasks, shall wear approved spectacles or a welding faceshield or helmet.

4. Employees entering bell-bottom pier holes or other similar deep and confined footing excavations shall wear a harness with a lifeline securely attached to it. The lifeline shall be separate from any line used to handle materials and shall be individually attended at all times while the employee wearing the lifeline is in the excavation.

5. Employees shall wear, approved gloves or other suitable hand protection.

6. Employees using or working in the immediate vicinity of hammer drills, masonry saws, jackhammers, or similar high-noise producing equipment shall wear suitable hearing protection.

7. Each employee working at the edge of an excavation six (6) feet or more deep shall be protected from falling. Fall protection shall include guardrail systems, fences, barricades, covers, or a tie-back system meeting OSHA requirements.

8. Emergency rescue equipment, such as breathing apparatus, a safety harness and line, and a basket stretcher, shall be readily available where hazardous atmospheric conditions exist or may develop during work in an excavation. This equipment shall be attended when in use. Only personnel who have received approved training and have appropriate equipment shall attempt retrieval that would require entry into a hazardous atmosphere. If entry into a known hazardous atmosphere must be performed, the Responsible Person shall be given advance notice so that the hazards can be evaluated and rescue personnel placed on standby if necessary.

Walkways and Guardrails

Walkways shall be provided where employees or equipment are permitted to cross over excavations. Guardrails shall be provided where walkways, accessible only to on-site project personnel, are six (6) feet or more above lower levels.

Protection from Water Accumulation Hazards

1. Employees are not permitted to work in excavations that contain or are accumulating water unless precautions have been taken to protect them from the hazards posed by

water accumulation. Precautions may include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of safety harnesses and lifelines.

2. If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operation shall be monitored by a person trained in the use of that equipment.

3. If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation. Precautions shall also be taken to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains shall be re-inspected by ***Responsible Person*** after each rain incident to determine if additional precautions, such as special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of safety harnesses and lifelines, should be used.

4. ***Responsible Person*** shall inform affected workers of the precautions or procedures that are to be followed if water accumulates or is accumulating in an excavation.

Stability of Adjacent Structures

If the excavation work could affect the stability of adjoining buildings, walls, sidewalks, or other structures.

1. Support systems (such as shoring, bracing, or underpinning) shall be used to assure the stability of structures and the protection of employees where excavation operations could affect the stability of adjoining buildings, walls, or other structures.

2. Sidewalks, pavements, and appurtenant structures shall not be undermined unless a support system or other method of protection is provided to protect employees from the possible collapse of such structures.

3. Where review or approval of a support system by a registered professional engineer is required, ***Responsible Person*** shall secure this review and approval in writing before the work begins.

4. Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted, except when:

    - a support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure;
    - the excavation is in stable rock;

- a registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity; or
- a registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.

Protection from Falling Objects and Loose Rocks or Soil

Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavation face. Such protection shall consist of:

- scaling to remove loose material; installation of protective barricades, such as wire mesh or timber, at appropriate intervals on the face of the slope to stop and contain falling material; or
- benching sufficient to contain falling material.

Excavation personnel shall not be permitted to work above one another where the danger of falling rock or earth exists.

Employees shall be protected from excavated materials, equipment, or other materials that could pose a hazard by falling or rolling into excavations.

Protection shall be provided by keeping such materials or equipment at least two (2) feet from the edge of excavations, by use of restraining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.

Materials and equipment may, as determined by ***Responsible Person*** need to be stored further than two (2) feet from the edge of the excavation if a hazardous loading condition is created on the face of the excavation.

Materials piled, grouped, or stacked near the edge of an excavation must be stable and self-supporting.

Inspections

The ***Responsible Person*** shall conduct daily inspections of excavations, adjacent areas, and protective systems for evidence of a situation that could result in possible cave-ins, failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard-increasing occurrence. These inspections are only required when the trench will be or is occupied by employees.

Where the ***Responsible Person*** finds evidence of a situation that could result in a possible cave-in, failure of protective systems, hazardous atmosphere, or other hazardous conditions, exposed employees shall be removed from the hazardous area until precautions have been taken to assure their safety.

Responsible Person shall maintain a written log of all inspections conducted. This log shall include the date, work site location, results of the inspection, and a summary of any action taken to correct existing hazards.

PROTECTIVE SYSTEM REQUIREMENTS

Protection of Employees

Employees in an excavation shall be protected from cave-ins by using either an adequate sloping and benching system or an adequate support or protective system. The only exceptions are:

- excavations made entirely in stable rock; or
- excavations less than five (5) feet in depth where examination of the ground by ***Responsible Person*** provides no indication of a potential cave-in.

Protective systems shall be capable of resisting all loads that could reasonably be expected to be applied to the system.

Design of Sloping and Benching Systems

The slope and configuration of sloping and benching systems shall be selected and constructed by ***Responsible Person*** in accordance with the following options:

Where review or approval of a support system by a registered professional engineer is required, ***Responsible Person*** shall secure this review and approval in writing before the work begins.

- Excavations shall be sloped at an angle no steeper than one and one-half (1 ½) horizontal to one (1) vertical (34 degrees measured from the horizontal), unless one of the options listed below is used.

- Slopes shall be properly excavated depending on soil type as shown in 29 CFR 1926, Subpart P and Appendix B.

Determination of slopes and configurations using 29 CFR 1926, Subpart P, Appendices A and B.

The maximum allowable slopes and allowable configurations for sloping and benching systems shall meet the requirements set forth in these appendices.

The design of sloping or benching systems may be selected from, and shall be constructed in accordance with, other tabulated data, such as tables and charts. The tabulated data used must be in written form and include the following:

- Identification of the factors that affect the selection of a sloping or benching system.
- Identification of the limits of the use of the data, including the maximum height and angle of the slopes determined to be safe.
- Other information needed by the user to make correct selection of a protective system.

- At least one copy of the tabulated data that identifies the registered professional engineer who approved the data shall be maintained by Berger Electric, Inc. at the jobsite during construction of the protective system.
- After that time, the data may be stored off the jobsite, and shall be maintained by the companies **Responsible *Person.***

Design by a registered professional engineer.

Sloping or benching systems designed in a manner other than those described in the preceding three options shall be approved by a registered professional engineer. Designs shall be in written form and shall include at least the following information:

- the maximum height and angle of the slopes that were determined to be safe for a particular project; and

- the identity of the registered professional engineers who approved the design.

At least one copy of the design shall be maintained by Berger Electric, Inc. at the jobsite while the slope is being constructed. After that time, the design may be stored off the jobsite, and shall be maintained by the companies ***Responsible Person***.

Design of Support, Shield, and Other Protective Systems the design of support systems, shield systems, and other protective systems shall be selected and constructed by ***Responsible Person*** in accordance with the following requirements:

Designs using 29 CFR 1926, Subpart P, Appendices A, C and D

- Timber shoring in trenches shall be designed in accordance with the requirements of the OSHA guidelines.
- Aluminum hydraulic shoring shall be designed in accordance with the manufacturer's tabulated data or the requirements of the OSHA guidelines.

Designs using manufacturer's tabulated data

- Support systems, shield systems, and other protective systems designed from manufacturer's tabulated data shall be constructed and used in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer.

- Deviation from the specifications, recommendations, and limitations issued or made by the manufacturer shall be allowed only after the manufacturer issues specific written approval.

- Manufacturer's specifications, recommendations, and limitations, as well as the manufacturer's written approval to deviate from the specifications, recommendations, and limitations, shall be kept in written form at the jobsite during construction of the

protective system(s). After that time, the information may be stored off the jobsite, and shall be maintained by the companies ***Responsible Person***.

Designs using other tabulated data

Designs of support systems, shield systems, and other protective systems shall be selected from and constructed in accordance with tabulated data, such as tables and charts.

- The tabulated data shall be in written form and shall include all of the following:
  i.identification of the factors that affect the selection of a protective system drawn from such data;
  ii.identification of the limits of the use of such data; and
  iii. Information needed by the user to make a correct selection of a protective system from the data.

- At least one written copy of the tabulated data, which identifies the registered professional engineer who approved the data, shall be maintained by Berger Electric, Inc. at the jobsite during construction of the protective system. After that time, the data may be stored off the jobsite, and shall be maintained by ***Responsible Person***.

Design by a registered professional engineer

Support systems, shield systems, and other protective systems designed in a manner other than the preceding three options shall be approved by a registered professional engineer.

- Designs shall be in written form and shall include:

  i.a plan indicating the sizes, types, and configurations of the materials to be used in the protective system; and
  ii.the identity of the registered professional engineer who approved the design.

- At least one copy of the design shall be maintained by at the jobsite during construction of the protective system. After that time, the design may be stored off the jobsite, and shall be maintained by ***Responsible Person***.

Materials and Equipment

- Materials and equipment used for protective systems shall be free from damage or defects that might affect their proper function.

- Manufactured materials and equipment used for protective systems shall be used and maintained by Berger Electric, Inc. in accordance with the recommendations of the manufacturer, and in a manner that will prevent employee exposure to hazards.

When materials or equipment used for protective systems are damaged, ***Responsible Person*** shall ensure that these systems are examined by a competent person to evaluate suitability for

continued use. If the competent person cannot assure that the material or equipment is able to support the intended loads or is otherwise suitable for safe use, then such material or equipment shall be removed from service. The material or equipment shall then be evaluated and approved by a registered professional engineer before being returned to service.

Installation and Removal of Supports
General

- Members of support systems shall be securely connected together to prevent sliding, falling, kickouts, or other potential hazards.
- Support systems shall be installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by members of the support systems.
- Individual members of the support systems shall not be subjected to loads exceeding those that they were designed to support.
- Before temporary removal of individual support members begins, additional precautions shall be taken as directed by Responsible Person to ensure the safety of employees (i.e., the installation of other structural members to carry the loads imposed on the support system).
- Removal of support systems shall begin at, and progress from, the bottom of the excavation. Members shall be released slowly. If there is any indication of possible failure of the remaining members of the structure or possible cave-in of the sides of the excavation, the work shall be halted until it can be examined by Responsible Person.
- Backfilling shall progress in conjunction with the removal of support systems from excavations.

Additional Requirements

- Excavation of material to a level no greater than two (2) feet below the bottom of the members of a support system is allowed, but only if the system is designed to resist the forces calculated for the full depth of the trench. There shall be no indications of a possible loss of soil from behind or below the bottom of the support system while the trench is open.
- Installation of a support system shall be closely coordinated with the excavation of trenches.

Sloping and Benching Systems Employees are not permitted to work above other employees in the faces of sloped or benched systems, except when employees at lower levels are protected from the hazards of falling, rolling, or sliding material or equipment.

General

- Shield systems shall not be subjected to loads that are greater than those they are designed to withstand.

- Shields shall be installed in a manner that will restrict lateral or other hazardous movement of the shield and could occur during cave-in or unexpected soil movement.
- Employees shall be protected from the hazard of cave-ins when entering or exiting the areas protected by shields.
- Employees are not permitted in trenches when shields are being installed, removed, or moved vertically.

Additional Requirements

- Excavation of material to a level no greater than two (2) feet below the bottom of the shield system is allowed, but only if the system is designed to resist the forces calculated for the full depth of the trench.
- There shall be no indications of a possible loss of soil from behind or below the bottom of the shield system while the trench is open.

ACCIDENT INVESTIGATIONS
All incidents that result in injury to workers, as well as near misses, regardless of their nature, shall be reported and investigated. Investigations shall be conducted by ***Responsible Person*** as soon after an incident as possible to identify the cause and means of prevention to eliminate the risk of re-occurrence.

In the event of such an incident, Excavation Safety Program shall be reevaluated by ***Responsible Person*** to determine if additional practices, procedures, or training are necessary to prevent similar future incidents.

CHANGES TO PROGRAM
Any changes to Excavation Safety Program shall be approved by ***Responsible Person***, and shall be reviewed by a qualified person as the job progresses to determine additional practices, procedures, or training needs necessary to prevent injuries. Affected employees shall be notified of procedure changes, and trained if necessary. A copy of this program shall be maintained at the jobsite by ***Responsible Person***.

A competent person is required to:

- Have a complete understanding of the applicable safety standards and any other data provided.
- Identify the proper locations of underground installations or utilities, and ensure that the proper utility companies have been contacted.
- Conduct and document soil classification tests and reclassify soil after any condition changes.
- Determine adequate protective systems (sloping, shoring, or shielding systems) for employee protection.
- Conduct and document all air monitoring for potential hazardous atmospheres.
- Conduct and document daily and periodic inspections of excavations and trenches.
- Approve design of structural ramps, if used.
- Utilization of the local one-call system
- Determination of locations of all underground utilities

- Consideration of confined space atmosphere potential
- Proper soil protection systems and personal protective equipment and clothing
- Determination of soil composition and classification
- Determination of surface and subsurface water
- Depth of excavation and length of time it will remain open
- Emergency rescue system/procedure
- Proper adherence to all other applicable OSHA Standards, this Excavation and Trenching Safety Program, and any other coinciding safety programs.

SOIL CLASSIFICATION AND IDENTIFICATION

The OSHA Standards define soil classifications within the Simplified Soil Classification Systems, which consist of four categories: Stable Rock, Type A, Type B, and Type C. Stability is greatest in Stable Rock and decreases through Type A and B to Type C, which is the least stable. Appendix A of the Standard provides soil mechanics terms and types of field tests used to determine soil classifications.

Stable Rock is defined as:

Natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Type A soil is defined as:

- Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (TSF) or greater.
- Cemented soils like caliches and hardpan are considered Type A.

Soil is NOT Type A if:

- It is fissured.
- The soil is subject to vibration from heavy traffic, pile driving or similar effects.
- The soil has been previously disturbed.
- The material is subject to other factors that would require it to be classified as a less stable material.
- The exclusions for Type A most generally eliminate it from most construction situations.

Type B soil is defined as:

- Cohesive soil with an unconfined compressive strength greater than .5 TSF, but less than 1.5 TSF.
- Granular cohesion less soil including angular gravel, silt, silt loam, and sandy loam.
- The soil has been previously disturbed except that soil classified as Type C soil.
- Soil that meets the unconfined compressive strength requirements of Type A soil, but is fissured or subject to vibration.
- Dry rock that is unstable.

Type C soil is defined as:

- Cohesive soil with an unconfined compressive strength of .5 TSF or less.
- Granular soils including gravel, sand and loamy sand.
- Submerged soil or soil from which water is freely seeping.
- Submerged rock that is not stable.

Soil Test & Identification
The competent person will classify the soil type in accordance with the definitions in Appendix A of the Standard on the basis of at least 1 visual and 1 manual analysis.

These tests should be run on freshly excavated samples from the excavation and are designed to determine stability based on a number of criteria: the cohesiveness, the presence of fissures, the presence and amount of water, the unconfined compressive strength, and the duration of exposure, undermining, and the presence of layering, prior excavation and vibration.

The cohesion tests are based on methods to determine the presence of clay. Clay, silt, and sand are size classifications, with clay being the smallest sized particles, silt intermediate and sand the largest. Clay minerals exhibit good cohesion and plasticity (can be molded). Sand exhibits no elasticity and virtually no cohesion unless surface wetting is present. The degree of cohesiveness and plasticity depend on the amounts of all three types and water.

When examining the soil, three questions must be asked: Is the sample granular or cohesive?

Fissured or non-fissured? What is the unconfined compressive strength measured in TSF?

Methods of testing soils:

- Visual test: If the excavated soil is in clumps, it is cohesive. If it breaks up easily, not staying in clumps, it is granular.
- Wet manual test: Wet your fingers and work the soil between them. Clay is a slick paste when wet, meaning it is cohesive. If the clump falls apart in grains, it is granular.
- Dry strength test: Try to crumble the sample in your hands with your fingers. If it crumbles into grains, it is granular. Clay will not crumble into grains, only into smaller chunks.
- Pocket pentrometer test: This instrument is most accurate when soil is nearly saturated. This instrument will give unconfined compressive strength in tons per square foot. The spring-operated device uses a piston that is pushed into a coil up to a calibration groove. An indicator sleeve marks and retains the reading until it is read. The reading is calibrated in tons per square foot (TSF) or kilograms per cubic centimeter.
- Thumb penetration test: The competent person attempts to penetrate a fresh sample with thumb pressure. If the sample can be dented, but penetrated only with great effort, it is Type A. If it can be penetrated several inches and molded by light pressure, it is Type C. Type B can be penetrated with effort and molded.
- Shear vane: Measures the approximate shear strength of saturated cohesive soils. The blades of the vane are pressed into a flat section of undisturbed soil, and the knob is turned slowly until soil failure. The dial is read directly when using the standard vane. The results will be in tons per square foot or kilograms per cubic centimeter.
- The competent person will perform several tests along the depth and length of the excavation to obtain consistent, supporting data. The soil is subject to change several times within the scope of an excavation and the moisture content will vary with weather and job conditions. The competent person must also determine the level of protection based on what conditions exist at the time of the test, and allow for changing conditions.

HAZARDOUS ATMOSPHERES

To prevent exposure to harmful levels of atmospheric contaminants and to assure acceptable atmospheric conditions, the following requirements shall apply:

Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before employees enter excavations greater than 4 feet (1.22 m) in depth.

- Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or ventilation.
- Adequate precaution shall be taken such as providing ventilation, to prevent employee exposure to an atmosphere containing a concentration of a flammable gas in excess of 20 percent of the lower flammable limit of the gas.
- When controls are used that is intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.
- Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended when in use.
- Employees entering bell-bottom pier holes, or other similar deep and confined footing excavations, shall wear a harness with a lifeline securely attached to it. The lifeline shall be separate from any line used to handle materials, and shall be individually attended at all times while the employee wearing the lifeline is in the excavation.

WATER ACCUMULATION

Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation. The precautions necessary to protect employees adequately vary with each situation, but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.

If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operations shall be monitored by a competent person to ensure proper operation.

If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person and compliance with provisions of the two paragraphs above.

EXCAVATION PROTECTION SYSTEMS

The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields.
The protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted to the system. Every employee in an excavation shall be protected from cave-ins by an adequate protective system.

- Exceptions to using protective system:
- Excavations are made entirely in stable rock
- Excavations are less than 5 feet deep and declared safe by a competent person

Sloping and Benching Systems

There are 4 options for sloping: Slope to the angle required by the Standard for Type C soil, which is the most unstable soil type.

- The table provided in Appendix B of the Standard may be used to determine the maximum allowable angle (after determining the soil type).
- Tabulated data prepared by a registered professional engineer can be utilized.
- A registered professional engineer can design a sloping plan for a specific job.

Sloping and benching systems for excavations 5 to 20 feet in depth must be constructed under the instruction of a designated competent person. Sloping and benching systems for excavations greater than 20 feet must be designed and stamped by a registered professional engineer. Sloping and benching specifications can be found in Appendix B of the Standard.

Shoring Systems
Shoring is another protective system or support system. Shoring utilizes a framework of vertical members (uprights), horizontal members (whales), and cross braces to support the sides of the excavation to prevent a cave-in. Metal hydraulic, mechanical or timber shorings are common examples.
Different examples of shoring are found in the OSHA Standard under these appendices:

- **Appendix C -** Timber Shoring for Trenches
- **Appendix D -** Aluminum Hydraulic Shoring for Trenches
- **Appendix E -** Alternatives to Timber Shoring

Shield Systems (Trench Boxes) Design of Support, Shield, and Other Protective Systems
Shielding is the third method of providing a safe workplace. Unlike sloping and shoring, shielding does not prevent a cave-in. Shields are designed to withstand the soil forces caused by a cave-in and protect the employees inside the structure.

Most shields consist of two flat, parallel metal walls that are held apart by metal cross braces. Shielding design and construction is not covered in the OSHA Standards.

Shields must be certified in design by a registered professional engineer and must have either a registration plate on the shield or registration papers from the manufacturer on file at the jobsite office.
Any repairs or modifications MUST be approved by the manufacturer!

BLOODBORNE PATHOGENS

When an employee comes into direct contact with the blood, bodily fluids or body tissues of another person, they are at risk of becoming infected with diseases that may be carried in the other person's body fluids. Accidental exposures can happen on or off the work site, in any number of day-to-day situations.

Berger Electric, Inc. believes that each employee must have a basic understanding and awareness of the dangers of contracting a potentially deadly disease through such exposures. Communicating basic information about these hazards, including information contained in this policy, is part of our safety and health program. Employees will be trained in Bloodborne Pathogen

Protection initially and at time of assignment and after initial training, training shall be provided on an annual basis. Employer should have in the plan the different labels and signs that serve as warnings of infectious materials. Employer shall ensure that all employees with occupational exposure participate in a training program. Employees shall be provided training at the time of initial assignment and annual training for all employees should be provided within 1 year of their previous training

Training records will be maintained containing the date of the training, a summary of the training session, names and qualifications of the instructors conducting the training and the names and job titles of the persons attending the training. Training records will also be maintained for a minimum of three (3) years from the date the training was conducted. Training will be conducted by a qualified or competent person knowledgeable in the subject matter.

Two well-known and deadly diseases -- the Hepatitis B Virus (HBV) and the Human Immunodeficiency Virus (HIV) -- can be transmitted by contact with infected blood, bodily fluids and tissues. HBV is known for causing severe liver disease that frequently results in death. HIV is the virus that causes Acquired Immune Deficiency Syndrome (AIDS).
Exposure to a deadly bloodborne pathogen can occur in different ways. One known way is when administering First Aid/CPR.

If an employee is injured and bleeding from a severe laceration and another employee comes to the rescue by applying direct pressure to the wound; the rescuer has no way of knowing if the victim's blood is potentially carrying the HIV or HBV virus. This means that, unless the rescuer takes certain precautions when administering first aid, they could become infected.

Employees can be exposed to HIV, HBV or other bloodborne pathogens while performing routine cleaning or housekeeping jobs such as:

- Cleaning toilets or sinks;
- Wiping or mopping "accidents" involving vomit, feces or urine;
- Cleaning up the aftermath of an injury (blood on the floor, bloody rags or bandage remnants);
- Handling laundry that may be soiled with blood, or other bodily excretions; and

- Picking up trash bags that may contain discarded needles, syringes, blades, broken glass or other "sharps" that have been contaminated with blood.

PERSONAL PROTECTIVE EQUIPMENT

Berger Electric, Inc. must provide the personal protective equipment, and make accessible free to employees. Personal Protective Equipment must be of the appropriate sizes, to prevent occupational exposure to infectious material. PPE shall include but not limited to the following:

- Gloves
- Gowns
- Face Shields or Masks
- Eye protection

Personal protective equipment is considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach employees' work clothes, street clothes, undergarments, 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.

ABOUT HEPATITIS B, HIV & AIDS:

There is no way of knowing if someone is carrying HBV or HIV in their blood. Many times, the person infected is unaware of having contracted the deadly virus. Symptoms may not develop until several years after the initial exposure. Young and old, rich or poor, men and women, urban or country residents -- anyone may be a carrier of a contagious bloodborne disease.

Because there is no practical way to recognize an infected individual, it has become policy that ALL body fluids should be considered contaminated and handled accordingly by using UNIVERSAL PRECAUTIONS. This includes the use of appropriate personal protective equipment when there is a potential exposure to bloodborne pathogens.

HIV and the disease it causes, AIDS, have received wide publicity over the last few years.

However, in an occupational setting, employees are more likely to come in contact with the Hepatitis B Virus (HBV). Each year, around 300,000 individuals contract Hepatitis B in the U.S. This compares to an estimated 35,000 persons annually who become infected with the AIDS-causing Human Immunodeficiency Virus (HIV).

Medical authorities, including government medical experts, say that HBV and HIV cannot be spread through "casual contact" or by simply working or being near someone who is infected. HIV, HBV and other bloodborne pathogens are spread through exposure to blood, semen, vaginal fluids, specific other bodily excretions, and "unfixed" tissues or organs (where the skin is not intact).

Hepatitis B virus severely damages the liver and can lead to cirrhosis. This kind of damage is irreversible and frequently fatal. Persons who face routine exposure to blood (for example,

medical and ambulance personnel, police officers and emergency workers) can take a vaccination to the Hepatitis B Virus that helps prevent infection.

Vaccination can also be given immediately after a suspected exposure to the disease. Consequently, it is EXTREMELY IMPORTANT that employees are instructed to report exposure IMMEDIATELY.

Medical experience to date is that persons who become infected with HIV will later develop AIDS. While a limited number of medicines may slow the disease's progress, there is no cure for AIDS at this time. The disease causes the body's immune system to fail. This leaves the AIDS patient especially vulnerable to other diseases and infections. These usually are the cause of death.

PREVENTING EXPOSURES:

To prevent infection from HIV, HBV and other bloodborne pathogens, employees are instructed to use protection including appropriate PPE. Most of the time, skin is an effective barrier for keeping out germs and bloodborne viruses. However, even small wounds or breaks in the skin (i.e. dermatitis, skin rashes, acne, chapping, a torn fingernail or broken cuticles) can be an entry point for HIV or HBV.

The most frequent ways that bloodborne diseases are transmitted include: sexual contact with someone who carries the disease; sharing needles with someone whose blood is infected; getting infected blood on your skin, into an open wound or the mucous membranes of the mouth, eyes or nose; or cuts or puncture wounds by an object that is contaminated with infected blood.

Due to the potential for exposure to a deadly bloodborne pathogen, there is no position or job that requires an employee to render First Aid or CPR in the course and scope of their employment. Emergency First Aid will be rendered by calling 911 or the appropriate emergency number.

Employee training in First Aid and cardiopulmonary resuscitation (CPR) is encouraged because of its value and benefit to individuals, their families and the community. Berger Electric, Inc. also supports any employee who, while on the job, chooses to act as a "Good Samaritan" and assist another employee or another person with First Aid or CPR. First Aid supplies and basic personal protective equipment against bloodborne pathogens are accessible to employees at every work site during all shifts.

If an employee decides to provide First Aid to the victim, they should wear protective medical gloves from the First Aid Kit and leave on any other personal protective equipment (such as protective glasses with sideshields or a full face shield) to help avoid getting blood into the eyes and face. Follow the example of emergency medical personnel, doctors and nurses. They wear personal protective equipment to prevent exposures to bloodborne pathogens. As much as possible, First Aid responders must do the same.

If blood or potentially contaminated material gets on the skin, employees are instructed to wash it off immediately using water and a non-abrasive or antiseptic soap or rinse. the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with cloth/paper towels or antiseptic towelettes are also available for use of personal cleaning. If an employee gets blood in their eyes, lips, mouth or nose, they should go to a sink, water fountain, eye wash or body wash station and flush the area with running water.

Employees must report any suspected exposure immediately. There is a vaccine for Hepatitis B. This will be discussed with a doctor as soon as possible after a potential exposure to the virus.

HOUSEKEEPING, SANITATION & HYGIENE PRACTICES

Housekeeping is very important on the work site because keeping a clean and sanitary work area helps prevent slips, trips, falls and other potential accidents that can result in bloodborne pathogen exposure. A written schedule will be developed for cleaning and methods of decontaminating work surfaces, especially after contact with blood or other potentially infectious materials. All potentially contaminated bins, pails, cans and similar receptacles intended for re-use should be inspected and decontaminated on a regular basis.

BIOHAZARD SYMBOL

Regulated Waste containers are marked/labeled, leak proof and puncture resistant. Bio-hazard Labeling has the bio-hazard symbol, letters in fluorescent orange or orange-red with lettering and symbols in a contrasting color. Contaminated laundry is placed and transported in bags or containers labeled or color coded.

Employees handling potentially contaminated laundry must wear protective gloves and other appropriate personal protective equipment. Employees must ALWAYS wash their hands and remove any protective clothing before:

- Eating
- Drinking
- Smoking
- Applying cosmetics or lip balm
- Handling contact lenses

CLEANING UP BLOOD/BODY FLUIDS AFTER AN INJURY:

The following applies to First Aid Providers, Custodial Personnel or any other person employed by and assigned to clean the remains of an accident where human body fluids has been spilled.

After an injury, there may be blood and bloodstained remnants at the scene. This area will not be safe for others until it is properly cleaned to remove possible contamination. Employees will be instructed that when cleaning up blood or body fluids:

- Restrict access to area by keeping bystanders out and away from the area until the emergency services and clean-up has been accomplished.

- Two pairs of protective gloves will be worn during the cleanup -- one pair over the other. This provides additional protection should something tear the outer pair.
- Employees will wear a leak proof apron or over-garment, if available to keep potentially contaminated body fluids from getting on or soaking through clothes.
- Disposable towels will be used to soak up the majority of the potentially contaminated human body fluid.
- All contaminated trash, bandages, wrappers, towels and any other waste containing material used to clean potentially infected human body fluids will be placed and sealed in a color-coded or labeled leak-proof bag or container designed for bio-hazardous waste disposal. First Aid Providers will also discard latex gloves, mouthpieces and any other personal protective equipment or material contaminated with the victims body fluids into the biohazard container. The container will be labeled/marked reading "**REGULATED WASTE"**.
- Bio-hazardous waste containing "**SPECIAL WASTE"** (i.e. human body fluids in liquid form, sharps, body parts, body tissues, animal carcasses used for laboratory experiments, etc.) must be placed in a bio-hazard container and incinerated or be properly disposed of by a bio-hazardous waste service company.
- Bio-hazardous waste that does not contain "**SPECIAL WASTE**" will also be placed and sealed in a color-coded or labeled leak-proof bag or container designed for bio-hazardous waste disposal. The bio-hazard container will then be placed and sealed inside a different leak-proof/puncture-proof container and labeled, **"NO SPECIAL WASTE FROM A HEALTH CARE RELATED FACILITY"** and may be discarded with other regular trash.
- Any sharp objects resulting from an accident (i.e. broken glass, wood, metal, etc.) that has been contaminated with blood or any other human body fluid will be placed and sealed in a leak-proof/puncture-proof container and will be disposed of as **"NO SPECIAL WASTE FROM A HEALTHCARE RELATED FACILITY"** as noted above.
- The contaminated area will be thoroughly cleaned and sanitized with disinfecting solution that will kill the HIV or HBV virus. Regular chlorine bleach is an effective disinfectant for these viruses. Mix 3 cup household bleach to 1 gallon of water to make a working solution. MSDS for the bleach should be accessible to employees and filed with the other MSDS in the *Right-to-Know Station*.
- All mops, buckets and other equipment used in the clean-up will be disinfected by cleaning with the bleach-water solution to prevent spreading an infection by using contaminated cleaning equipment in other parts of Berger Electric, Inc.
- Employees will wash their hands, face or any other potentially contaminated body part or after removing contaminated protective clothing, by using an antiseptic hand cleanser in conjunction with clean cloth or paper towels or antiseptic towelettes any time they have been exposed to someone's body fluids.

NON-INJURY TYPE EXPOSURES:

Some routine jobs in the workplace could expose an employee to bloodborne pathogens. Because feces, vomit, saliva and other bodily fluids may contain blood, when someone is cleaning a

restroom they may be exposed if the blood is infected with pathogens. The blood may not be visible, but this only makes the situation more dangerous.

Employees will wear appropriate personal protective when cleaning restrooms, sinks, toilets, bathtubs, etc. An antiseptic cleaning solution will be used during the cleaning. Personal protective equipment should include:

- Leak-proof gloves (of thickness and type most appropriate to prevent accidental tearing and exposing the hands to contamination);
- Eye protection (approved safety glasses or goggles); and
- Body protection (apron or outer garment to prevent contamination of clothes).

Trash containers can contain sharp items and broken glass, or discarded medical syringes and needles. Any of these could be contaminated. Employees must never grab, hold or carry a trash bag on the bottom or around the sides. It should be grasped by the top of the bag above the tie-off.

When cleaning up broken glass, employees should always use a dustpan and broom or brush. Broken glass should not be picked up directly by hand. All contaminated waste will be placed in red bio-hazard bags and place in a waste receptacle properly marked with the bio-hazard emblem and label reading "REGULATED WASTE".

FIRST AID STATIONS & MEDICAL TREATMENT

If an employee makes the decision to administer first aid on an injured victim, they must wear protective gloves. The assisting employee(s) will take Universal Precautions and treat all bodily fluids as infectious. All First Aid Stations must include the following supplies:

- latex gloves
- one-way valve CPR mask
- bio-hazard bags
- leak-proof containers
- plastic baggies for placing severed body parts
- tongs

Proper follow-up procedures will include:

- Carefully removing any clothing or personal protective equipment contaminated with blood or other human bodily fluids and placing them in a labeled biohazard bag and treating it as *Regulated Waste*.
- Disinfecting contaminated area, clothing and equipment.
- Notifying the immediate Supervisor of the potential contamination which may require *post exposure medical evaluation*.

POST EXPOSURE MEDICAL EVALUATION

Should an employee become exposed to blood or other potentially infectious material, Berger Electric, Inc. will ensure that a medical evaluation is conducted on the exposed employee(s) including offering the employee(s) an opportunity to take the HBV vaccine, conduct medical surveillance, monitoring, counseling and any other required follow-up procedures. The employer shall make available the hepatitis B vaccine to all employees that have occupational exposure at no cost to the employees.

RECORD KEEPING

Medical Records
Safety Coordinator/Management shall maintain accurate medical records as required by 29 CFR 1910 1020 governing access to employee exposure. Medical records must include the following information:

- Employee's name and social security number
- Employee's hepatitis B vaccination status including vaccination dates and any medical records related to the employee's ability to receive vaccinations
- Results of examination, medical testing, and post-exposure evaluation and follow-up procedures
- Health care professionals written opinion and a copy of the information provided to the health care professional

All records shall be kept confidential and shall be retained for at least the duration of employment plus 30 years. Each Employer shall ensure that a copy of the Exposure Control Plan is accessible to employees, when requested within fifteen days of request.

The standard also requires that employer maintain and keep accurate training records for three years and to include the following:

- Content or summary of the training
- Training dates
- Names and qualifications of trainer(s)
- Names and job titles of trainees

The employer shall ensure that all records required by this section shall be made available upon request of employees, Assistant Secretary & the Director for examination and copying. Medical records must have written consent of employee before released. Also, if the employer ceases to do business, medical and training records must be transferred to the successor. If there is no successor, the employer must notify the Assistant Secretary or Director, for specific instructions regarding the disposition of the records at least three months prior to intended disposal.

LOCKOUT/TAGOUT

Berger Electric, Inc. has established this electrical safety program to prevent electrically related injuries to employees resulting from either direct or indirect electrical contacts, or damage to Berger Electric, Inc. property when work is performed near or on equipment or circuits which are or may be energized.

Lockout/tagout Program also provides for proper training of maintenance employees to ensure they have the required knowledge and understanding of electrical work practices and procedures. The training must include recognition of hazardous energy source, type & magnitude of energy available, methods & means necessary for energy isolation & control. Each authorized employee shall receive adequate training. The training should address that all affected employees are instructed in the purpose & use of the energy control procedure. There should be training provisions included for any other employee whose work operations are or may be in an area where energy control procedures may be utilized. The employee training should also address when tagout systems are used including the limitations of a tag (tags are warning devices & do not provide physical restraint). The training should also include that a tag is not to be removed without authorization. The tag is never to be ignored or defeated in any way. Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced. All training and/or retraining must be documented, signed & certified.

A Control of Hazardous Energy (Lockout/tagout) standard covers the servicing and maintenance of a machine and/or equipment in which the unexpected energization, start up of the machines or equipment, or release of stored energy could cause injury to employees. Energy sources may include: electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

Application: This standard applies to the control of energy during servicing and/or maintenance of machines or equipment. Normal production operations are not covered by this standard. Servicing and/or maintenance which take place during normal production operations is covered by this standard if:

- An employee is required to remove or bypass a guard or other safety device; or
- An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

Applications not covered:

- Minor tool changes and adjustments and other minor servicing activities which take place during normal production operations are not covered by the standard if they are routine, repetitive and integral to the use of the equipment for production, provided that the work is performed using alternative measures which provide effective machine safeguarding protection.
- Cord and plug connected electrical equipment when the employee performing the service or maintenance controls energization by unplugging the equipment from the energy source and by the plug being under his/her exclusive control.

- Hot tap operations involving transmission and distribution systems from substances such as gas, steam, water or petroleum, when they are performed on pressurized pipelines, provided that the employer demonstrates that: continuity of service is essential, shutdown of the system is impractical, documented procedures are followed, and employees are effectively protected by special equipment.

Energy Control Program: Berger Electric, Inc. shall establish a program consisting of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.

Core components of the energy control program:

- Energy control procedures that detail and document the specific information that an authorized employee must know to accomplish lockout/tagout, namely, the scope, purpose, authorization rules and techniques to be utilized for the control of hazardous energy.
- Periodic inspections of the energy control procedures to ensure that the procedures and the requirements of the standard are being followed.
- Berger Electric, Inc. Employee training and retraining, along with additional training under a tagout system, to ensure that the purpose and function of the energy control programs are understood by everyone.

Energy Control Procedures Documentation: Berger Electric, Inc. must develop, document, and use specific procedures to control potentially hazardous energy when employees are servicing equipment or machinery. The procedures must outline the scope, purpose, authorization, rules and techniques that the employer will use to control hazardous energy and must state the means to be used to enforce compliance.

At a minimum, the procedures must include:

- A specific statement of the intended use of the procedure.
- Specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy.
- Specific procedural steps for the placement, removal, and transfer of lockout devices or tagout devices, and a description of who has responsibility for them.
- Specific requirements for testing a machine or piece of equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control.

Documentation of the procedures is not required if:

- The machine or equipment has no potential for stored or residual energy, or for re-accumulation of stored energy after shut down, which could endanger employees.
- The machine or equipment has a single energy source that can be readily identified and isolated and the isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment.

- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
- A single lockout device will achieve a locked out condition.
- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.
- The servicing or maintenance does not create hazards for other employees.
- The employer has had no incidents involving the unexpected activation or re-energization of machines or equipment during servicing or maintenance.

Periodic Inspection: Periodic inspections must be conducted, at least annually, to ensure that the energy control procedures continue to be implemented properly, that the employees are familiar with their responsibilities and that any deviations or procedural inadequacies that are observed are corrected. The person conducting the inspection should be an authorized employee not involved in the energy control procedure being inspected.

The inspection should, at minimum, include the following:

- The employer must identify any deficiencies or deviations and correct them.
- Where lockout is used, the inspector must review each authorized employee's responsibilities under the procedure with that employee (group meetings are acceptable).
- Where tagout is used, the inspector must review both the authorized and affected employee's responsibilities with those employees for the energy control procedure being inspected.
- The employer must certify that the periodic inspections have been performed.

The inspection certificate should:

- Identify machine on which the procedure was utilized.
- Date of inspection.
- Identify the employees included in inspection.
- Identify person who performed the inspection.

Employee Training and Communication: Berger Electric, Inc. Employees must be trained so that they understand the purpose and function of the energy control program and acquire the knowledge and skills necessary for the safe application, usage and removal of the energy controls.

The following employees require training:

- Authorized employees must receive training on 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 energy isolation and control.
- Affected employees must receive training on the purpose and use of the energy control procedure.
- Other employees (those whose work activities are or may be in an area where energy control procedures may be utilized) must be instructed about the procedure and about the prohibition relating to attempts to restart or reenergize machines or equipment that are locked out or tagged out.

Employers must also train employees in the following limitations of tags:

- Tags are essentially warning devices affixed to energy isolating devices and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached to an energy isolating means, it is not to be removed without authorization and it is never to be bypassed, ignored, or otherwise defeated.
- Tags must be legible and understandable by all employees.
- Tags and their means of attachment must be made of materials, which will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security and their meaning needs to be understood as part of the overall energy control program.
- Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Retraining shall be provided for all authorized employees and affected employees whenever:

- There is a change in their job assignments.
- A change in machines, equipment or processes that present a new hazard.
- When there is a change in the employer's Lockout/Tagout program.

Additional training shall also be conducted:

- Whenever a periodic inspection reveals noncompliance.
- Whenever the employer has reason to believe that there are deviations from or inadequacies in the employee’s knowledge or use of the energy control procedures. The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

Berger Electric, Inc. shall certify that employee training has been accomplished and is being kept up to date. When a tagout system is used, the employees shall also be trained in the limitations of tags.

Notification of Berger Electric, Inc. employees: Affected employees shall be notified by the employer or authorized employee of the application and removal of lockout devices or tagout devices. Notification shall be given before the controls are applied, and after they are removed from the machine or equipment.

Application of Energy Control

To safely apply energy control to machines or equipment (using either lockout or tagout devices), authorized employees must perform certain procedures, in a specific order.

- Preparation for shutdown: Before an authorized or affected employee turns off a machine or equipment, the authorized employee must have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.
- Machine or equipment shutdown: The machine or equipment must be turned off or shut down using the procedures established for it to avoid any additional or increased hazards to employees as a result of the machine or equipment stoppage.

- Machine or equipment isolation: All energy isolating devices that are needed to control the machine's energy source must be located. These devices must then be used to isolate the machine or equipment from its energy source.

Lockout or tagout device application:

- Authorized employees must affix lockout or tagout devices to each energy-isolating device.
- Each authorized employee shall place his/her own personal lockout device or tagout device on the energy isolating device(s).
- When an energy-isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used.
- If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure the box or cabinet.
- Each authorized employee will then use his/her own lock to secure the box or cabinet.
- Lockout devices when used must be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.
- Where tagout devices are used, it must be affixed in a manner that will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited. Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.
- If the tag can not be affixed directly to the energy isolating device, the tag must be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

Stored energy: After the energy isolating device has been locked out or tagged out, all potentially hazardous stored or residual energy must be relieved, disconnected, restrained, or otherwise rendered safe. If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

Verification of isolation: Before any work begins on machines or equipment that have been locked out or tagged out, an authorized employee must verify that the machine or equipment has been properly isolated and de-energized.

Equipment for Lockout/tagout, for the purpose of achieving lockout/tagout, employees will be provided with appropriate lockout equipment. Equipment shall include, but not be limited to:

Padlocks	Lockout clamps
Lockout tags/ devices	Circuit breaker lockout

- ***Padlocks*** - One or more padlocks will be issued to each authorized employee. Each employee will have an individual key. Only one key per lock shall be issued. These locks may be used only for lockout purposes. Locks will be identified by a number

assigned to each employee and/or by the use of a nametag. Only the authorized person may apply and remove the lock, and the key may never be given to another person.

- *A second or master key for each lock will be issued to designated supervisors to enable them to open and remove a padlock under certain circumstances.

- ***Lockout Clamps*** - These devices are designed to accommodate more than one lockout padlock when more than one person is working on de-activated equipment. Each person, to assure his or her safety, will apply a lock and warning tag and remove it when the task is completed.

- ***Warning Tags*** - Authorized employees will be issued warning tags which must be used whenever a padlock cannot be applied. The tag must be affixed as closely as possible to the energy disconnect with a single purpose 50-pound strength plastic tie. Extra caution must be exercised since there is no physical restraint when only a tag is used and energy can be restored without removing a padlock. In addition, where possible, energy source components should be altered, removed, or obstructions should be placed to restrict access to energy disconnects. Electricians may remove fuses but must attach a tag to the panel involved and remove it when the machine is ready for service and the fuse is replaced.

Tag legends may include, but are not limited to:

DANGER Do Not Start **DANGER** Do Not Energize

DANGER Do Not Open **DANGER** Do Not Operate

DANGER Do Not Close **DANGER** Hands Off

Warning tags shall bear the name of the authorized person and the date of application. Tags must be durable, weather proof and not easily damaged.

Release from Lockout/tagout: The Lockout/tagout standard includes requirements for releasing machines or equipment that have been locked out or tagged out prior to restoring energy to the equipment and using it. Before lockout or tagout devices are removed, and energy restored, authorized employee must complete certain procedures.

- Machine/equipment inspection: The work area must be inspected to ensure that nonessential items (e.g., tools, spare parts) have been removed and that all of the machine or equipment components are operationally intact.
- Positioning of employees: The work area must be checked to ensure that all employees have been safely positioned or have cleared the area. In addition, all affected employees must be notified that the lockout or tagout devices have been removed before the equipment is started.
- Lockout or tagout device removal: Each lockout or tagout device must be removed from the energy-isolating device by the employee who applied the device.

When can an employee other than the one who applied the lockout/tagout device to remove the device?

When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the employer, provided that specific procedures and training for such removal have been developed, documented, and incorporated into the employer's energy control program.

Steps to be taken (by employee other than the one who applied the lockout/tagout device) to remove the device:

- The employer must verify that the authorized employee who applied the device is not at the facility.
- The employer must make all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout or tagout device has been removed.
- The employer must ensure that the authorized employees know that the lockout device has been removed before he/she resumes work at the facility.

Temporary Removal of Lockout or Tagout Devices: In some circumstances, employees need to temporarily restore energy to a machine and or piece of equipment during servicing or maintenance to test and /or reposition the machine or piece of equipment. Lockout or tagout devices may be removed temporarily in order to perform these tasks.

Sequence of action for temporary removal of the lockout/tagout devices:

- The machine or equipment must be cleared of tools and materials.
- Employees must be removed from the machine or equipment area.
- All lockout or tagout devices may then be removed.
- Authorized employees may then proceed to energize and test or position the equipment or machinery.
- Following testing or positioning, all systems must be de-energized and energy control measures reapplied to continue the servicing and /or maintenance.

Restoring Equipment to Service

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

- Visually inspect the machine or equipment and the immediate area around the machine or equipment to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
- Visually inspect the work area to ensure that all employees have been safely positioned or removed from the area.
- Verify that the controls are in neutral.
- Remove the lockout device(s) and re-energize the machine or equipment.

NOTE: The removal of some forms of blocking may require re-energization of the machine before safe removal.

- Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready to use.

Group Lockout/Tagout Procedure: If more than one authorized employee is required to lockout or tagout equipment, the following organizational procedures/structure shall be followed:

- Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.
- A primary authorized employee shall be designated to exercise primary responsibility for implementation and coordination of the lockout/tagout of hazardous energy sources and for the equipment to be serviced.
- The primary authorized employee would coordinate with equipment operators before and after completion of servicing and maintenance operations that require lockout/tagout.
- A verification system would be implemented to ensure the continued isolation and deenergization of hazardous energy sources during maintenance and servicing operations.
- Each authorized employee will be assured of his/her right to verify individually that the hazardous energy has been isolated and/or de-energized.
- When more than one crew, employee, etc. is involved, each separate group of servicing/maintenance personnel would be accounted for by a principal authorized employee from each group. Note: The principal authorized employee is an authorized employee who oversees or leads a group of servicing or maintenance worker such as plumbers or electricians. Each principal authorized employee is responsible to the primary authorized employee for maintaining accountability of each worker in that specific group. No authorized employee may attach or remove another authorized person's lock/tag.

Maintaining continuity of Lockout/Tagout protection during shift or personnel changes*:*

- Berger Electric, Inc. must ensure the continuity of employee protection by providing for the orderly transfer of lockout or tagout device protection between off going and incoming employees. This will help to minimize exposure to hazards from the unexpected energization or startup of the machine or equipment or the release of stored energy.

Outside Personnel (Contractors)

- Whenever contractors and other outside servicing personnel perform tasks covered by the Lockout/Tagout standard, they must adhere to all the standard's requirements.
- The contractor or outside employer and the onsite employer must inform each other of their respective energy control program responsibilities.
- The onsite employer must ensure that his/her employees understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

Requirements for Lockout/Tagout Devices

- Must be durable, so that they are capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.

- Must be singularly identified.
- Must be the only devices used for controlling energy.
- Must not be used for other purposes.
- Must be standardized within the facility in at least one of the following criteria: color, shape, or size. Additionally, tagout devices must be standardized as to print and format.
- Must be identifiable, in that it indicates the identity of the employee applying the devices.

Hardware requirements for lockout:

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

Hardware requirements for tagout:

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

Appendix A – Definitions

- Affected Employee - an employee whose job requires him/her to operate or use a machine/ equipment on which servicing or maintenance is being performed under lockout or tagout.
- Authorized Employee - an employee who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment.
- Capable of being locked out - An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.
- Energized - Connected to an energy source or containing residual or stored energy.
- Energy Isolating Device - a mechanical device that physically prevents the transmission or release of energy. Manually operated disconnect switches, line valves, blocks and slide gates are examples of energy control devices that provide visible indication of the position of the device. "On/off" buttons, selector switches and other control circuit devices are not energy control devices.
- Energy Sources - any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal or other energy.
- Hot tap - A procedure used in the repair, maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.
- Lockout - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
- Lockout Device - a device that utilizes a positive means, such as lock, either key or combination, to hold an energy isolating device in a safe position and prevent energization of a machine or equipment.
- Normal production operations - The utilization of a machine or equipment to perform its intended production function.
- Servicing and/or maintenance - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.
- Setting up - Any work performed to prepare a machine or equipment to perform its normal production operation.
- Tagout - the placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.
- Tagout Device - a prominent warning device, such as a tag and a , which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device has been removed.

CONFINED SPACE ENTRY

PURPOSE:

It is the policy Berger Electric, Inc. to ensure that our employees are protected from the potential hazards involved in entering confined spaces. We will make every effort to comply with the OSHA Permit-Required Confined Space Standard (CFR 1910.146) and to exceed those requirements when necessary to ensure the safety of our workers.

For the purposes of this program the following definitions will apply:

A "confined space" is defined as by design and configuration, has limited entry and exit, unfavorable natural ventilation, may contain or produce hazardous substances and is not intended for continuous Employee occupancy. Berger Electric, Inc. will inform all employees, contractors and subcontractors of any confined spaces in which employees may be exposed to in the work site area.

All confined spaces will be identified and marked at the location and treated as hazardous and as a Permit-Required Confined Space. No entry will be permitted until atmospheric testing and inspection for existing and predictable hazardous substances have been identified and/or after inspection has demonstrated enough evidence to reclassify the space as a Non-Permit Required Confined Space according the § 1910.146 Confined Space Entry Standard.

A Confined Space Entry Permit System will be used prior to any entry. Entry is defined as any body part breaking the plane of entry. Entry into a Confined Space by any employee without authorization and/or permit authorization is PROHIBITED and may be subject to disciplinary action. Each employee will comply with this section.

When it is necessary to enter or work in a confined space, Confined Space Entry Certification Training will be instructed to each supervisor and employees which may be exposed to and/or involved in the approval of entry permits and/or performing the actual work within confined spaces. The certified Supervisor will designate a certified Entrant to perform the work in the confined space.

An emergency rescue device such as a Tripod with a First and Secondary Fall Protection Wench will be used with a full body harness attached to the Entrant prior to entry. A certified Attendant will be designated by the Entry Supervisor to remain outside the confined space continuously monitoring the Entrant and the working area and conditions inside and outside the confined space while the Entrant is in the confined space.

The Attendant will command the entrant to vacate the space immediately when symptoms of over exposure to hazardous atmospheres or other danger signs are identified. The Attendant will immediately contact 911 or the local Fire Department and request a Confined Space Rescue Team. Emergency precautions such as having emergency phone numbers, confirming that the local fire department has been trained and can perform Confined Space Rescues will be determined prior to entry. Should no Confined Space Rescue Team be available, the Employer

will provide the means necessary to perform emergency response by personnel trained in Confined Space Rescue, and will provide Confined Space Rescue Training every twelve (12) months.

When work needs to be done in a confined space, affected equipment will be locked out\tagged-out, confirm the adequacy of breathing air, ensure that there are no flammable vapors and provide for assisted emergency exit. Whenever personnel are in a confined space:

Twelve Steps to Confined Space Safety

1. ***NEVER*** enter a confined space for any reason unless the above procedures have been followed.
2. Always use proper mechanical forced air ventilation equipment when working in confined spaces or compartments with small entrances.
3. Employees will be trained and fit tested on APR, SAR, SCBA, EEBA and any other required respiratory protection equipment. Employees will demonstrate knowledge in and follow the §1910.134 and §1926.103, respiratory protection standards, prior to entering any confined space.
4. ***NEVER*** attempt to rescue a co-worker that has fallen unconscious in a confined space without first being trained in Confined Space Rescue, use of proper rescue technique and equipment. The atmosphere in the space may be toxic.
5. If working in a confined space and you smell an unfamiliar odor, leave the space immediately and report it to your Supervisor.
6. Confined space rescue equipment will be kept in good working order at all times.
7. Those persons working in confined spaces will be trained in the proper entry procedures.
8. No employee or management personnel will enter into any enclosed or confined space area unless they have been completely trained on confined space entry and hold a current certification card validating this training.
9. All confined space areas will be tested for atmospheric concentrations using an atmospheric monitor. The space will be tested for Oxygen deficiency/enrichment concentrations, flammables/combustibles, toxics and airborne combustible dusts.
10. Ensure that all tools, illumination and equipment is made of spark proof insulated material.
11. Permit-Required permits are being issued by the Entry Supervisor prior to entry. This includes Hot Work Permits.
12. Document all confined space activity and maintain permits for a minimum of one year.

ENTRY INTO PERMIT-REQUIRED CONFINED SPACES:

Prior to entry into any permit-required confined space, the Supervisor or Safety Coordinator will issue a permit that specifies the location, type and duration of the work to be done and the date.

The permit will certify that the Supervisor has evaluated all existing hazards or Safety Coordinator and those necessary protective measures have been taken for the safety of workers. It will provide documentation of the atmospheric testing that has been done. It will assign entry and attendant duties to specific persons.

Before issuing an entry permit, the Supervisor or Safety Coordinator will be responsible for the following:

- Identify all hazards and potential hazards associated with the confined space, such as the danger of explosion, asphyxiation, toxic gases/fumes, engulfment or entrapment, electrical or mechanical hazards, etc.
- Isolate the space from potential hazards, if possible, to provide for safe entry.
- Purge, inert, flush, ventilate to eliminate atmospheric hazards.
- Provide external barriers and warning signs.
- Perform pre-entry oxygen, flammable gas and toxicity air tests. All test results are to be recorded on the entry permit. If potential hazards cannot be isolated, continuous monitoring is required. If potential hazards can be isolated, periodic monitoring is required.
- Provide at least one trained attendant outside of each confined space that will be entered.
- Ensure that rescue and emergency services and equipment are in place as noted in this policy.
- Ensure that all required equipment is provided maintained and properly used. This includes air monitoring equipment, forced air ventilation equipment, communications equipment, personal protective equipment (PPE), and lighting, external barriers and warning signs, ladders and rescue equipment.

NOTE: Personal Protective Equipment will be provided by Berger Electric, Inc. at no cost to employees.

If hazardous conditions are detected during entry, employees will immediately leave the space and the Supervisor or Safety Coordinator will determine the cause of the hazardous atmosphere and take corrective actions before allowing re-entry. At re-entry, a new permit shall be issued.

Entrant Personnel Responsibilities

Entry Supervisor Responsibilities:

- To assure adequate protection is provided to the entrants by verifying that all hazards are securely isolated.
- To support the attendant's authority in controlling access to a confined space.
- To verify that all personnel have exited prior to closing the space.
- To assure that all personnel involved are aware of the hazards associated with the space.
- To assure that rescue services are available prior to entry.

Attendant Responsibilities:

- To monitor entrants during the job and during entry and exit to help insure their safety.

- The attendant may not abandon his post for any reason while personnel are in the space unless relieved by another qualified attendant.
- To monitor atmospheric conditions in the space prior to and during entry.
- To control access to the confined space.
- To summon emergency assistance as needed.
- To assess hazards in and around the space, and take action on the same.
- To keep records of confined space work, such as air test results, personnel entry/exit, etc.

Entrant Responsibilities:

- To assure that the space has been adequately ventilated, isolated, emptied, or otherwise made safe for entry.
- To immediately exit a space, without question, upon word of the attendant, no matter what the reason.
- To follow all safety rules and procedures that apply to the job.
- To be familiar with the work to be performed and the procedures that apply to the job.
- To use the appropriate PPE whenever necessary.

TESTING AND MONITORING:

Entry into a confined space shall not occur until the atmosphere has been tested for oxygen content, flammability and toxic materials. Based on the findings, the area will be classified as listed under the ENTRY CLASSIFICATIONS section and entry will be performed under those regulations. Continuous monitoring shall be performed whenever the initial tests indicate a potential oxygen deficiency or a change in flammability readings or toxicity levels. Such monitoring can be done with individual personal monitors or with a portable monitor with an audible alarm.

Monitoring of the space must be available and discussed with entrants, and inform the entrants of the potential hazards and results of testing. Entrants must be allowed to participate in the review of the permit and signing of permits. Entrants shall be allowed to review methods used for testing of atmospheric, flammability, or toxic test results, before entry and during work process.

Employees involved in confined space activity, at any time are entitled to request additional testing or monitoring at any time.

EQUIPMENT:

Electrical equipment -

Low voltage light and cord sets shall be used wherever 110-volt equipment would cause a shock hazard if damaged in use. Ground fault interrupter (GFI) can be used in lieu of low voltage equipment provided the GFI is located outside the confined space. Electric light extension cords shall have fully insulated lamp holders and fully guarded bulbs with the guard grounded. Intrinsically safe, explosion proof electrical equipment is recommended and is required unless a hot work permit is issued.

Communications - Communications shall be maintained as outlined in the ENTRY CLASSIFICATION section. In areas where visual/audible communication is not possible, entry and standby/rescue personnel shall be issued an intrinsically safe radio capable of maintaining communications.

Respiratory protection - All confined space entries that are classified as RESTRICTED or LIMITED require the use of supplied air breathing devices. Entry using supplied air breathing devices shall never be made into an area unless the device is capable of delivering at least fifteen (15) minutes. The use of an airline device is permissible providing they are equipped with five (5) minute escape bottles. Entrance to a controlled space is permissible using the appropriate filter type respirator for the task at hand.

Climbing/rescue - Ladders shall be used when entering or leaving a tank that requires a drop or climb of four (4) feet or more. Rescue equipment including lanyards, ropes, or harnesses are required in areas where they could be used to assist a rescue or find an individual.

Ventilation - Where necessary due to possible oxygen deficiencies, heat, or possible increases of flammable or toxic materials, air movers shall be used to increase ventilation of confined spaces. These are to be explosion proof devices and located in such a way that does not block access to the exit(s).

Hot Work - Hot work such as grinding, oxyacetylene cutting or arc welding is allowable within confined spaces only if the flammability level is below 5% of the LEL. Approved filter type respirators or adequate ventilation shall be used for any confined space welding.

PERMIT FORM:

The standard work permit form, correctly filled out and signed by issuer and work crew chief, shall be issued whenever a confined space entry is required. The original copy shall be given to the work crew chief with the copy being retained by the supervisor. The copy shall be retained in Berger Electric, Inc. files for a period of seven (7) years.

RESCUE & EMERGENCY SERVICES:

If proper protective measures are taken to eliminate and control any possible hazards in the confined space (i.e., ventilation, purging, monitoring, lockout/tagout, etc.), rescue operations should not be necessary. Berger Electric, Inc. will utilize an Emergency Response Team, deployed through local EMS facility. NOTE: Berger Electric, Inc. will let local E.M.S. responders know where and when a confined space job will be performed. The attendant or

attendants for the confined space will have access to communication means and know the proper procedure for alerting the Emergency

Response Team in the event of an emergency. Provisions will be made and equipment provided to ensure timely extraction of an unconscious or injured worker from the confined space. This will include a body harness with a lifeline attached to a tripod and rescue winch or any other means possible for extraction from confined space. Under no circumstances is the attendant or attendants to enter the space to effect rescue; rescue operations must be left to trained Emergency

Response Team personnel. Supervisors, Foremen and any other delegates to perform attendant duty will be trained in the following:

An employer, who designates rescue and emergency service, shall evaluate the rescuer's ability to respond to rescue situations within a timely manner. A timely manner shall be considered and will vary according to specific hazards involved in each entry. Outside services must be given an opportunity to examine the entry site, practice rescue, and decline as appropriate. If there is reliance on the client Host rescue services for use, this MUST be stated and agreed to in contract language. Employees must have PPE at no cost, training, practice rescues at least every 12 months.

If an employer designates an inside rescue service, the employer shall make sure that all personal protective equipment required by the rescue service is supplied at no cost to rescue personnel, Employer shall also provide training and allow practice rescues at least every twelve months or on an annual basis again at no cost to rescue personnel.

Supervisors, Foremen and any other delegates to perform attendant duty, or rescue operations will be trained in the following:

- First aid and CPR (cardiopulmonary resuscitation).
- Must know the location of all fire extinguishing equipment on location.
- Must know emergency contact numbers and where the Emergency Response Facility is located.
- Must be familiar with all hazards associated with the confined space job being performed and any or all equipment used for extractions.
- Must be familiar and be told specifics of work to be performed.
- Must know what traffic control will be used if required.
- Must be told what specifics will be used if one attendant will be required to watch more than one confined space entry at one time.
- Will be familiar with atmospheric testing and continuous monitoring equipment.
- Will be familiar with lockouts and isolation procedures
- Will be familiar with lighting and communication equipment to be used.
- Shall be trained in authorized entrant procedures.

TRAINING:

Employees involved with permit-required confined space work will be trained to assure the knowledge, understanding and skills necessary for the safe performance of their duties. All affected employees must be trained prior to initial assignment, and prior to any change in assigned duties, and if a new hazard has been created or when special deviations have occurred. Supervisors and Foremen will be trained in the identification and evaluation of confined space hazards and in the proper precautions to be taken to assure safe entry and work in confined spaces. Employees entering confined spaces will be trained in the hazards and potential hazards involved and how to protect themselves from those hazards. They will be trained to never enter a confined space until a permit is issued and they have been authorized to enter by the Supervisor, Foreman or Safety Coordinator. Attendants will be trained in their duties and responsibilities and the actions to be taken in the event of an emergency. Employees will receive a written certification following their training to document that they have been properly trained in their respective duties and the hazards and safety precautions involved in confined space entry. Training shall be conducted on annual basis, or six months depending upon frequency of jobs being performed.

Employee training will include but not limited to: Training shall be conducted on annual basis.

- The hazards associated with confined space entry.
- Emergency entry and exit procedures.
- Proper use of PPE and type of PPE to be used in performing duties.
- Isolation procedures and permit requirements.
- Rescue operations and procedures.
- Fitting and use and limitations of (respiratory protection) to be used.
- Inspection, use, selection and fitting of safety harness and life lines.
- Traffic control and monitoring of confined space areas, where required.
- Ventilation procedures.
- Will be trained in authorized entrant procedures.
- And any decontamination procedures of hazardous spaces.

ENTRY PERMITS: Entry permits are to be posted at the entrance to the confined space. See attached copy of the Entry Permit to be used by Supervisors or Foreman. Copies of all completed and /or canceled entry permits will be retained for one year after completion of an entry.

VESSEL PREPARATION: To prepare a vessel, which has contained toxic gases or liquids, the following steps shall be taken:

1. Isolate the vessel from all surrounding work. Blind or disconnect all process, flare, or steam lines from the vessel. If there is to be welding on the vessel, isolate it from surrounding workers with tarps.
2. Follow all lock-out/tag-out procedures to prevent any movement of mechanical or electrical devices leading to the vessel. Decouple or block any mechanical linkage that transmits movement to machinery inside the vessel, such as a compressor driver.
3. Empty the vessel and clean it thoroughly to remove any residue or hazardous materials. If the vessel contained hydrocarbons or H_2S, it shall be thoroughly steamed to remove all possible residues.

4. Ventilate the vessel both before and during the work period. Ventilation equipment shall be explosion proof. Atmospheric monitoring is required prior to entry and continuously during the work period.

The requirements for a "safe atmosphere" are listed below:

1. Oxygen Content - The oxygen content shall be at least 19.5% and not more than 23% before entry can be made without the use of supplied air-breathing devices. Because of the danger of suffocation in confined spaces, this shall be continuously monitored. NEVER bring compressed gas cylinders into a confined space.
2. Flammability - After checking for oxygen, test for flammability. This shall be done following the oxygen test, as a deficiency of oxygen will cause an erroneous reading in flammability. Entry shall not take place if the reading is above 15% of the Lower Explosive Limit (LEL). If the reading at any level of the vessel is above 10% LEL, further ventilation is required. The Lower Explosive Limit or LEL is the lowest concentration of a combustible gas in air that will explode when it contacts a source of ignition.
3. Toxicity - The last test shall be for any toxic concentration of hazardous vapors. This reading will be in parts per million (PPM) or a % of the Threshold Limit Value (TLV). Sampling shall be done at all levels of the vessel, as concentrations will vary due to different densities of the gases. Any concentration of a toxic chemical which approaches the TLV for that chemical requires the use of supplies air breathing devices but does not preclude entry. Concentrations above 50% of the amounts considered Immediately Dangerous to Life or Health place this in the RESTRICTED ENTRY group.

ENTRY CLASSIFICATIONS: The classifications following are designed to protect employees and personnel from hazards due to confined space entry and to help with hazard recognition.

RESTRICTED ENTRY: Any time one or more conditions listed above presents a hazard that is Immediately Dangerous to Life or Health, permission to enter the vessel is restricted to rescue operations only. This requires a fully equipped rescuer with life support equipment and constant communications with a similarly equipped standby person stationed just outside of the confined space. The physical conditions that create a hazard that is classified as IDLH include any of the following:

a. Oxygen concentration less than 16% or greater than 25%
b. Continuous flammability readings of 10% LEL or greater
c. A toxicity reading greater than 50% of any gases IDLH amount.

LIMITED ENTRY: Any time the conditions set forth below are meant, the entry is considered to be limited to having one fully equipped person with life support equipment and indirect communication with back-up workers. The back-up workers shall have rescue equipment immediately available. These conditions are:

a. Oxygen concentrations of 16.1% to 19.4% or 21.5% to 25%
b. Any flammability readings of 10% to 19% LEL

c. Toxicity readings above the TLV but below 50% of the IDLH levels.

CONTROLLED ENTRY: A controlled entry will be made when entering any confined space that exhibits the following characteristics:

a. Oxygen levels of 19.5% to 21.4%
b. Flammability levels of 05% or less of the LEL
c. Toxicity readings less than the TLV for all toxic gases present.

Equipment and work requirements for controlled entries do not differ from normal work areas except for the following:

- Continuous atmospheric monitoring
- Standard rescue procedures including open access to the exit(s)
- Communications outside of the confined space

For conclusion of the entry permit after entry operations have been completed. When confined space permits are finished, procedures shall be taken to close and cancel any permits.

Review entry operations when the employer has reason to believe that the measures taken under the permit space program may not protect employees and revise the program to correct any deficiencies found before authorizing entry. Examples of program review are: Any unauthorized entry of a confined space, a hazard not covered by the permit, the occurrence of an injury or near miss, employee complaints.

Review the permit space program, using the canceled permits retained re-evaluated year after each entry and revise the program as necessary, to ensure that employees are protected. Note: Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

SUBCONTRACTORS:
Subcontractors to Berger Electric, Inc. will be required to submit written policies and procedures for entry into permit-required confined spaces that are at least as stringent as our policies and procedures. Entry into confined spaces by the subcontractors must be coordinated with and approved by the Supervisor in charge or Safety Coordinator of the confined space. Subcontractors will be responsible for providing all training, equipment, testing, personnel and emergency services and permits for entry into confined spaces by their employees. Berger Electric, Inc. will notify subcontractors of confined space hazards, entry requirements and history of hazards in the confined spaces involved. In cases where Berger Electric, Inc. Employees and those of subcontractors may be entering the same confined spaces or where operations of subcontractors may impact the hazards involved in the confined spaces we must enter, the Supervisor or Safety Coordinator will coordinate efforts and protective measures with those of the subcontractors.

FALL PROTECTION

It is the policy of Berger Electric, Inc. to take all practical measures possible to prevent employees from being injured by falls from heights. We will take necessary steps to eliminate, prevent and control fall hazards. This policy will follow the OSHA standard for potential falls from heights of at least 6 feet. First consideration will be given to the elimination of fall hazards. If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented and monitored to control the risks of injury due to falling. The Safety Coordinator shall be responsible for maintaining and updating any parts of this standard to conform to OSHA and any other changes that maybe required. All personnel exposed to potential falls from heights will be trained to minimize the exposures. Fall protection equipment will be provided and its use required by all employees. Foremen and Management will be responsible for implementation of a fall protection plan for their specific jobs on job-sites.

DEFINITIONS

"Anchorage" means a secure point of attachment for lifelines, lanyards or deceleration devices.

"Body belt (safety belt)" means a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

"Body harness" means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

"Buckle" means any device for holding the body belt or body harness closed around the employee's body.

"Connector" means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabineer, or it may be an integral component of part of the system (such as a buckle or Dee-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

"Controlled access zone (CAZ)" means an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

"Dangerous equipment" means equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

"Deceleration device" means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

"Deceleration distance" means the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

"Equivalent" means alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

"Failure" means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.
"Free fall" means the act of falling before a personal fall arrest system begins to apply force to arrest the fall.
"Free fall distance" means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.
"Guardrail system" means a barrier erected to prevent employees from falling to lower levels.
"Hole" means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.
"Infeasible" means that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.
"Lanyard" means a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.
"Leading edge" means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.
"Lifeline" means a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
"Low-slope roof" means a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).
"Lower levels" means those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.
"Mechanical equipment" means all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.

"Opening" means a gap or voids 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.
"Personal fall arrest system" means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.
"Positioning device system" means a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.
"Rope grab" means a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.
"Roof" means the exterior surface on the top of a building. This does not include floors or formwork which, because a building has not been completed, temporarily becomes the top surface of a building.
"Roofing work" means the hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.
"Safety-monitoring system" means a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
"Self-retracting lifeline/lanyard" means a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.
"Snap hook" means a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Snap hooks are generally one of two types:

1. The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or
2. The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snap hook as part of personal fall arrest systems and positioning device systems is prohibited.

"Steep roof" means a roof having a slope greater than 4 in 12 (vertical to horizontal).
"Toe board" means a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.
"Unprotected sides and edges" means any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.
"Walking/working surface" means any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

"Warning line system" means a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.
"Work area" means that portion of a walking/working surface where job duties are being performed.

GENERAL REQUIREMENTS OF FALL PROTECTION

Fall protection is required whenever employees are potentially exposed to falls from heights of 6 feet or greater to lower levels. This includes work near and around excavations.

Use of guard rails, safety net, or personal fall arrest systems shall be used as methods of fall protection when standard methods are not feasible or a greater hazard would be created by use of standard methods. Determination of employee exposure to fall hazards shall be made without regard for the use of personal protective equipment.

Scaffolds, ladders or vehicle mounted work platforms may be utilized at a work location so long as employees have been sufficiently trained in the safe use of these devices and are authorized by the Site Supervisor for such work. Use of vehicle-mounted work platforms and scaffolding requires specific training for individual in charge of the work and users.

The Site Supervisor, in conjunction with Berger Electric, Inc.'s Safety Coordinator, shall determine if the walking or working surfaces on which employees are to work have the strength and structural integrity to support employees safely. Employees shall be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity.

Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

Each employee who is constructing a leading edge 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems. Exception: When the Site Supervisor can demonstrate that it is infeasible or creates a greater hazard to use these systems, the Site Supervisor, in conjunction with Berger Electric, Inc.'s Safety Coordinator, shall develop and implement a fall protection plan which meets the requirements of paragraph (k) of 1926.502.

Each employee on a walking/working surface 6 feet (1.8 m) or more above a lower level where leading edges are under construction, but who is not engaged in the leading edge work, shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system. If a guardrail system is chosen to provide the fall protection, and a controlled access zone has already been established for leading edge work, the control line may be used in lieu of a guardrail along the edge that parallels the leading edge.

Each employee in a hoist area shall be protected from falling 6 feet (1.8 m) or more to lower levels by guardrail systems or personal fall arrest systems. If guardrail systems, [or chain, gate, or guardrail] or portions thereof, are removed to facilitate the hoisting operation (e.g., during landing of materials), and an employee must lean through the access opening or out over the edge of the access opening (to receive or guide equipment and materials, for example, that employee shall be protected from fall hazards by a personal fall arrest system.

Each employee on walking/working surfaces shall be protected from falling through holes (including skylights) more than 6 feet (1.8 m) above lower levels, by personal fall arrest systems, covers, or guardrail systems erected around such holes.

Each employee on a walking/working surface shall be protected from tripping in or stepping into or through holes (including skylights) by covers.

Each employee on a walking/working surface shall be protected from objects falling through holes (including skylights) by covers.

Each employee on the face of formwork or reinforcing steel shall be protected from falling 6 feet (1.8 m) or more to lower levels by personal fall arrest systems, safety net systems, or positioning device systems.

Each employee on ramps, runways, and other walkways shall be protected from falling 6 feet (1.8 m) or more to lower levels by guardrail systems.

Each employee at the edge of an excavation 6 feet (1.8 m) or more in depth shall be protected from falling by guardrail systems, fences, or barricades when the excavations are not readily seen because of plant growth or other vision barrier.

Each employee at the edge of a well, pit, shaft, and similar excavation 6 feet (1.8m) or more in depth shall be protected from falling by guardrail systems, fences, barricades, or covers.

Each employee less than 6 feet (1.8 m) above dangerous equipment shall be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.

Each employee 6 feet (1.8 m) or more above dangerous equipment shall be protected from fall hazards by guardrail systems, personal fall arrest systems, or safety net systems.

Each employee reaching more than 10 inches (25 cm) below the level of the walking/working surface on which they are working shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system.

Each employee engaged in roofing activities on low-slope roofs, with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or a combination of warning line system and guardrail system, warning line system and safety net system, or warning line system and personal fall arrest system, or warning line system and safety monitoring system.

Or, on roofs 50-feet (15.25 m) or less in width the use of a safety monitoring system alone [i.e. without the warning line system] is permitted.

Each employee on a steep roof with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems with toe boards, safety net systems, or personal fall arrest systems.

Each employee engaged in the erection of pre-cast concrete members (including, but not limited to the erection of wall panels, columns, beams, and floor and roof "tees") and related operations such as grouting of pre-cast concrete members, who is 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems.

Each employee working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6 feet (1.8 m) or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches (1.0 m) above the walking/working surface, shall be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.

When an employee is exposed to falling objects, each employee shall wear a hard hat and the Site Supervisor shall implement one of the following measures:

Erect toe boards, screens, or guardrail systems to prevent objects from falling from higher levels; or,
Erect a canopy structure and keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge if they were accidentally displaced; or,

Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally displaced.

When fall protection is required for the protection of employees, a fall protection plan shall be prepared by a qualified person and developed specifically for the site where the work is being performed. The plan must be maintained up to date.

When fall protection is required, a competent person shall be assigned to: recognize fall hazards; warn employees if they are unaware of a fall hazard or are acting in an unsafe manner; be on same working surface and in visual sight; stay close enough for verbal communication; and not have other assignments that would distract the monitor’s attention from the monitoring responsibilities.

GUARDRAIL SYSTEMS

Top edge height of top rails, or equivalent guardrail system members, shall be 42 inches (1.1 m) plus or minus 3 inches (8 cm) above the walking/working level. When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria of this paragraph.

Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches (53 cm) high.

Midrails, when used, shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.
Screens and mesh, when used, shall extend from the top rail to the walking/working level and along the entire opening between top rail supports.

Intermediate members (such as balusters), when used between posts, shall be not more than 19 inches (48 cm) apart. Other structural members (such as additional midrails and architectural panels) shall be installed so that there are no openings in the guardrail system that are more than 19 inches (.5 m) wide.

Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds (890 N) applied within 2 inches (5.1 cm) of the top edge, in any outward or downward direction, at any point along the top edge.

Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds (666 N) applied in any downward or outward direction at any point along the mid-rail or other member.

Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

The ends of all top rails and midrails shall not overhang the terminal posts, except where such overhang does not constitute a projection hazard.

Steel banding and plastic banding shall not be used as top rails or midrails.

Top rails and midrails shall be at least one-quarter inch (0.6 cm) nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used for top rails, it shall be flagged at not more than 6-foot intervals with high-visibility material.

When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.

When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.

When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges.

When guardrail systems are used around holes which are used as points of access (such as ladder ways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole.

Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.

Manila, plastic or synthetic rope being used for top rails or midrails shall be inspected as frequently as necessary to ensure that it continues to meet the strength requirements of paragraph 3.6 of this section.

Safety nets may be used only after approval by Safety Coordinator.

PERSONAL FALL ARREST SYSTEMS

Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials. Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.
D-rings and snap hooks shall have a minimum tensile strength of 5,000 pounds (22.2 kN).
Snap hooks shall be sized to be compatible with the member to which they are connected to prevent unintentional disengagement of the snap hook by depression of the snap hook keeper by the connected member, or shall be a locking type snap hook designed and used to prevent disengagement of the snap hook by the contact of the snap hook keeper by the connected member. Effective January 1, 1998, only locking type snap hooks shall be used.

Unless the snap hook is a locking type and designed for the following connections, snap hooks shall not be engaged:

Directly to webbing, rope or wire rope;
To each other;
To a Dee-ring to which another snap hook or other connector is attached;
To a horizontal lifeline; or

To any object which is incompatibly shaped or dimensioned in relation to the snap hook such that unintentional disengagement could occur by the connected object being able to depress the snap hook keeper and release itself.

On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.

Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.

Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds (22.2 kN).

Lifelines shall be protected against being cut or abraded.

Self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet (0.61 m) or less shall be capable of sustaining a minimum tensile load of 3,000 pounds (13.3 kN) applied to the device with the lifeline or lanyard in the fully extended position.

Self-retracting lifelines and lanyards which do not limit free fall distance to 2 feet (0.61 m) or less, rip stitch lanyards, and tearing and deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 pounds (22.2 kN) applied to the device with the lifeline or lanyard in the fully extended position.

Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body belts and body harnesses shall be made from synthetic fibers.

Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used as follows:

as part of a complete personal fall arrest system which maintains a safety factor of at least two; and
under the supervision of a qualified person.

The attachment point of the body belt shall be located in the center of the wearer's back. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.

Harnesses and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by Berger Electric, Inc.'s Safety Coordinator to be undamaged and suitable for reuse.

Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists.

POSITIONING DEVICE SYSTEMS

Positioning devices shall be rigged so that an employee cannot free fall more than 2 feet (.9 m).

Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds (13.3 kN), whichever is greater.

Positioning device systems shall be inspected prior to each use for wear, damage, and other deterioration and defective components shall be removed from service.

WARNING LINE SYSTEMS
Warning line systems may be used only after approval by Berger Electric, Inc. Safety Coordinator.

CONTROLLED ACCESS ZONES P
The fall protection plan shall identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones.

When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access.

When control lines are used, they shall be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting pre-cast concrete members.

When erecting pre-cast concrete members, the control line shall be erected not less than 6 feet (1.8 m) nor more than 60 feet (18 m) or half the length of the member being erected, whichever is less, from the leading edge.=
The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.

The control line shall be connected on each side to a guardrail system or wall.

When used to control access to areas where overhand bricklaying and related work are taking place:

- The controlled access zone shall be defined by a control line erected not less than 10 feet (3.1 m) nor more than 15 feet (4.5 m) from the working edge.

- The control line shall extend for a distance sufficient for the controlled access zone to enclose all employees performing overhand bricklaying and related work at the working edge and shall be approximately parallel to the working edge.

- Additional control lines shall be erected at each end to enclose the controlled access zone.

- Only employees engaged in overhand bricklaying or related work shall be permitted in the controlled access zone.

Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:

- Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.
- Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) [50 inches (1.3 m) when overhand bricklaying operations are being performed] from the walking/working surface.
- Each line shall have a minimum breaking strength of 200 pounds (.88 kN).

On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.

On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed and the employer must comply with the criteria in paragraph (g) of this section.

Controlled access zones may be used only after approval by Berger Electric, Inc. Safety Coordinator.

SAFETY MONITORING SYSTEMS

Where no other alternative measure has been implemented, the employer shall implement a Safety monitoring system.

Safety monitoring systems and their use shall comply with the following provisions:

- The employer shall designate a competent person to monitor the safety of other employees and the employer shall ensure that the safety monitor complies with the following requirements:
  - The safety monitor shall be competent to recognize fall hazards;
  - The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;
  - The safety monitor shall be on the same walking/working surface and within visual sighting distance of the employee being monitored;
  - The safety monitor shall be close enough to communicate orally with the employee; and
  - The safety monitor shall not have other responsibilities which could take the monitor's attention from the monitoring function.

- Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-slope roofs.
- No employee, other than an employee engaged in roofing work [on low-sloped roofs] or an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.
- Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.
- Safety monitoring systems may be used only after approval by Berger Electric, Inc. Safety Coordinator.

COVERS

Covers for holes in floors, roofs, and other walking/working surfaces shall meet the following requirements:

- Covers located in roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.
- All other covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
- All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.
- All covers shall be color coded or they shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.

INSPECTION

All fall protection equipment shall be inspected prior to use and any defective, torn, or frayed body belts, lanyards and any other equipment shall be reported to Management or to job Supervisor. All equipment found to be defective shall be red tagged and replaced. Equipment shall be kept in good working condition and where equipment becomes soiled, greasy or oil soaked equipment shall be cleaned before being stored. Equipment carried on vehicles shall be checked and cleaned on an as needed basis and after every job performed where equipment has been used.

ACCIDENT REPORTING/INVESTIGATION

All Near Misses, Incidents and Accidents shall be reported immediately to the job Supervisor and/or to Management. All reports shall be filled out and brought to the office the day of the incident/accident occurring. Exceptions shall be if crew is outside of normal work areas, where reports are required upon returning to shop area. Upon an incident/accident occurring outside of normal work area, it shall be the responsibility of the job Supervisor and employee injured to make sure that the office is notified by telephone of the incident/accident. All reports shall be filled out as thoroughly and as descriptive as can be made possible. All reports shall be returned to office within seven days for processing. Upon any Near Misses, Incident/Accidents occurring,

the Safety Coordinator shall be notified immediately so an investigation can be initiated, at the time of the incident/accident.

INVESTIGATION PROCEDURES

- Include all persons (witnesses) when beginning report.
- Find out the nature and extent of injuries.
- Determine the way and how accident occurred.
- Determine the direst causative agents for injury occurring.
- Determine the in-direct causative agents leading to the accident.
- Evaluate and make recommendations for corrective action to be used.

TRAINING

Employees will be trained in the following areas:

Training shall enable each employee to recognize the hazards of falling to minimize these hazards employees are training in the following:

Training shall be documented through Training documentation with employee name, date of training, name of trainer.

- The nature of fall hazards in the work area.
- The correct procedures for erecting, maintaining, disassembling and inspecting fall protection systems.
- Shall be re-trained when fall protection equipment changes or procedure changes as to use of fall protection, where prior training is rendered obsolete.
- The use and operation of controlled access zones and guardrail, personal fall arrest, warning line and safety monitoring systems.
- The role of each employee in the safety monitoring system when the system is in use.
- Employees shall be trained in the immediate rescue procedure, in the event of a fall and also how rescue self in a fall protection situation.
- The limitations on the use of mechanical equipment during the performance of work on low-sloped roofs.
- The correct procedures for equipment and materials handling and storage and the erection of overhead protection.
- Employee’s role in fall protection policies and plans

HEARING CONSERVATION PROGRAM

Hearing loss can occur in industrial environments and can become permanent if the noise levels continue without measures to reduce the noise. Where feasible, administrative or engineering controls should be used to reduce Employee noise exposures to below the eight (8) hour time weighted average (TWA) of 85 decibels measured on the slow response scale or, equivalently, a dose of fifty percent as defined by OSHA 29 CFR 1910.95, and 1926.52. Noise exposure can be reduced by using engineering controls, administrative procedures, or personal protective devices.

SCOPE

To provide a continuing and effective hearing conservation program for Berger Electric, Inc. employees by:

- Outline methods of determining noise levels through noise level surveys.
- Define acceptable noise exposure limits based on OSHA's standard for Occupational Noise Exposure 1910.95.
- Require annual audio-metric testing of high-risk employees.
- Develop local administrative controls to limit noise exposure
- Establish responsibilities for compliance with hearing conservation programs.
- Comply with federal, state and local regulations.

This standard applies to all employees potentially exposed to noise in excess of the threshold limit value.

PROCEDURE

NOISE LEVELS DETERMINATION

- Supplementary surveys shall be performed whenever there are changes in equipment or operations, whenever facilities alter noise levels, or when requested to do so by the supervisor in charge of that area.
- Equipment used for noise measurements shall be selected, calibrated and used in accordance with current OSHA standards.
- Measurements shall be taken at convenient, identifiable locations throughout the area to develop a noise exposure profile. Surveys shall include the most common work sites in the area. Audio-dosimeter shall be used to supplement area surveys where employees may routinely be exposed to sound levels above 85db.
- Hearing protection shall be provided to employees, exposed to an 8 hour time weighted average of 85 dba, at no cost to the employees.

CONTROL MEASURES

- In areas with identified noise levels of 85 DBA (on the A scale) or greater, the following measures shall be taken to protect employee hearing:
- Areas with sound level readings above 85 DBA shall be posted with "Warning Hearing Protection Required" signs at all entrances. Workers in these areas shall be required to wear hearing protection devices for any task that takes longer than 15 minutes in any one eight (8) hr. period.

- Hearing protection devices shall be available to anyone desiring them.
- Anyone performing work or using a tool that produces high frequency or impact type noise shall wear hearing protection.
- All hearing protection devices shall reduce the noise to a level at or below 85 DBA. To do this, the devices shall have a Noise Reduction Ratio (NRR) of 20 or more. If there are areas where higher NRR's are needed, warning signs shall indicate such a need.

If at any time, noise problems are identified by the supervisor and communicated to management, modifications to reduce the noise levels shall be evaluated for effectiveness and practicality. Such modifications shall be installed where the noise reduction benefits justify the change.

Audio-metric examinations shall be performed on all new employees to establish baseline-hearing levels and to identify persons with existing hearing loss.

The baseline audiogram is the reference audiogram against which future audiograms are compared Baseline audiograms must be provided within 6 months of an employee's first exposure at or above an 8-hour TWA of 85db. An exception is the use of mobile test vans to obtain audiograms. In these instances, baseline audiograms must be completed within 1 year after an employee's first exposure to workplace noise at or above a TWA of 85db. Employees, however must be fitted with issued, and required to wear hearing protectors for any period exceeding 6 months after their first exposure until the baseline audiogram is obtained.

Annual audio-metric testing shall be performed for all employees exposed to noise levels of 85 DBA or greater.

Annual audiograms must be conducted within one year of the baseline. It is important to test hearing on an annual basis to identify deterioration in hearing ability so that protective follow up measures can be initiated before hearing loss progresses. Annual audiograms must be routinely compared to baseline audiograms to determine whether the audiogram is valid and to determine whether the employee has lost hearing ability, if a standard threshold shift STS has occurred, STS is an average shift in either ear of 10db or more at 2,000, 3,000, and 4,000 hertz. An averaging method of determining STS was chosen because it diminished the number of persons falsely identified as having STS and who are later shown not to have had a change in hearing ability. Additionally, the method is sensitive to identify meaningful shifts in hearing early on.

At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing, within 21 days of the determination.

All audio-metric examinations shall be conducted by certified personnel using appropriate facilities, equipment and techniques as required by OSHA.

An audiogram evaluation is if, STS is identified, employees must be fitted or refitted with adequate hearing protectors, and shown how to use the protectors and are required wearing the protectors. Employees must be notified within 21 days from the time the determination is made that their audiometric test results showed an STS. Some employees with an STS may need to be referred for further testing if the professional determines their test results are questionable or if they have an ear problem of a medical nature is thought to have caused or aggravated by wearing hearing protectors. If the suspected medical problem is not thought to be related to wearing hearing protection, employees must be informed that they should see a physician. If subsequent audiometric tests show that the STS identified on a previous audiogram is not persistent, employees whose exposure to be less than a TWA of 90db may discontinue wearing hearing protectors.

An annual audiogram may be substituted for the original baseline audiogram if the professional supervising the program determines that the employee's STS is persistent. The original baseline audiogram, however, must be retained for the length of the employee's employment. This substitution will ensure that the same shift is not repeatedly identified. The professional also may decide to revise the baseline audiogram if an improvement in hearing occurs. This will ensure that the baseline audiogram reflects actual hearing thresholds to extent possible. Audiometric tests must be conducted in a room meeting specific background levels and with calibrated audiometers that meet ANSI specifications.

Employees reporting for audio-metric examinations should avoid exposure to high noise areas for 24 hours prior to the test.

EMPLOYEE NOTIFICATION

Employees may request the results of a noise survey or observe any survey in progress. Employees may further request their individual data, which has been gathered from dosimeter testing. Employees shall be informed of the results of their own audiometric tests.

RESPONSIBILITIES

Safety Coordinator

- Noise level surveys and dosimeter surveys.
- Noise control recommendations.
- Hearing protection equipment approval.
- Hearing protection training including the effects of noise, selection and use and care of hearing protection, purposes of audio-metric testing.

Engineering

- To evaluate noise control methods in areas where such methods may be practical when requested by supervisors or management.

- To engineer new installations and modifications so as to minimize noise exposure to employees.

Supervision

- Baseline and annual audio-metric testing of persons under their control.
- Enforcement of hearing protection requirements.
- Participation in investigations concerning potential hearing loss from occupational noise exposure.
- Requesting noise level surveys in new or modified areas under their control.

Employees

- Wearing of hearing protection in high noise areas.
- Report hearing loss that may be due to occupational noise.
- Provide requested information to an investigation concerning potential occupation hearing loss claims.

ENGINEERING CONTROLS

- Reduction of noise production at the source
- Proper design of new machines
- Modification of present machines
- Proper repair and upkeep of equipment
- Use of appropriate mufflers
- Use of vibration dampeners on machines
- Reduction of noise transmission
- Increase distance between noise and personnel exposed
- Construction of barriers between noise source and personnel
- Sound treatment of ceilings and walls

ADMINISTRATIVE PROCEDURES

- Job schedule changes
- Personnel rotation
- Personnel Protective Devices
- Ear plugs
- Earmuffs

Federal occupational safety and health regulations require that whenever Employees are exposed to excessive noise levels (see Table of Permissible Noise Exposure Levels), feasible engineering or administrative controls must be used to reduce these levels. When this is not feasible or cannot be accomplished by administrative or engineering controls, then a Hearing Conservation

Program should be implemented in accordance with this Policy. The Program will include protection that can, in most cases, be provided by wearing suitable protective hearing devices.

Berger Electric, Inc. will supply ear plugs for Employees upon request or before going into a high noise area. There is a need for supervision when ear plugs are used because their

effectiveness depends on proper fitting. Only approved plugs should be used. Ear plugs should be cleaned daily to prevent ear infections.

Protection greater than provided by a single device can be obtained by wearing ear plugs under an earmuff. While the reduction provided by wearing both devices simultaneously is considerably less than the sum of the individual attenuations, it is still greater than when either device is worn separately.

Whenever Employees must work in areas or with equipment and tools (such as grinders, air compressors, power tools, metal saws, etc.) that expose them to noise levels exceeding the permissible noise exposure levels, Employees will be provided with Personal Protective

Equipment, and must use the equipment to reduce the sound levels to below the permissible exposure levels (PEL). The purpose of this Program is to establish guidelines to help protect Employees from hearing loss due to occupational noise exposure through an effective hearing conservation program.

The objectives of Hearing Conservation Program are:

- To insure that no Employee be exposed to noise levels at or above 85 db without approved hearing protective equipment.
- To provide a Hearing Conservation Program for all Employees who are regularly exposed to hazardous noise in their assigned job duties (8-hour TWA = 85 db, 12-hour TWA = 82 db).
- To identify hazardous noise areas and sources through appropriate monitoring surveys.
- To maintain a noise monitoring program that detects hazardous noise levels of specific job duties and work areas.
- To establish and maintain an audiometric testing program for all Employees whose exposures equal or exceed an 8-hour time weighted average of 85 decibels.

This Hearing Conservation Program covers all Employees. Where it is necessary to use Personal Protective Equipment to control exposure of Employees to high noise level exposures, the Safety Coordinator shall implement this Program.

RESPONSIBILITIES: The Safety Coordinator is responsible for:

- Formulating, coordinating and implementing this Hearing Conservation Program.
- Identifying hazardous noise areas.
- Monitoring each job classification to determine noise exposure levels. The results shall be used to determine which job classification must be included in the Hearing Conservation Program.
- Assuring that personnel are trained in the proper usage of the hearing protection equipment and the importance of hearing conservation.
- Coordinating the notification and retraining of Employees identified with Significant Threshold Shifts in their hearing.
- Conducting periodic field checks to determine if Employees are complying with the Hearing Conservation Program.
- Acting in an advisory capacity on all matters pertaining to hearing conservation.

- Making certain the Program complies with Federal, State and local laws and regulations.
- Ensuring that the appropriate type and an adequate number of hearing protectors are maintained on the premises.
- Maintaining and upkeep of noise signs posted in the hazardous areas, or on the tools or equipment for which hearing protection is required.

Any and all of the above duties and responsibilities may be assigned to another competent individual, but the ultimate responsibility for the successful implementation of this Program shall lie with Berger Electric, Inc. Safety Coordinator. Each Employee is responsible for:

- Complying with the guidelines of the Hearing Conservation Program.
- Using the provided hearing protection equipment in accordance with the training and instructions received.
- Notifying the Safety Coordinator immediately when conditions or practices change and result in increased noise levels.

TRAINING: All Employees who are exposed to noise at or above an 8-hour time weighted average of 85 decibels will receive training to inform them of the following:

- The effects of noise on hearing.
- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use and care.
- The purpose of audiometric testing, and an explanation of the test procedures.

The training will be repeated annually for each Employee. Information provided in the training program will be updated to stay consistent with changes in protective equipment and work processes. All affected Employees have access to the OSHA Standards 1910.95 and 1926.52. A copy of this Program will be posted wherever it is implemented.

OSHA COMPLIANCE: Berger Electric, Inc. shall maintain accurate record of all employee exposure measurements and that all records are maintained as required by the regulation.

- Employee Monitoring Employee Notification
- Audiometric Testing Hearing Protectors
- Recordkeeping

ACCESS TO RECORDS: All records required by this Program and the OSHA standards will be provided upon request to Employees, former Employees, representatives designated by the individual Employee, and the Assistant Secretary of Labor. The provisions of 29 CFR 1926.59 (a-e) and (g-i) apply to access to records under this section. Any questions and/or clarifications should be addressed to Berger Electric, Inc. Safety Coordinator.

HEARING PROTECTION DEVICES

Foam Plugs Wax Plugs
Rubber Ear Plugs Ear Valves
Ear Muffs Bump Cap with Ear Muffs

Berger Electric, Inc. will evaluate hearing protection for effectiveness and the required attenuation.

RESPIRATORY PROTECTION PROGRAM

Berger Electric, Inc. will provide adequate respiratory protection for our employees and to maintain a continuous program of training as to the proper use of and care of the respirator devices to insure this level of protection. Protective equipment that offers protection against the conditions that are likely to exist to develop within the area where employees are required to work shall be provided and used. This program shall be a mandatory program for any employee that is exposed to airborne contaminants during the time of his employment.

RESPONSIBILITIES

All Employees shall follow the requirements of the Respiratory Protection Program Management shall:

- Implement the requirements of the program.
- Provide a selection of respirators where needed.
- Enforce all provisions of the Respiratory Protection Program.
- Appoint a Designated individual to conduct the Respiratory Protection Program.

Program Administrator shall:

- Review sanitation/storage procedures
- Ensure respirators are properly stored, inspected and maintained.
- Monitor compliance of the program.
- Provide training for affected employees.
- Review compliance and ensure monthly inspections of all respirators.
- Provide respirator fit testing where required.

PROGRAM EVALUATION

Administrator must be knowledgeable of the complexity of the program, conduct evaluations, and be properly trained. Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented; this includes consulting with employees to ensure that they are using the respirators properly. Evaluations shall be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective. Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Assessment may include but not limited to:

- Respirator fit (including the ability to use respirator without interfering with effective workplace performance).
- Appropriate respirator selection for the hazards to which employee may be exposed.
- Proper respirator use under the conditions to which employee encounters; and
- Proper respirator maintenance.

RECORD KEEPING

Berger Electric, Inc. will retain records (written) regarding medical clearance and evaluations, fit testing and the respirator program. This information shall facilitate employee involvement in the respirator program; assist Berger Electric, Inc. in evaluating the adequacy of the program. Free

medical clearance and evaluations and respirators shall be provided to all employees at no charge to employees.

TRAINING AND INFORMATION

Berger Electric, Inc. shall provide free training for employees who are required to use respirators. The training will be comprehensive, understandable and shall be reviewed annually or more often if necessary. Training shall be provided to employees' prior to use of respirators. The training shall ensure that each employee (new employees included) can demonstrate knowledge of the following:

- Why the respirator is necessary and how improper fit, usage or maintenance can compromise the effectiveness of the respirator.
- Limitations and capabilities of the respirator.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to inspect, put on, remove, use and check the seals of the respirator.
- What the procedures are for maintenance and storage of the respirator.
- How to recognize medical signs and symptoms that may limit or prevent effective use of the respirator.
- The general requirements of this program.

Retraining shall be conducted annually or as needed when:

- Changes in the workplace or type of respirator renders previous training obsolete.
- Inadequacies of the employee's knowledge or use of the respirator indicates that the employee has not retained the understanding or skill of respirator use.
- Other situations arise in which retraining appears necessary to ensure safe respirator use.

Training shall be conducted in house and/or by outside consultants where necessary. Administrator must be knowledgeable of the complexity of the program, conduct evaluations, and be properly trained. Free training shall address types of respirators used and medical clearance and evaluation shall be provided free to employees.

Instruction shall include but not limited to:

- Overview of Berger Electric, Inc. Respiratory Protection Program.
- Respiratory Protection Safety Procedures.(See APPENDIX A)
- Respirator Selection.
- Respirator Operation and Use.
- Why respirators are needed.
- How improper fit, usage or maintenance can compromise protective effectiveness.
- Limitations and capabilities of the respirator.
- How to inspect, put-on and remove, use and check of the respirator.
- Use of the respirator in emergency situations, including respirator malfunction.
- Recognition of medical signs and symptoms that may limit or prevent effective use of respirator.

Hands on respirator training shall include but not limited to the following:

- Respirator Inspection.

- Respirator cleaning and sanitizing.
- Record Keeping
- Respirator Storage .
- Respirator Fit Check
- Emergency Situations.

RESPIRATORY PROTECTION SCHEDULE BY JOB AND WORKING CONDITION
Berger Electric, Inc. shall maintain a Respiratory Protection Schedule by the Job and or Working Conditions. This schedule shall be provided to each authorized or trained employee. The schedule shall provide the following but not limited to:

- Job/Working Conditions
- Work Location.
- Hazards Present.
- Type of respirator required (SCBA or other)
- Location of respirator. (SCBA)

The schedule will be updated and reviewed on an as needed basis dependent upon work situations.

RESPIRATOR SELECTION
Berger Electric, Inc. has evaluated the respiratory hazard within and identifies the relevant respirator selection on these factors, SCBA's being used shall use only Grade D or better, compressed air, located in a clean atmosphere, with in line purification and tagged to indicate date of change out. Carbon monoxide monitor shall be in place and set to alarm at 10 ppm or monitored frequently. Employee exposures and identification of the contaminant's chemical state and form, this selection process has determined protective respirators for use in IDLH atmospheres and has limited the selection to the use of Self-Contained Breathing Apparatus. Respirators used shall be Scott 30 Minute respirators and in other situations Scott five-minute air packs. All respirators are NIOSH-certified.

Respirator selection is to be used for IDLH atmosphere:

The following respirator shall be used within Berger Electric, Inc. for IDLH atmospheres:

- SCOTT – 30 Minute SCBA
- SCOTT - 5 Minute SAR

Scott 30 minute SCBA with full face-piece pressure demand unit for minimum service of thirty minutes as certified by NIOSH.

Scott 5 minute SAR with full face-piece pressure demand with auxiliary self contained air supply.

All units are certified with NIOSH.

PHYSICAL and MEDICAL QUALIFICATIONS

Berger Electric, Inc. provides a medical evaluation to determine the employee's ability to use a respirator, when necessary; the OSHA questionnaire will be reviewed by a medical professional before the employee is fit tested or required to use the respirator in the job or on worksites. The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands the content. Berger Electric, Inc. shall provide the employee with an opportunity to discuss the questionnaire and examination results. The employer is required to establish and retain written information regarding medical evaluations, fit testing, and the respirator program. The employer shall maintain records of medical evaluations in accordance with 29 CFR 1910.1020. These records shall be made available in accordance with 29 CFR 1910.1020 where and by whom where records are kept.

PHYSICIAN INFORMATION

The following information shall be provided to the Physician before the Physician makes recommendation concerning an employee's ability to use a respirator.

- The type and weight of the respirator to be used by the employee.
- The duration and frequency of respirator use (including use for rescue or escape).
- The expected physical work effort.
- Additional protective clothing and equipment to be worn.
- Temperature and or other extremes which may be encountered in duties.

In determining the employee's ability to use a respirator, Berger Electric, Inc. shall:

- Obtain a written recommendation regarding the employee's ability to use the respirator from the Physician.
- Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.
- The need if any, for follow-up medical evaluations.
- A statement that the Physician has provided the employee with a copy of the Physician's written recommendation.

ADDITIONAL MEDICAL EVALUATIONS

At a minimum, Berger Electric, Inc. shall provide additional medical evaluations that comply with the requirements of this section if

- An employee reports medical signs or symptoms that are related to ability to use a respirator.
- A Physician, supervisor or other notification is given to inform Berger Electric, Inc. that an employee needs to be reevaluated.
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation.

- A change occurs in workplace conditions (e.g., physical work effort, protective clothing and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

RESPIRATOR FIT TESTING

Berger Electric, Inc. before an employee is required to use any respirator with positive pressure tight fitting face piece, the employee will be fit tested with the same make, model, style and size of respirator that will be used. Berger Electric, Inc. shall ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used. Employer is required to ensure employees pass qualitative fit test (QLFT) or quantitative fit test (QNFT) before initial use, if a different respirator is used, and annually. SARs are required to be fit tested as well.

Berger Electric, Inc. has established a record of the qualitative and quantitative fit tests administered to employees including the following:

- The name or identification of the employee tested.
- Type of fit test performed.
- Specific make, model, style and size of respirator tested.
- Date of test.
- Pass/fail results with a comment section.

RESPIRATOR FIT CHECK

The individual who uses a tight-fitting respirator is to perform a user check to ensure that an adequate seal is achieved each time the respirator is put on. As Berger Electric, Inc. uses positive pressure respirators, either use the manufacturers recommended user seal check method or use the following:

POSITIVE PRESSURE CHECK: Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing after test is conducted. Additional fit tests will be conducted whenever the employee reports, or supervisor reports, or doctor reports, or Berger Electric, Inc. makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight. If an employee passes an OLFT or QNFT, but reports to Berger Electric, Inc. supervisor, or doctor that the fit was not acceptable, the employee shall be given a reasonable time to select a different respirator face piece and be re-tested.

RESPIRATOR OPERATION and USE

Respirators will only be used following respiratory protection safety procedures established in this program. The Operations and Use Manuals for each type of respirator will be maintained by the Safety Director and be available to all qualified users.

Berger Electric, Inc. Safety Director or Supervisor shall conduct periodic surveillance of workplace and work conditions and evaluate the degree of employee exposure or stress that may

affect respirator effectiveness, Berger Electric, Inc. shall reevaluate the continued effectiveness of the respirator. For continued protection of respirator users, the following general rules apply:

- Users shall not remove respirators while in a hazardous environment.
- Respirators are to be stored in sealed containers out of harmful atmospheres.
- Store respirators away from heat and moisture or chemical areas.
- Store respirators such that the sealing area does not become distorted or warped.
- Store respirator such that the face piece is protected.

SEAL PROTECTION

Berger Electric, Inc. does not permit respirators with tight-fitting face piece to be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.
- Any condition that interferes with the face-to-face piece seal or valve function.
- If an employee wears corrective glasses or contacts.
- If an employee wears other restrictive clothing or protective equipment.
- Berger Electric, Inc. shall ensure that equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

RESPIRATOR INSPECTION

Berger Electric, Inc. provides the following guidelines for respirator inspection:

- Inspect Face piece: no cracks, rips, tears, Must be flexible, not distorted. Lens shall be clear and mounted properly. All parts in place and functional.
- Head straps: no cracks, rips, tears, Buckles in-place, No excessive wear, Good elasticity.
- Valves: No foreign material or residue, Valve material intact, not distorted, full contact with seal surface, Exhalation valve cover installed.
- SCBA Cylinder: Dents, gouges, cuts in fiberglass outer wrap, fittings tight, Check Hydrostatic test date (3 years)
- SCBA Head: Cylinder gage face, lens and indicator. Open cylinder valve to check for leaks. Check function of valve lock.
- SCBA Line and Regulator: Check line for kinks, outer damage check for leakage, Check regulator gage face, lens and indicator. Check gage reading.
- SCBA: Operational check regulator operation.
- SCBA: Check operation of Low Pressure Alarm.
- SCBA: Check hose to mask connections.
- Conduct Positive Fit Test of face piece.
- Properly repackage unit for storage.

CLEANING AN SANITIZING RESPIRATORS

All employees shall be responsible for the cleaning and sanitizing of units before repackaging for storage. The following is a general outline and manufacturer's recommendations should be available for cleaning: The program administrator must address appropriate surveillance, and ensure employees leave the area to wash, change cartridges, or if they detect break-through or resistance.

- Add a small amount of non-detergent soap to a pail of warm water.

- SCBA: Disconnect air line hose from mask.
- Wash face piece thoroughly inside and out.
- Rinse face piece thoroughly in running water and allow water to flow through the exhalation valve.
- Submerge entire face piece in disinfectant.
- Rinse face piece thoroughly in running water and allow to flow through exhalation valve.
- Shake excess water from respirator, allow respirator to air dry away from sunlight and heat. Do not lay face piece face down.
- Reassemble respirator and store properly and make sure that straps are extended.

BASIC RESPIRATORY PROTECTION SAFETY PROCEDURES

- Only authorized and trained employees may use Respirators. Those Employees may use only the Respirator that they have been trained and properly fitted to use.
- Only Physically Qualified Employees may be trained and authorized to use Respirators. A pre-authorization and annual or as needed certification by a qualified physician will be required and maintained.
- Only the proper prescribed respirator or SCBA may be used for the job or work environment. SCBA's will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).
- Employees working in environments where a sudden release of hazardous substance is likely will wear an appropriate respirator for that hazardous substance.
- Only SCBA's will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance or any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).
- The last Employee using a respirator or SCBA that are available for general use will be responsible for proper storage, sanitation. Monthly and after each use, all respirators will be inspected with documentation to assure its availability for use.
- All respirators will be located in a clean, convenient and sanitary location.
- Management and or supervisors will establish and maintain surveillance of jobs or workplace conditions and degree of Employee exposure or stress to maintain the proper procedures and to provide the necessary RPE.

Management will establish and maintain safe operating procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow general and specific safety rules.

SCAFFOLD SAFETY

The scope of this program applies to all Berger Electric, Inc. job locations where scaffolds and ladders may be used. The requirements, as set forth, should be implemented to the fullest extent possible.

RESPONSIBILITIES

Berger Electric, Inc. Safety Coordinator or designated personnel shall be responsible to provide for the monitoring of work activities to assure compliance to the requirements of this program. The Safety Coordinator, Supervisor and Management shall be responsible for the enforcement and disciplinary action resulting from violation or failure to implement the requirements of this program.

REQUIREMENTS

A competent person shall ensure that scaffolds are safe prior to and during use.

1. If unsafe equipment or conditions are observed, these shall be tagged out by the competent person. All employees shall comply with the tagout. Scaffolding that is tagged out as being unsafe shall not be used.
2. Only qualified and competent personnel are allowed to modify scaffolding systems.

The following requirements are applicable to all scaffolds:

Guardrails and Toe boards:

1. Guardrails shall be constructed of 2" X 4" lumber, 1/2 inch wire rope, angle iron or the prefabricated rail(s) supplied by the scaffold manufacturer.
2. Top rails shall be approximately 42 inches above the working surface.
3. Mid rails shall be approximately 21 inches above the working surface.
4. Wire rope top rails and mid rails shall be stretched tight with no more than an approximate 2 inch deflection.
5. Toe boards shall extend a minimum of 4 inches above the working surface.
6. When the placement of the scaffold work platform prevents the installation of guardrails, other fall protection equipment shall be used.
7. Guardrails and toe boards shall be installed on all open sides and ends of scaffolds.
8. Scaffolds and work platforms 4 feet to 10 feet high with a working surface of less than 45 inches shall have standard guardrails installed on all open sides and ends of the scaffold or platform.

Working Surfaces:

1. Working surfaces shall be constructed of scaffold plank, aluminum deck boards or 3/4" construction grade plywood.
2. Scaffold planking shall be scaffold grades or equivalent.
3. Working surfaces shall be secured by nails, double wrap of wire or cleats.

4. Lumber sizes, when used in this program; refer to nominal size/thickness except where otherwise stated.
5. Scaffold planks shall extend a minimum of 6 inches and a maximum of 12 inches over the end supports.
6. If required, an access/egress ladder shall be provided.
7. Scaffold planks shall not span more than 8 feet between supports/vertical legs.
8. Scaffold planks and plywood shall be free of splits and burns.

Scaffold Footing and Anchorage:

1. The footing or anchorage shall be capable of carrying the maximum intended load without settling or displacement.
2. The uprights/vertical legs shall be plumb and securely braced to prevent swaying and displacement.

Tubular Welded Frame:

1. Scaffold shall be cross-braced to assure scaffold is plumb, square, and rigid.
2. Stacking pins shall only be secured with the manufacturer's pins or recommended bolts.
3. Cross braces shall be secured, as designed by the manufacturer.
4. Stationary scaffolds must be secured horizontally, every 26 feet of height and 30 feet horizontally, to prevent tipping.
5. The height of rolling scaffolds, measured from the ground to the top rail, shall be no more than four times the minimum base dimension (length times the width).
6. All wheels/casters shall be the same size, equipped with a positive locking device, and in good working condition.
7. Wheels shall be locked while personnel are working from the scaffold.
8. Personnel shall not be permitted on mobile scaffold while the scaffold is being moved.

Tube and Coupler (Tube-Lock):

1. Uprights shall have a maximum spacing of 8 feet.
2. Uprights shall be placed on secure bases and maintained plumb.
3. Scaffolds shall be limited in heights and working levels.
4. Horizontal braces shall be installed completely around all exterior uprights and between interior uprights. Braces shall be installed at 6 feet of height.
5. Platform supports shall be coupled/clamped directly to the horizontal braces and extend 4 inches to 12 inches beyond the horizontal braces.
6. All horizontal bracing shall be coupled/clamped directly to the uprights.
7. Diagonal bracing shall be installed at alternating 45 degree angles beginning with the corner upright and repeating every 5th upright on the perimeter. An alternating bracing pattern should be used.

Suspension Scaffolds:

1. Cable shall be securely anchored and softeners shall be used when necessary.
2. Cable shall be insulated at the anchor point from the motor to 4 feet above the motor and wherever the cable comes in contact with metal to prevent electrical arcing.
3. Two-point suspension scaffold platforms shall remain level while being raised or lowered.

Each employee shall wear a full body harness and be tied off to an independent lifeline. A lifeline shall be supplied for each employee.

Knee Brace/Cantilever:

1. Knee brace/cantilever scaffolding shall be welded by a qualified welder and visually inspected before use.

Ladders:

1. Ladders shall extend 36 inches above the landing.
2. Extension and job-built ladders shall be secured to prevent movement or falling.
3. Manufactured ladders shall be Class I or Class IA with properly working feet.
4. The slope of the ladder from the base of the support shall be one (1) foot for every 4 feet of ladder length.
5. All ladders shall be set on a firm base to prevent shifting and tipping.
6. Ladders with broken or missing rungs or steps, broken or split side rails, or faulty or defective construction, shall not be used.
7. Metal ladders shall not be used.
8. Step ladders shall not be used as a leaning ladder.
9. Employees shall not work off the top two steps of a stepladder.
10. Personnel shall have both hands free of tools, materials, or equipment, while climbing and descending ladders.
11. Personnel shall face the ladder when climbing and descending.

TRAINING REQUIREMENTS

Berger Electric, Inc. shall have each employee who performs work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards.

The training shall include the following areas, as applicable:

1. The nature of any electrical hazards.
2. Fall hazards and falling object hazards in the work area.
3. The correct procedures for dealing with electrical hazards and for erecting.
4. Maintaining, and disassembling the fall protection systems and falling object protection systems being used.
5. The proper use of the scaffold.
6. Proper handling of materials on the scaffold.
7. The maximum intended load and the load-carrying capacities of the scaffolds used.
8. Any other requirements which may arise.

Berger Electric, Inc. shall have each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained to recognize any hazards associated with the work in question.

The training shall include the following topics, as applicable:

1. The nature of scaffold hazards.
2. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
3. The design criteria, maximum intended load-carrying capacity and intended use of the scaffold.
4. Any other requirements which may arise.

When Berger Electric, Inc. has reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, Berger Electric, Inc. shall retrain each such employee.

Retraining that may be required:

1. Where worksite may present a hazard about which an employee has not been previously trained.
2. Changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been trained.
3. Where affected employee's work involving scaffolds indicate that the employee has not retained previous training.

The Safety Coordinator shall be responsible for implementing the employee training and information program.

The program may include classroom instruction, safety tool box meetings, and other forms of group or singular instructions.

The Supervisor is responsible for assuring employees are qualified or competent in the following areas:

1. Fall hazards and falling object hazards.
2. Protection from electrical hazards for erecting, maintaining, and dismantling.
3. Fall protection and protection systems.
4. Proper and safe handling of materials.
5. Trained in the maximum intended loads and load-carrying capacities.
6. Any other requirements which may arise.

ELECTRICAL SAFETY: QUALIFIED/NON QUALIFIED LOCKOUT/TAGOUT

Berger Electric, Inc. has established this electrical safety program to prevent electrically related injuries to employees resulting from either direct or indirect electrical contacts, or damage to property when work is performed near or on equipment or circuits which are or may be energized.

This program also provides for proper training of maintenance employees to ensure they have the required knowledge and understanding of electrical work practices and procedures.

All employees shall be trained in and familiar with the safety-related work practices that pertain to their respective job assignments.

Only employees who are qualified to perform electrical work, knowledgeable about this program, and authorized by Berger Electric, Inc. are allowed to repair or replacement electrical components or electrically powered tools or equipment.

Protection against shock is the principal safety requirement whenever Employees are repairing electrical circuits, fixtures, equipment or appliances; or when working with or around electric power transmissions or distribution equipment. To use electricity safely, you need to identify its most common hazards.

Electrical repair should be left to skilled, electrical trained personnel. If a hazard is spotted, do not touch anything. Report it to the Safety Coordinator immediately so that electricians can make the proper repairs. Here are the hazards to watch out for:

- Loose electrical connections
- Cords without insulation or frayed insulation
- Plugs that don't match their outlets -- like a 3-pronged plug in a 2-pronged outlet
- Non-waterproof cords used outdoors
- Equipment running over capacity
- Tools that smoke, smell, spark, or shock
- Wires running across the floor
- Electrical cords left near heat or water
- Electrical cords used around hazardous flammable or explosive materials and not designed for that use
- Extension cords instead of permanent wiring

Equipment such as electrical tools or appliance must be grounded or of the double insulated type. Extension cords being used must have a grounding conductor. The workplace Supervisor must be aware if multiple plug adapters are prohibited.

If ground-fault circuit interrupters are installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed, temporary circuits must be protected by suitable disconnecting switches or plug connectors with permanent wiring at the junction.

The cover of each switch box and each circuit breaker should be marked with its voltage and the machines or lights it controls. This allows for quick identification in the event of a fire.

Do not use extension cords of the household variety or light-gauge wire to appliances, machines or tools. Only UL approved connectors and wiring or industrial type extension cords are permitted. The use of unauthorized multiple sockets anywhere is prohibited. All of these areas of concern cause overloading of the intended use for the installed wiring and are principle causes of fire. Electricians must be aware of the following:

- Exposed wiring and cords with frayed or deteriorated insulation must be repaired or replaced.
- Flexible cords and cables must be free of splices or taps.
- Clamps or other securing means must be provided on flexible cords or cables at plugs, receptacles, tools, equipment. The cord jacket must be held securely in place.
- All cord, cable and raceway connections must be intact and secure.
- In wet or damp locations, electrical tools and equipment must be appropriate for the use or location, or otherwise protected.

The location of electrical power lines and cables (overhead, underground, under floor, other side of walls) must be determined before digging, drilling or similar work is begun.

All metal measuring tapes, ropes, hand lines or similar devices with metallic thread woven into the fabric are prohibited for use where they could come in contact with energized parts of equipment or circuit conductors.

The use of metal ladders is prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or conductors.

All disconnecting switches and circuit breakers must be labeled to indicate their use or equipment served.

A means for disconnecting equipment must always be opened before fuses are replaced.

All interior wiring systems must include provisions for grounding metal parts or electrical raceways, equipment and enclosures.

All electrical raceways and enclosures must be fastened securely in place.
All energized parts of electrical circuits and equipment must be guarded against accidental contact by approved cabinets or enclosures.

Sufficient access and working space shall be provided and maintained around all electrical equipment to permit ready and safe operations and maintenance.

All unused openings (including conduit knockouts) in electrical enclosures and fittings must be closed with appropriate covers, plugs or plates.

Electrical enclosures such as switches, receptacles, and junction boxes must be provided with tight-fitting covers or plates.

Disconnecting switches for electrical motors in excess of two horsepower must be capable of opening the circuit when the motor is in a stalled condition without exploding. (Switches must be horsepower rated equal to or in excess of the motor hp rating.)

Low voltage protection must be provided in the control device of motor driven machines or equipment which could cause injury from inadvertent starting. A motor disconnecting switch or circuit breaker must be located within sight of the motor control device.

Motors: a) must be located within sight of their controller; b) must have their controller disconnecting means capable of being locked in the open position; c) or must have separate disconnecting means installed in the circuit within sight of the motor.

A controller for a motor in excess of two horsepower must be rated equal to but not in excess of the motor it services.

Employees who regularly work on or around energized electrical equipment or lines shall be instructed in cardiopulmonary resuscitation (CPR) methods.

Employees must be specifically authorized by the Safety Coordinator and trained on how to work on energized lines or equipment involving 600 volts or higher voltages.

RESPONSIBILITIES

Management

- Provide training for qualified and unqualified employees.
- Conduct inspections to identify electrical safety deficiencies on locations
- Guard and promptly correct all electrical deficiencies.
- Ensure that all new electrical installations meet codes and regulations.

Employees

- Report electrical deficiencies immediately
- ***DO NOT*** work on electrical equipment unless authorized and trained
- Properly inspect all electrical equipment prior to use

TRAINING

Unqualified persons

There are employees who face a risk of electric shock that is not reduced to a safe level by electrical installation requirements, and who are not qualified by training and experience to perform electrical installation, repair and service operations.

When working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he/she may contact cannot come closer to any unguarded energized overhead line than the following distances:

For voltages over 50kV or below	10 feet
For voltages over 50kV	10 feet plus 4 inches for every 10kV over 50kV

When working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given above:

For voltages over 50kV or below	10 feet

Unqualified persons will be trained about and familiar with any electrically related safety practices that are necessary for their safety.

Qualified persons

Qualified persons (i.e. those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
- The skills and techniques necessary to determine the nominal voltage of exposed live parts, and
- The clearance distances specified in 1910.333(c) and the corresponding voltages to which the qualified person will be exposed.

300V and less	Avoid contact
Over 300V, not over 750V	1 ft 0 in
Over 750V, not over 2kV	1 ft 6 in
Over 2kV, not over 15kV	2 ft 0 in
Over 15kV, not over 37kV	3 ft 0 in
Over 37kV, not over 87.5 kV	3 ft 6 in
Over 87.5 kV, not over 121kV	4 ft 0 in
Over 121 kV, not over 140kV	4 ft 6 in

- An employee must have successfully competed the training required in this program for a qualified person in order to be so considered.
- Qualified persons whose work on energized equipment involves either direct contact or contact by means of tools or materials shall also have training to make them capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.
- Vehicular or overhead mechanical equipment shall be maintained at 10 feet or more from energized over head lines.

- The required training shall be of the classroom or on-the-job type. The degree of training provided shall be determined by the risk to the employee.
- For purposes of general comparison, typical occupational employee categories that face a higher than normal risk of electrical accident include blue collar supervisors; electrical and electronic engineers; electrical and electronic equipment assemblers; electrical and electronic technicians; electricians; industrial machine operators; material handling equipment operators; mechanics and repairers; painters; riggers and roustabouts; stationary engineers; and welders.
- Workers in these groups or with comparable job assignments do not need to be trained if their work or the work of those they supervise does not bring them or the employees the supervise close enough to exposed parts of electric circuits operating at 50 volts or more to ground for a hazard to exist.

DEENERGIZED PARTS

- If an employee is exposed to "live" energized parts or components, these shall be deenergized before the employee begins works on or near them. An exception will be if it can be demonstrated that deenergizing these parts or components will present additional or increased hazards, or if deenergizing is not feasible due to equipment design or operational limitations.
- Live parts that operate at less than 50 volts to ground need not be deenergized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.
- Examples of increased or additional hazards include tasks such as deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination for an area.
- Examples of work that may be performed on or near energized circuit parts because of infeasibility due to equipment design or operational limitations include:

    - Testing of electric circuits that can only be performed with the circuit energized, and
    - Work on circuits that form an integral part of a continuous industrial process in a chemical plant that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.

ENERGIZED PARTS

- If the exposed "live" parts or components are not deenergized for reasons of increased or additional hazards or infeasibility, other safety-related work practices shall be used to protect employees who may be exposed to the electrical hazards involved.
- Such work practices shall protect employees against direct contact with energized circuit parts with any part of their body, or indirectly through some other conductive object.
- The work practices that are used shall be suitable for the conditions under which the work is to be performed and for the voltage level of the exposed electric conductors or circuit parts.

WORKING ON OR NEAR EXPOSED DEENERGIZED PARTS

- This section applies to work on exposed deenergized parts or near enough to them to expose the employee to any electrical hazard they present.
- Conductors and parts of electric equipment that have been deenergized but have not been locked out or tagged in accordance with paragraph (b) of this section shall be treated as energized parts, and paragraph (c) of this section applies to work on or near them.

LOCKOUT AND TAGOUT

- While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with Berger Electric, Inc.'s written safety procedures for the control of hazardous energy.
- For the purposes of this safety policy, "fixed equipment" refers to equipment fastened in place or connected by permanent wiring methods.
- Berger Electric, Inc. shall maintain a copy of the written procedures for control of hazardous energy (lockout and tagout procedures). These shall be made available for inspection by employees and by the Assistant Secretary of Labor and the Assistant Secretary's authorized representatives.

Energy Lockout and Tags and energy isolation devices that conform to the requirements of OSHA shall be utilized include the following: Keyed Locks, Tags, Breaker Switch Lockouts, Plug Lockouts, Fuse Lockouts, Wall Switch Lockouts and Team Lockout Hasps.

Keyed Locks

All keyed locks shall be colored or identified. These locks shall only be used for Lockout/Tagout purposes. Any other use of these locks shall be considered violation of Policy and employee is subject to disciplinary action.

Each authorized employee shall be issued a personal lock and a single key. Berger Electric, Inc. shall utilize the single key issuance, only one key shall exist for each lock. If removal has to be made the lock shall be forcefully removed if the key is missing, or the authorized employee cannot be located to remove lock. An authorized employee who cannot locate the key to his/her lock or whose lock had to be forcefully removed shall obtain a new lock and key from the Safety Coordinator/Management, before servicing or repairing any electrical, machines or systems.

Tags

Authorized employees shall utilize tags obtained from Safety Coordinator along with keyed locks. The authorized employees shall fill in their names on each tag and affix the tag, along with their keyed locks, on energy isolation device for the piece of equipment that is being serviced. Tags shall be non-reusable tags shall only be used once for each service or maintenance job performed. A new tag shall be obtained and used when moving onto or starting another job.

Other Devices

All other energy isolation devices (lockout hasps, breaker switch lockouts, etc) shall be used in conjunction with the authorized employees' keyed locks and tag wherever appropriate and for the specific type of energy isolation devices required for each piece of equipment, machine or system being worked on.

Procedures of Lockout/Tagout

- Notify all affected employees that a piece of equipment, machine or system shall be locked out for service or maintenance.

- If the equipment is operating, shut it down utilizing its normal stopping procedure.

- Locate the energy isolation source(s) for the equipment or system. Place the energy isolation source(s) in the ***OFF*** position. Dissipate or restrain any stored energy associated with the equipment.

- Lockout the energy isolation with the appropriate energy isolation device(s), the devices shall be placed in a manner that will hold the energy isolation source(s) in a "*SAFE" or OFF* position and affix a tag to the energy isolation device.
- If more than one authorized employee shall be performing service or maintenance on a piece of equipment or machinery or system, each employee shall place his/her personal lock and tag on the energy isolation device with the use of team hasps. As each employee no longer need to maintain his/her lockout protection, the employee shall remove his/her lock from the work team hasp.

- Insure that no personnel are exposed to any equipment hazards. Attempt to operate equipment to verify that the energy isolation source(s) are disconnected and that stored energy is dissipated or restrained. Return the operating controls to the "neutral" or *OFF* position after testing.

- After service or maintenance is complete and the equipment is ready for operation, check around the equipment to ensure that no employees, tools etc. are exposed or could create a hazard.

- Ensure that all guards have been re-installed, check again that all employees are clear then remove all lockout devices. If more than one authorized employees are servicing the equipment and work team hasps are used, the last employee to remove his/her lock from the hasp is responsible for ensuring that the area is clear. Restore energy to equipment.

DEENERGIZING EQUIPMENT

- Safe procedures for deenergizing circuits and equipment shall be determined before circuits or equipment is deenergized. These procedures shall be machine-specific,

system-specific or circuit-specific, in accordance with Berger Electric, Inc.'s procedures for control of hazardous energy (lockout and tagout program procedures).

- The circuits and equipment to be worked on shall be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, may not be used as the sole means for deenergizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.
- Stored electric energy which might endanger personnel shall be released.
- Capacitors shall be discharged and high capacitance elements shall be short-circuited and grounded, if the stored electric energy might endanger personnel. If the capacitors or associated equipment are handled in meeting this requirement, they shall be treated as being energized.
- Stored non-electrical energy in devices that could reenergize electric circuit parts shall be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

APPLICATION OF LOCKS AND TAGS

- A lock and a tag shall be placed on each disconnecting means used to deenergize circuits and equipment on which work is to be performed. For purposes of Berger Electric, Inc.'s program, lockout only and tagout only shall not be permitted as a safe work procedure, except in accordance with Berger Electric, Inc.'s written program for the control of hazardous energy for when a lock cannot be applied.

- Locks shall be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.
- Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.
- Selection and use of locks and tags shall in accordance with Berger Electric, Inc.'s written program for the control of hazardous energy.
- If a lock cannot be applied, work shall not continue until a specific safe work procedure for the situation at hand is agreed upon between the employee and his or her on-site supervisor with approval prior to continuance of work from the Safety Coordinator.
- When a lock cannot be applied, the Site Supervisor may allow use of a tagout only when tagout is supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by use of a lock.

Examples of additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

VERIFICATION OF DEENERGIZED CONDITION

- The requirements of this section shall be met before any circuits or equipment can be considered and worked upon as being deenergized.
- A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.

- A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are deenergized.
- The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have been deenergized and presumed to be safe.
- If the circuit to be tested is more than 600 volts, nominal, the test equipment shall be checked for proper operation immediately after this test.

REENERGIZING EQUIPMENT

- These requirements shall be met, in the order given, before circuits or equipment is reenergized, even temporarily.
- A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
- Employees exposed to the hazards associated with reenergizing the circuit or equipment shall be warned to stay clear of circuits and equipment.
- Each lock and tag shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task provided that:
  - The Site Supervisor ensures that the employee who applied the lock or tag is not available at the workplace, and
  - The Site Supervisor ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.
  - There shall be a visual determination that all employees are clear of the circuits and equipment.
  - All of the above procedures for reenergizing shall be done in compliance with Berger Electric, Inc.'s written program for the control of hazardous energy.

WORKING ON OR NEAR EXPOSED ENERGIZED PARTS

- Protective shields, protective barriers or insulating materials as necessary shall be used when working in confined or enclosed work spaces where electrical hazards may exist.
- This section applies to work performed on exposed live parts (involving either direct contact or by means of tools or materials), or work performed near enough so that employees are exposed to these hazards and potential exposures.
- Regarding work on energized equipment, only qualified persons may work on electric circuit parts or equipment that have not been deenergized under the procedures explained in this program. Such qualified persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.
- If work is to be performed near overhead lines, the lines shall be deenergized and grounded, or other protective measures shall be provided before work is started. If the lines are to be deenergized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to deenergize and ground them. If

protective measures, such as guarding, isolating, or insulating, are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

- Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to work safely.
- The work practices used by qualified persons installing insulating devices on overhead power transmission or distribution lines shall be in accordance with 1910.269 and not by 1910.332 through 1910.335.
- Unqualified persons are specifically prohibited from performing this type of work.

PORTABLE LADDERS

Portable ladders shall have non-conductive side rails if they are used where the employee or the ladder could contact exposed energized parts. Use of portable ladders shall comply with Berger Electric, Inc.'s written safety procedures for working with ladders.

HOUSEKEEPING DUTIES

Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided.

Electrically conductive cleaning materials (including conductive solids such as steel wool, metalitized cloth, and silicon carbide, as well as conductive liquid solutions) may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.

INTERLOCKS

Only a qualified person following established safe work procedures may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment.

The interlock system shall be returned to its operable condition when this work is completed.

GFCI & ASSURED GROUNDING

- Employees who are exposed to electrical hazards at a work location shall use either ground fault circuit interrupters (GFCI) or assured equipment grounding conductor program to protect them from these hazards. These requirements are in addition to any other specific requirements for equipment grounding conductors.
- Berger Electric, Inc. has established an assured grounding conductor program at all locations. The program covers all cord sets, receptacles, and equipment connected by cord and plug that are available for use by employees.
- The Site Supervisor shall designate one or more competent persons to implement the program at the location. "Competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

- Employees will visually inspect extension and power cords before each use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective shall not be used until repaired.

PROTECTIVE CLOTHING AND EQUIPMENT

The protective gear you need to keep from becoming an electricity conductor varies by job, but may include:

- Non-conductive head protection
- Eye and face protection
- Tools with insulated handles
- Rubber gloves
- Rubber clothing
- Rubber-soled boots or shoes or rubber mats to stand on
- Protective shields
- Protective barriers or insulting materials as necessary

If employees are subject to handle long dimensional conductor objects, such as ducting, or pipes, protective equipment shall be used to eliminate the possibility of contact with energized parts.

Non-conductive materials shall not be worn when working with energized parts and conductors such as watches, rings, or clothing with conductive materials on materials such as buttons etc., can only be used if conductive materials are either covered or removed to perform work.

DIRECTIONAL BORING UNIT SAFETY GUIDELINES

Only employees who are properly trained and qualified shall operate this equipment. All employees must read the operator's manual before using this equipment.

SAFETY

Follow these guidelines before operating any jobsite equipment:

- Complete proper training and read operator's manual before using equipment.
- Contact One-Call (888-258-0808) and any utility companies which do not subscribe to One-Call. Have all underground pipes and cables located and marked before operating equipment. If you damage a utility, contact utility Company.
- Classify jobsite based on its hazards and use correct tools and machinery, safety equipment, and work methods for jobsite.
- Mark jobsite clearly and keep spectators away.
- Wear personal protective equipment.
- Review jobsite hazards, safety and emergency procedures, and individual responsibilities with all personnel before work begins. Safety videos are available from your Ditch Witch dealer.
- Replace missing or damaged safety shields and safety signs.
- Use equipment carefully. Stop operation and investigate anything that does not look or feel right.
- Do not operate unit where flammable gas is present.

UNDERGROUND HAZARDS

Striking underground hazards can cause explosion, electrocution, fire, and exposure to hazardous materials. Hazards include:

- Electric lines
- Natural gas lines
- Fiber optic cables
- Water lines
- Sewer lines
- Pipes carrying other chemicals, liquids, or gases
- Storage tanks

EMERGENCY PROCEDURES

Before operating any equipment, review emergency procedures and check that all safety precautions have been taken.

EMERGENCY SHUTDOWN - Turn ignition switch to stop position or push remote engine stop button.

Electric Strike Description

When working near electric cables, remember the following:

- Electricity follows all paths to ground, not just path of least resistance.
- Pipes, hoses, and cables will conduct electricity back to all equipment.
- Low voltage current can injure or kill. Almost one-third of work-related electrocutions result from contact with less than 440 volts.
- Most electric strikes are not noticeable, but indications of a strike include:
  - Power Outage
  - Smoke
  - Explosion
  - Popping Noises
  - Arcing Electricity

If any of these occur, or if strike alarm sounds or flashes, assume an electric strike has occurred.

If an Electric Line is damaged.

On Drilling Unit or Bonded Ground Mats:

- DO NOT MOVE. Remain on drilling machine or mats.
- Warn people nearby that an electric strike has occurred.
- Have someone contact electric company.
- Reverse drilling direction and try to break contact. Do not touch drill pipe with hands or hand-held tools.
- Press Electric Strike System status button.

If alarm sounds again, stay where you are and wait for electric company to shut off power.

If alarm does not sound and there is no other indication of a strike, wait at least one full minute before moving away from equipment. Utility might use automatic re-closers which will restart current flow. If alarm sounds again while waiting, stay where you are until electric company shuts off power.

If alarm does not sound but all lights in strike indicator are on, assume strike is continuing and stay where you are until electric company shuts off power.

Do not resume drilling or allow anyone into area until given permission by electric company.
Off Drilling Unit or Bonded Ground Mats

- DO NOT TOUCH ANY EQUIPMENT connected to drilling unit.
- Stay where you are unless you are wearing electric insulating boots. If you leave, do not return to area or allow anyone into area until given permission by electric company.

If a Gas Line is damaged

If you suspect a gas line has been damaged, take the following actions. The order and degree of action will depend on the situation.

- Immediately shut off engine(s), if this can be done safely and quickly.
- Remove any ignition source(s), if this can be done safely and quickly.

- Warn others that a gas line has been cut and that they should leave the area.
- Leave jobsite as quickly as possible.
- Immediately call your local emergency phone number and utility company.
- If jobsite is along street, stop traffic from driving near jobsite.
- Do not return to jobsite until given permission by emergency personnel and utility company.

If a Fiber Optic Cable is damaged

Do not look into cut ends of fiber optic or unidentified cable. Vision damage can occur.

If Machine Catches on Fire

Perform emergency shutdown procedure and then take the following actions. The order and degree of action will depend on the situation.

- Immediately move battery disconnect switch (if equipped) to disconnect position.
- If fire is small and fire extinguisher is available, attempt to extinguish fire.
- If fire cannot be extinguished, leave area as quickly as possible and contact emergency personnel.

JOBSITE CLASSIFICATION

JOBSITE CLASSIFICATION Inspecting Jobsite

Follow U.S. Department of Labor regulations on excavating and trenching (Part 1926, Subpart P) and other similar regulations. Contact One-Call (888-258-0808) and any utility companies which do not subscribe to One-Call.

Inspect jobsite and perimeter for evidence of underground hazards, such as:

- “Buried utility” notices
- Utility facilities without overhead lines
- Gas or water meters
- Junction boxes
- Drop boxes
- Light poles
- Manhole covers
- Sunken ground

Have an experienced locating equipment operator sweep area within 20’ (6 m) to each side of bore path. Verify previously marked line and cable locations. Mark location of all buried utilities and obstructions.

Classify jobsite.

JOBSITE CLASSIFICATION

Selecting a Classification

Jobsites are classified according to underground hazards present.

If working . . .	then classify jobsite as . . .
within 10’ (3 m) of a buried electric line	electric
within 10’ (3 m) of a natural gas line	natural gas
in sand, granite, or concrete which is capable of producing crystalline silica (quartz) dust	crystalline silica (quartz) dust
within 10’ (3 m) of any other hazard	other

NOTICE: If you have any doubt about jobsite classification, or if jobsite might contain unmarked hazards, take steps outlined previously to identify hazards and classify jobsite before working.

Applying Precautions

Once classified, precautions appropriate for jobsite must be taken.

Electric Jobsite Precautions

In addition to using a directional drilling system with an electric strike system, use one or both of these methods.

- Expose line by careful hand digging or soft excavation. Use beacon to track bore path.
- Have service shut down while work is in progress. Have electric company test lines before returning them to service.

Natural Gas Jobsite Precautions

In addition to using a directional drilling system and positioning equipment upwind from gas lines, use one or both of these methods.

- Expose lines by careful hand digging or soft excavation. Use beacon to track bore path.
- Have gas shut off while work is in progress.
- Have gas company test lines before returning them to service.

Crystalline Silica (Quartz) Dust Precautions

Follow OSHA or other guidelines for exposure to crystalline silica when trenching, sawing or drilling through material that might produce dust containing crystalline silica (quartz).

Other Jobsite Precautions

You may need to use different methods to safely avoid other underground hazards. Talk with those knowledgeable about hazards present at each site to determine which precautions should be taken or if job should be attempted.

INCIDENT AND NEAR MISS REPORTING

Incidents and near misses need to be investigated. The supervisor of the employee involved in an incident or near miss is responsible for conducting the investigation and, when appropriate, ensuring that corrective actions are taken with the input of management and safety coordinator.

The depth and complexity of the investigation will vary with the circumstances and seriousness of the incident. A thorough investigation may identify previously overlooked physical, environmental, or process hazards, the need for new or more extensive safety training, or unsafe work practices.

The supervisor should complete incident reports and near miss reports, sign and date the form, and then forward the form to management or safety coordinator for review and approval.

- Specific Location: : Self-explanatory

- Witnesses: Self-explanatory

- Description of incident or near miss: Most accidents result from an accumulation of events. An accurate, factual description of the accident and the events leading up to it can be very helpful. This chronological sequence can be studied to determine how each event may have contributed to the accident or near miss.

- Factors: Factors, if any, are the conditions in the workplace or actions that contributed to the occurrence of this accident or near miss. Examples might include unguarded machinery, broken tools and slippery floors, not following established procedures, or insufficient training or maintenance.

- Corrective Actions: List actions or steps that could be taken to control or eliminate the likelihood of a recurrence. Include not only those that can be accomplished right away (e.g., providing personal protective equipment, installing a machine guard), but also actions such as changes in policy or providing additional training. Safety Coordinator and management should be an integral part of any corrective actions. Please consult management prior to implementing corrective actions.

NEAR MISS — near misses describe incidents or situations where no injury or property damage or other damage may not have occurred, but person should look at situation and determine what may have occurred, but didn‘t.

INCIDENT — an incident is an unplanned, undesired event that hinders completion of a task and may cause injury or other damage.
Review all incident and near-miss, incidents and document such occurrences.

COLD WEATHER SAFETY

Exposure to cold can cause injury or serious illness such as frostbite or hypothermia. The likelihood of injury or illness depends on factors such as physical activity, clothing, wind, humidity, working and living conditions, and a person's age and state of health. Follow these tips to stay safe in cold weather:

Be Smart - Dress appropriately before going outdoors.
The air temperature does not have to be below freezing for someone to experience cold emergencies such as hypothermia and frostbite. Wind speed can create dangerously cold conditions even when the temperature is not that low. If possible, dress in layers so you can adjust to changing conditions. Avoid overdressing or overexertion that can lead to heat illness.

Be Safe - Traveling and winter can be a dangerous combination. Allow extra time when traveling. Monitor weather conditions carefully and adhere to travel advisories.

Be Smart - Keep a winter storm survival kit in your car.
This should include blankets, food, flares, chains, gloves, and first aid supplies. If at all possible, carry a cellular phone.

Be Safe - NEVER allow anyone who has been drinking alcohol to drive.

Be Smart - Cold and heat-related emergencies can occur quickly.

Be prepared - by planning ahead, thinking about safety, and being smart

Frostbite occurs when the skin becomes cold enough to actually freeze. A loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the nose are symptoms of frostbite.

Hypothermia (Low Body Temperature) can occur during long periods of exposure when the body temperature drops below 95 degrees F. A person will become disoriented, confused, and shiver uncontrollably, eventually leading to drowsiness and apparent exhaustion. In severe cases, death is possible.

SYMPTOMS OF FROSTBITE

Common warning signs include a progressive numbness and a loss of sensitivity to touch. The affected area will also tingle or feel as if it is burning. As the condition worsens, the pain begins to fade or eventually disappear.

The skin also changes color when exposed to extreme cold. It blanches then may appear red and finally white-purple if allowed to freeze. Most people say the affected part of the body feels "wooden," and it may appear to have a wooden texture.

Frostbite can affect any part of the body, but the tip of the nose, ear lobes and rim, fingertips, and toes are the most likely areas. In mild cases, full recovery can be expected with early treatment. Severe cases of frostbite can result in infection, or gangrene - the death of some body tissue due to the lack of blood supply.

SYMPTOMS OF HYPOTHERMIA

The chart is broken down into approximate body temperature and the symptoms that develop at those temps. The temps are in degrees f. If you have any questions regarding hypothermia,

TEMPERATURES and SYMPTOMS

98.6-95.0 Intense shivering, ability to perform complex tasks is impaired, fatigue, poor coordination, immobile and fumbling hands.

95.0-91.4 Violent shivering, difficulty speaking, sluggish in thinking, amnesia starts to appear, starts to lose contact with environment, stumbling gait, feeling of deep cold and numbness.

91.4-87.8 Shivering decreases, in its place is muscle rigidity, erratic movement, thinking is not clear, victim can't still stand, hallucinations, loses contact with the surroundings.

87.8-85.2 Rigid muscles, no shivering, very irrational, starts into a stupor, pulse and respiration slow, pupils start to dilate, skin is turning bluish, drowsiness.

85.2-78.8 Does not respond to words that are spoken, pulse is very erratic, reflexes do not function, and victim will be only semi-conscious, heart starts atrial fib.

BELOW 78.8 Heart and respiratory failure, ventricular fib, probable brain and lung hemorrhage, apparent death.

Victims have been saved with core temps as low as 75.0f. The best chances of recovery are from early diagnosis and treatment. Even though there may not be a pulse or breathing, the victim can be saved. Many times the cold will cause a reaction in the nervous system that can help the victim. The most important thing to remember is that it won't go away!!! The problem must be treated and treated quickly.

This goes for others as well as for yourself. You should always be aware of what is happening to you as well as your co-workers. Be prepared to treat it before you cannot help yourself.

Head and Neck

On cold days, you'll lose a reported 40% of your heat from your head, so it's important to keep it covered. You also want to protect your skin from the cold and wind, and also prevent frostbite and chapping. Here's what you'll need for your head and neck:

Thermal hat: A fleece or wool hat is perfect for keeping your head warm during winter runs. You can easily tuck it into your pants if you feel like you're starting to overheat.

Neck Gaiter: Often worn by skiers, a neck gaiter can be extremely valuable on a frigid, windy day to protect your neck and face. You can pull it up over your mouth to warm the air you're breathing in.

Balaclava: Also known as a ski mask, a balaclava is a type of headgear that covers your whole head, exposing only your face or part of it, and sometimes only your eyes. They're usually made of fleece or wool and are only necessary if the temperature or wind chill is below 10 degrees F.

Chapstick/Vaseline: Protect your lips from chapping with some Chapstick or Vaseline. You can also use the Vaseline on your nose and cheeks (or anywhere else on your face) to prevent windburn and chapping.

Upper Body

The key to winter dressing, especially with your upper body, is layering. Not only do layers trap body heat, they allow sweat to move through the layers of clothing. The moisture is wicked away from your first layer to your outer layers, and then evaporates. Here's a guide to how you should layer on your upper body:

Wicking Base Layer: The layer closest to your body should be made from a synthetic wicking material, such as DryFit, Thinsulate, Thermax, CoolMax, polypropolene or silk. This will wick the sweat away from your body, keeping you dry and warm. It's very important to make sure you don't wear cotton for this layer because once it gets wet, you'll stay wet. When it's above 40 degrees F, you can usually wear just a long-sleeve base layer.

Insulating Layer: Your second or middle layer, which is needed for very cold weather (below 10 degrees F), should be an insulating material, such as fleece. This layer must continue wicking moisture away from the skin. It should have the perfect balance of trapping some air to keep your warm, yet release enough vapor or heat to avoid overheating. Some fabrics suggested for your second layer: Akwatek, Dryline, Polartec, and polyester fleece, Microfleece, Thermafleece and Thermax.

Wind- and Water-proof Outer Layer: This layer should protect you against wind and moisture (rain, sleet, snow), but at the same time allow both heat and moisture to escape to prevent both overheating and chilling. It's a good idea to wear a jacket with a zipper for this layer, so that you can regulate your temperature by zipping it up and down. Suggested outer layers: ClimaFit, Gore-Tex, Microsuplex, nylon, Supplex, and Windstopper. If it's between 10 and 40 degrees F, you can usually get away with a wicking base layer and an outer layer.

Gloves/Mittens: You can lose as much as 30% of your body heat through your extremities, so it's important to cover those hands. On cold days, wear gloves that wick away moisture. When it's extremely cold, mittens are a better choice because your fingers will share their body heat.

Lower Body

Pants: Your legs generate a lot of heat so you don't need as many layers on your lower body. You can usually wear just a pair of tights or pants made of synthetic material such as Thermion, Thinsulate, Thermax, Coolmax, polypropolene, and/or silk. If it's below 10 degrees F (temperature or wind chill), you may want to consider two layers on your lower body: a wicking layer of tights, and a wind-proof layer such as track pants.

Shoes: Your feet also stay pretty warm, as long as you keep them moving and dry. Try to avoid puddles, slush, and snow. Look for a shoe with as little mesh as possible, since that's where the water will seep through to your feet. Or, if you can't avoid the snow, you may want to think about buying bunny boots, or similar shoes, which are somewhat water-proof and will give you a little more traction in the snow.

Socks: Never wear cotton socks (in cold weather) because they won't wick away the moisture, leaving your feet wet and prone to frostbite. Instead, be sure to wear a good pair of wicking socks made of fabrics such as acrylic, CoolMax, or wool (in the winter).

Vehicles: Your vehicle can be your best friend or worst enemy during winter storms. Have your vehicle winterized by having the following items checked:

Ignition system, heater, brakes, wipers, cooling system, defroster, oil, exhaust, fuel system, battery, lights and tires and don't forget your washer solvent. Keep moister out of your fuel tank, by using the appropriate additives to your fuel. If you travel often during the winter, carry a winter storm kit in your car with the following items: flashlight, compass, windshield scraper, maps, sand, paper towels, chains, blankets, warm sleeping bags, matches/candles, high calorie non-perishable foods, booster cables, extra warm clothing and rain gear.

Never carry gasoline in containers other than the car's gas tank. Winter travel by is serious business!

If the storm exceeds or tests your driving ability, seek available shelter immediately! Plan your travel. Try not to travel alone and drive in convoy when possible. Drive carefully and defensively. Pump the brakes when trying to stop on snow or ice covered roads.

IF YOU DO GET STUCK

Stay with your vehicle. Do not try to walk to safety. If possible, tie a brightly colored cloth (preferably red) to the antenna for rescuers to see.

Start the car and use the heater for about 10 minutes every hour. Keep the exhaust pipe clear so fumes won't back up into the car. Leave the overhead light on when the engine is running so that you can be seen. Keep moving your arms and legs to maintain blood circulation and to stay warm.

Keep one window away from the blowing wind slightly open to let in air.

Foul Weather Driving

Bad weather affects all roads. But no matter how good the road is, it is dangerous when there is sleet, snow or ice on the roadway. Speed must be reduced on slippery roads.

When road conditions are slippery, drivers must look farther ahead so they can anticipate emergencies and avoid the need for sudden maneuvers. Most skids are caused by last-second stops and turns on slippery surfaces.

Extra care must be taken on hills. Brake over the top of blind hills at a speed that will permit you to bring your vehicle to a stop in case the roadway isn't clear ahead. On a downgrade, both loss of traction and gravity are working against you.

Don't attempt to drive around or through a scene where other vehicles have obviously had trouble with the road conditions. The same conditions that caused their trouble may still be there when you arrive.

When there is no room to get through or around, you must be prepared to stop.

During the winter months, snow- and ice-covered lots or locations are prevalent. Good drivers will allow more clearance between their vehicles and other vehicles and fixed objects when maneuvering on bad surfaces. A pile of snow or an ice rut may throw vehicles off just enough to cause them to strike a stationary object, if not enough clearance has been allowed.

Drivers of vehicles with air brakes must take care to protect their air supply in freezing weather. Brake line freeze can be annoying and dangerous.
Many newer trucks are equipped with synthetic air lines, so the old solution of melting the ice with a fuse or torch is no longer a quick solution. If the vehicle is not equipped with an air dryer or other means of automatically expelling water and other contaminants from the air tanks, the driver must take the time to manually drain the air tanks every day.

The lighting systems of vehicles become especially important during the winter months. Nights are longer and visibility is often reduced by bad weather.

Electrical systems are winter-sensitive. Approximately 80 percent of all light bulb failure is due to environmental reasons. Drivers must inspect their lights more often during the winter and clean them when necessary so they can see and be seen by other drivers.

Foul weather driving is much more strenuous. Drivers need proper rest before every trip, and while in route, fresh air helps keep drivers alert. An open window is an old safety practice, and it helps drivers hear what is going on around their vehicles.

After all precautions are taken and good practices are followed there still will be occasions when conditions become too hazardous to proceed. Drivers should pull off the road at the first safe place, notify their companies of the delay and wait until conditions improve before continuing.

PREVENTATIVE MAINTENANCE POLICY

Berger Electric, Inc. is committed to providing quality service to its customers through the utilization of a Preventative Maintenance Program**.**

Application of this program will make your job easier by keeping your equipment in good working order, thus, more dependable.

This program is designed to:

REDUCE

- equipment failure
- maintenance costs
- equipment damage
- production downtime

IMPROVE

- company image
- customer satisfaction
- safer work environment
- employee job satisfaction
- job pride
- efficiency

PREVENTATIVE MAINTENANCE

Preventative maintenance is a program of routine equipment inspection, lubrication and execution of minor repairs to maintain optimum-operating efficiency at all times.

It creates awareness to new noises, visible clues of failures (e.g., smoke, leaking fluids). It relies on all crew members, their experience, trade knowledge and attention to sudden changes in the operation.

It creates a “team” approach to job success.

PREVENTATIVE MAINTENANCE PERFORMED

Preventative maintenance is an on-going process, which is performed during every working hour of every shift of every job.

It is a constant awareness of problems or potential problems and reporting them immediately to supervisors for appropriate action.

“Idle time” is used for equipment inspection and catching-up on required maintenance. Managers are responsible for walking around regularly, listening and looking at the equipment, tools and their operations and scheduling the required maintenance.

PREVENTATIVE MAINTENANCE PROGRAM ESSENTIALS

- Keep tools and equipment clean at all times.
- Keep equipment adjusted to manufacturer's specifications (e.g., tighten and torque nuts and bolts to manufacturer's recommendations).
- Conduct regular inspections.
- Pay attention to points of greatest wear, stress and greatest load specifications.
- Align drivelines, chains and belts.
- Check all reservoir levels (water, fuel, oil, antifreeze, etc.).
- Ensure equipment lines are free of leaks.
- Check all gauges and measuring devices for accuracy and tolerance.
- Maintain adequate "on-hand" materials without over-supplying.
- Use recommended brands and grades of lubricants.
- Follow recommended frequencies for oil and filter changes.
- Grease bearings as recommended.
- Keep all grease and lubricant supplies clean (free of dust, sand, water and other foreign materials) by:

    - wiping top of oil cans
    - keeping containers covered
    - wipe filter clean before pouring
    - clean pouring spout before pouring
    - keeping containers tightly closed
    - clean barrel pump spout before using

Keep in mind that filters exposed to heavy service require more frequent replacement.

Check oil levels daily to ensure engines and gears have the appropriate amount of lubricants.

ROOT CAUSE ACCIDENT/ANALYSIS POLICY

Introduction

Accidents occur when hazards escape detection during preventive measures, such as a job or process safety analysis, when hazards are not obvious, or as the result of combinations of circumstances that were difficult to foresee. A thorough accident investigation may identify previously overlooked physical, environmental, or process hazards, the need for new or more extensive safety training, or unsafe work practices. The primary focus of any accident investigation should be the determination of the facts surrounding the incident and the lessons that can be learned to prevent future similar occurrences. The focus of the investigation should NEVER be to place blame. The process should be positive and thought of as an opportunity for improvement. Most accidents in the workplace result from unsafe work behaviors. Effective accident investigation identifies these root causes and recommends strategies to eliminate weaknesses.

When do you conduct an investigation?

As a general rule, investigations should be conducted for:

- All injuries (even the very minor ones)
- All accidents with potential for injury
- Property and/or product damage situations
- All “Near Misses” where there was potential for serious injury

Near miss and incident reporting and investigation allow you to identify and control hazards before they cause a more serious incident. Accident/incident investigations are a tool for uncovering hazards that either were missed earlier or hazards where controls were defeated. However, it is important to remember that the investigation is only useful when its objective is to identify root causes. In other words, every contributing factor to the incident must be uncovered and recommendations made to prevent recurrence.

Have a plan!

Reporting of the incident must occur in a specified manner and the reporting sequence must be posted. For example, in the event of an incident, the following are contacted in order: 911, department supervisor, section manager, company physician, security, human resources, safety department, and other organizations as required. The employer must also verbally report required incidents to OSHA within 8 hours of their discovery. Incidents must also be reported to Berger Electric, Inc. as soon as possible or in a timely manner (within 24 hours of incident). Plan should include the following and posted or given to employees so assigned as designated investigators.

- Who should be notified of accident?
- Who is authorized to notify outside agencies? (fire, police, etc.)
- Who is assigned to conduct investigations?

- Training required for accident investigators.
- Who receives and acts on investigation reports.
- Timetables for conducting hazard correction.

OSHA requires reporting of work related incidents resulting in the death of an employee or the hospitalization of three or more employees. Berger Electric, Inc. requires all incidents to be reported including, but not limited to, injuries, spills, property damage, fires, explosions, and vehicle damage.

Personnel will be trained in their roles and responsibilities for incident response and incident investigation techniques. Training requirements relative to incident investigation and reporting (Awareness, First Responder, Investigation, and training frequency) should be performed on an annual basis or when a change occurs in policy. Training will include the following:

- Awareness
- First Responder
- Investigation
- and training frequency

Berger Electric, Inc. shall assure that personnel trained to perform investigations are equipped with the proper tools to perform investigations which may include the following:

- Writing equipment
- Tape measure
- Flags/barrier tape
- Cameras
- PPE
- Marking devices
- And where needed equipment manuals

Employees trained in investigations shall also receive training in Hazwoper First Responder and First Aid/CPR and AED.

Secure the accident scene

After immediate rescue, actions to prevent further loss should occur. For example, maintenance personnel should be summoned to assess integrity of buildings and equipment, engineering personnel to evaluate the need for bracing of structures, and special equipment/response requirements such as safe rendering of hazardous materials or explosives employed.

For a serious accident, the first action the accident team needs to take is to secure the accident scene so material evidence is not moved or removed. After immediate rescue, actions to prevent further loss should occur. For example, maintenance personnel should be summoned to assess integrity of buildings and equipment, engineering personnel to evaluate the need for bracing of structures, and special equipment/response requirements such as safe rendering of hazardous materials or explosives employed.

Written incident reports should be prepared and include an incident report form and a detailed narrative statement concerning the events. The format of the narrative report may include an introduction, methodology, summary of the incident, investigation conducted by names, narrative of the event, findings and recommendations. Photographs, witness statements, drawings, etc. should be included.

Gather information

Berger Electric, Inc. next step is to gather useful information about what directly and indirectly contributed to the accident. The following tools should be used to gather as much information as possible:

- Interview eye witnesses as soon as possible after the accident. Interview witnesses separately, never as a group.
- Interview other interested persons such as supervisors, co-workers, etc.
- Evidence such as people, positions of equipment, parts, and papers must be preserved, secured, and collected through notes, photographs, witness statements, flagging, and impoundment of documents and equipment.

Review related records such as:

- Training records
- Disciplinary records
- Medical records (as allowed)
- Maintenance records
- OSHA 300 Log (past similar injuries)
- Safety Committee records (where applicable)
- Document the scene with photographs, videotape, or sketches AND appropriate measurements.

Develop a sequence of events

Written incident reports should be prepared and include an incident report form and a detailed narrative statement concerning the events. The format of the narrative report may include an introduction, methodology, summary of the incident, investigation board member names, narrative of the event, findings and recommendations. Photographs, witness statements, drawings, etc. should be included.

Use the information gathered to develop a detailed step by step description of the accident. Make sure the accident is documented in enough detail to enable an individual unfamiliar with the situation to envision the sequence of events. Do not just describe the accident itself include a description of events that led up to the accident.

Analyze the accident

The next step is to determine the cause(s) of the accident. This is the most difficult step because first the events must be analyzed to discover surface cause(s) for the accident, and then, by asking "why" a number of times, the related root causes are uncovered. Remember, surface causes are usually pretty obvious and not too difficult to determine. However, it may take a great deal more time to accurately determine the weaknesses in the management system, or root causes, that contributed to the conditions and practices associated with the accident.

More on surface causes

The surface causes of accidents are those hazardous conditions and individual unsafe employee/manager behaviors that have directly caused or contributed in some way to the accident.
Hazardous conditions may exist in any of the following categories:

- Materials
- Machinery
- Equipment
- Tools
- Chemicals
- Environment
- Workstations
- Facilities
- People
- Workload

It's important to know that most hazardous conditions in the workplace are the result of unsafe behaviors that produced them. Individual unsafe behaviors may occur at any level of the organization.

Some example of unsafe employee/manager behaviors include:

- Failing to comply with rules
- Using unsafe methods
- Taking shortcuts
- Horseplay
- Failing to report injuries
- Failing to report hazards
- Allowing unsafe behaviors

- Failing to train
- Failing to supervise
- Failing to correct
- Scheduling too much work
- Ignoring worker stress

More on root causes

The root causes for accidents are the underlying system weaknesses that have somehow contributed to the existence of hazardous conditions and unsafe behaviors that represent surfaces causes of accidents. Root causes always pre-exist surface causes. Inadequately designed system components have the potential to feed and nurture hazardous conditions and unsafe behaviors. If root causes are left unchecked, surface causes will flourish!

Root causes may be separated into two categories:

System design weaknesses: Missing or inadequately designed policies, programs, plans, processes and procedures will affect conditions and practices generally throughout the workplace. Defects in system design represent hazardous system conditions.

System implementation weaknesses: Failure to initiate, carry out, or accomplish safety policies, programs, plans, processes, and procedures. Defects in implementation represent ineffective management behavior. System Design Weaknesses System Implementation Weaknesses:

- Missing or inadequate safety policies/rules
- Training program not in place
- Poorly written plans
- Inadequate process
- No procedures in place
- Safety policies/rules are not being enforced.
- Safety training is not being conducted
- Adequate supervision is not conducted
- Incident/Accident analysis is inconsistent
- Procedures are not reviewed annually

Develop preventive actions

This is the most important piece of any investigation. All of the work done to this point culminates with recommendations to prevent similar accidents from happening in the future. Recommendations should relate directly to the surface and root causes for the accident. These recommendations should include recommended actions such as:

- Engineering controls (for example, local exhaust ventilation or use of an lift assisting device)
- Work practice controls (for example, pre-plan work or remove jewelry and loose fitting
- clothing before operating machinery)
- Administrative controls (for example, standard operating procedures or worker rotation)
- Personal protective equipment (for example, safety glasses or respirators)

It is crucial that, after making recommendations to eliminate or reduce the surface causes, that the same procedure is used to recommend actions to correct the root causes. If root causes are not corrected, it is only a matter of time before a similar accident occurs.

Summary

A successful accident investigation determines not only what happened, but also finds how and why the accident occurred. Investigations are crucial as an effort to prevent a similar or perhaps more disastrous sequence of events. Research has shown that a typical accident is the result of many related and unrelated factors that somehow all come together at the same time. It is estimated that there are usually more than ten factors that contribute to a serious accident. Although, this combination of factors normally makes an investigation very time consuming and resource intensive, the good news is that the accident can normally be prevented by removing only a few of the contributing factors.

AERIAL LIFTS

Introduction: Aerial lifts are commonly used in construction, inspection and repair services and when operated properly can make completion of certain tasks safer and more efficient. Unsafe work practices however can have serious consequences.

Aerial lifts acquired for use on or after January 22, 1973 shall be designed and constructed in conformance with the applicable requirements of the American National Standards for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before January 22, 1973 which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they shall have been modified so as to conform with the applicable design and construction requirements of ANSI A92.2-1969.

Scope and Application: This program covers all employees and subcontractors that are designated by employer to operate aerial lifts. This program covers all employees and subcontractors whose duties require them to operate, service, repair, maintain or supervise use of aerial lifts.

Roles and Responsibilities: Supervisors and operators are required to follow the procedures described in this Aerial Lift Safety Program. Specific responsibilities are:

- Ensure employees are properly trained in operations of aerial lift.
- Ensure that modifications if required are not made without manufacture’s written prior approval. Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any equivalent entity.
- Perform pre-lift safety checks prior to each use of aerial lift.
- Attend and complete aerial lift safety training.
- Understand general requirements of Aerial Lift Program.
- Conduct worksite inspection prior to aerial lift use.
- Report damaged or worn personal fall arrest system components to supervisor.
- Inspect batteries, fluid levels, check for cracks or holes, cells are secured and not leaking; no frayed electrical cables, no broken or cracked insulation; check connections for tightness, and no clogged vent caps.
- Inspect LPG cylinders for damaged or worn parts.
- Ensure that equipment for protection against accidental vehicle movement (i.e. brakes, wheel chocks, outriggers) is in place prior to operating lift.
- Maintain at least 10 ft clearance from power lines and other dangerous obstacles.
- Ensure signs; caution tapes, barriers/fences and other means of diverting pedestrian traffic are in place prior to operating the lift.
- Lift has a reverse signal alarm, audible above the surrounding noise level or the vehicle is backed up only when an observer signals that it is safe to do so.
- Understand the various types of aerial lifts and the hazards associated with each different unit.
- Maintain and update Aerial Lift Safety Program where and when needed.

General Responsibilities: Berger Electric, Inc. supervisors are responsible for ensuring that employees attend training and that aerial lifting devices are removed from service when necessary. Supervisors must ensure that no modifications or additions are made to an aerial lift without the manufacturer's written approval. If modifications are made, all capacity, operation and maintenance instruction plates, tags, or decals must be changed accordingly to reflect the changed specifications and/or conditions. Supervisors must retain completed Aerial Lift Checklist and Aerial Lift Work Area Inspection checklists.

Safety Coordinator/Committee: Safety coordinator or Safety committee is responsible for maintaining and updating the Aerial Lift Safety Program, and can assist in coordinating initial and refresher Aerial Lift training.

Operators: Only trained, qualified and authorized personnel are permitted to operate aerial lifts. Every employee assigned to operate a lift will be required to successfully complete aerial lift training prior to operation. Each operator is required to pass a written examination and demonstrate proficiency with the equipment during a practical exercise with the lift in operation. If an employee fails to immediately qualify as an aerial lift operator, they may be given opportunity to practice under close supervision and attend the next regularly scheduled training.

Operators must perform a pre-use inspection prior to operating the lift to verify that the equipment is safe to operate. All irregularities in the operation of the aerial lift must be immediately reported to the supervisor or authorized repair personnel. Adverse conditions affecting the safe operation of the equipment (e.g., non-responsive lift controls, damaged hydraulic lines, fluid leaks, loose parts, structural damage, cracked welds, etc.) that render the lift unfit for safe operation, must be removed from service and tagged out until such time irregularities are corrected. Maintenance and repairs should be performed by authorized repairer personnel.

General Requirements: Personal Protective Equipment: Employees in a lift are required to wear a personal fall arrest system consisting of a full body harness and lanyard properly secured to the lift basket or pre-designed tie off point. In addition, protective insulated gloves, goggles/safety glasses, long sleeve clothing, and any other equipment so deemed as to type of job being performed.

Care and Use: Aerial lifts must be operated and used in accordance with OSHA regulations and American National Standard Institute (ANSI) standards. Aerial lifts must be cared for according to manufacturer's requirements. Aerial lifts may be "field modified" for uses other than those intended by the manufacturer, provided the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory. It shall also conform to all applicable provisions of ANSI A92.2-1969 for Vehicle-Mounted Elevating and Rotating Platforms and OSHA 1910.68 to be at least as safe as the equipment was before modification. Approved equipment bears a label or some other identifying mark indicating approval by the testing authority and /or laboratory.

Traveling: Traveling with Aerial Lifts, prior to travel aerial ladders, booms and towers must be secured in the lower traveling positions by the locking devices provided or by other equally effective means. Locking pins must be in place as directed by the manufacture.

Fall Protection. Employees that perform work in an aerial lift must adhere to all safety rules and regulations provided in the Aerial Lift Program. Employees are prohibited from extending their upper body outside of the basket. Operators must also insure that their weight and the weight of any equipment and tools they are using do not exceed the load capacity or the aerial lift.

Employees working in a manlift, bucket truck, boom lift or aerial lift other than a scissor lift must wear a full body harness and a lanyard (2-foot in length for restraint) connected to an appropriate attachment point on the bucket or boom. Employees that work in a scissor lift where the guard rails are not in place are required to wear a harness and a lanyard attached to the basket.

Employees shall remain tied-off until the work is finished and the basket has been safely lowered to the ground. Employees working from an aerial lift may only tie off to the basket or boom of the aerial lift; tying off to an adjacent pole, structure or other equipment is prohibited.

In some cases, the stopping force of a fall can cause the lift to tip-over. Operators should review the aerial lift manufacturer's recommendations for fall arrest systems before using the lift.

Personal Fall Arrest Systems: Employees that are working in an aerial lift are required to wear a personal fall arrest system. It is critical that the appropriate fall protection equipment is selected and that employees understand how to utilize the equipment. The manufacturer's instructions included with fall arrest systems and positioning devices must be read prior to each use to ensure that it is appropriate for the particular situation or environment.

When stopping a fall, personal fall arrest systems shall:

- Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and
- Shall have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of six feet, or the free fall distance permitted by the system, whichever is less.
- Personal fall arrest systems shall be rigged such that an employee can not free fall more than six feet or contact a lower level.
- Personal fall arrest systems or components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection unless inspected and determined by a competent person to be undamaged and suitable for reuse.
- Personal fall arrest systems or components shall be used only for employee fall protection.

Working Surfaces: Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket. Employees should NEVER attempt to climb outside of the basket or over extend the upper body beyond the railing of the basket. Employees may only perform work in areas which can be reached from inside the basket of the lifting device. Aerial lifts may not be used in combination with other devices such as ladders, planks or scaffolding.

Load Limits: Load limits for the boom and basket shall not be exceeded. Load limits for boom and basket must be posted in a visible location on the aerial lift. Boom and basket load limits must be specified by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory.

Vehicle Positioning: Prior to executing a lift, the vehicle in which the lift is mounted needs to be positioned in such a way as to allow the boom and basket a full range of motion inside the work area. With some types of lifts, once the vehicle is in the desired position, special stabilizing tools such as "outriggers" and "wheel chocks" need to be installed in order to safely operate the lift. Other types of lifts allow vehicle movement while the boom is extended and do not require stabilizing equipment. Unless the vehicle is designed to do so, an aerial lift vehicle should never be moved when the boom is elevated.

Outriggers: Outriggers are one type of stabilizing tool. If outriggers are used, they should be positioned on "cribbing" pads or a solid surface. Setting up and positioning the outriggers is extremely important, if it is done incorrectly, the aerial lift could tip over.
When setting outriggers, remember:

- When possible, position outriggers on solid surface such as concrete or asphalt;
- Position outriggers on level ground;
- If outriggers are positioned on soil, check the soil density to ensure that the surface is stable and not recently backfilled;
- Always use cribbing when positioning outriggers on soil;
- Always bring the outrigger straight down, never at an angle;
- Never stand behind an outrigger or between an outrigger and another object when it is being retracted. The center of gravity might have shifted during lifting activities and the sudden release of the outrigger could cause the vehicle to lunge.

Brakes: Brakes provide protection against accidental movement. Prior to operating the lift, the operator should ensure that the brakes are set.

Wheel chocks: Wheel chocks provide additional protection against accidental vehicle movement. Chocks prevent accidental movement or slippage of vehicles by bracing the wheels on either side. This is important during boom and basket movement when shifting weight can affect wheel placement. Chocks must be utilized before operating an aerial lift that is positioned on an incline.

Power Lines: Only aerial lifts with insulated buckets may be used for work on overhead power lines. The bucket's insulation should be inspected periodically for decay and damage that could reduce its level of protection. Lifts that are not insulated must maintain at least a 10 foot distance between the boom and energized electrical lines. Always treat power lines, wires and other conductors as energized, even if they are inactive or appear to be insulated. Workers that are not electrical workers must remain at least ten feet from power lines.

Dangerous Obstacles: Operators should never position themselves between overhead hazards, such as joists and beams, and the rails of the basket. Accidental movement of the lift could result in a crushing hazard. Operators should also be aware of other obstacles. Operators must keep a minimum distance of 10 feet from all dangerous obstacles. Dangerous obstacles include:

- Other Vehicles
- Mechanical Devices
- Tools & Equipment
- Pot Holes
- Other Aerial Lifts
- Cranes
- Trenches & Pits
- Power Lines

Tip Over: Tip over can occur when aerial lifts are operated on soft or uneven ground, if the rated load limit is exceeded or if the lift is struck by another vehicle.
To avoid a tip-over:

- Do not exceed the manufacturer's rated load capacity limits;
- Avoid unnecessary travel with lift in the elevated position;
- Establish a work area perimeter;
- Do not drive near leading edges or holes;
- Do not raise the platform on a slope or drive onto a slope when elevated.
- Do not drive onto uneven or soft surfaces when elevated. Complete the Work Area Inspection Checklist Form found on our website.
- Do not use the platform in windy conditions.
- Avoid excessive horizontal forces when working from an elevated scissor lift.

Pedestrian Traffic: Operators must be constantly aware of their surroundings. Aerial lift operators are a vital part of Berger Electric, Inc.'s construction and maintenance services. Operators are responsible for the safety of people in the vicinity of the lifting equipment. In the event that aerial lift work needs to be conducted in the vicinity of pedestrian traffic, operators must take special precautions to ensure that the work is isolated from pedestrian traffic.

Signs, Caution Tape and Barriers: The aerial lift boom and basket should never be positioned above pedestrians and other workers. If an aerial lift is going to be used in an area near pedestrian traffic, operators are required to isolate the work area by establishing a perimeter and safely diverting the pedestrian traffic. Danger signs, caution tape and barriers should be used to create the perimeter of the work area. The perimeter must be delineated in such a way that the boom and basket remain in the work area during all work positions If the work area is limited, operators may only position the boom as far as the established perimeter. If the work area is located in a pedestrian throughway such as a side walk, pedestrian traffic must be safely diverted. If pedestrian traffic is to be diverted onto a street, when pedestrian traffic is diverted, signs must be posted to direct people in the appropriate direction. Additional signs must be posted at all entrances and around the perimeter of the work area to warn pedestrians that dangerous work is being conducted.

Types of Lifts:

Bucket Trucks: Cherry pickers and bucket trucks are types of aerial lifts that contain a bucket-like platform attached to a long arm (boom). As the arm unfolds, the platform rises. These types of lifts are commonly used by utility workers and landscapers. Special Hazards may be:

- Insulating Integrity
- Fall From Above
- Tip Over
- Collision
- Electrocution

Scissor Lifts: Scissor lifts use criss-cross braces that extend and stretch upward. As the criss-cross braces rise, the platform attached to the top of the braces also rises.

Articulated Boom Lift: Articulating boom lifts (knuckle booms) are able to extend up and over machinery and other obstacles and are able to reach elevated positions not easily approached by a straight (telescopic) boom lift. Typically, the turntable is capable of rotating 360 degrees in either direction. The boom can be raised or lowered from vertical to below horizontal and extended (telescoped) while the work platform remains horizontal and stable. It can be maneuvered forward or backward and steered in any direction by the operator from the work platform, in some cases while the basket is elevated. Most articulating models can be driven with the boom extended to its full elevation. Operators should insure that the articulating boom is designed for this before attempting to drive the lift with the boom extended. Special Hazards may be:

- Insulating Integrity
- Fall From Above
- Tip Over
- Collision
- Electrocution

Telescoping Boom Lift: Telescopic (straight or stick boom) boom lifts are used for applications that require high reach capability. The lift's turntable can be rotated 360 degrees in either direction for easier positioning. The boom can be raised or lowered from vertical to below horizontal and extended while the work platform remains straight and stable. The operator in the platform can maneuver and steer in any direction, in some cases while the boom is extended. Operators should insure that the articulating boom is designed for this before attempting to drive the lift with the boom extended. Special Hazards may be:

- Insulating Integrity
- Fall From Above
- Tip Over
- Collision
- Electrocution

Training: One of the most important elements of any aerial lift safety program is operator training. All aerial lift operators are required to successfully complete an Aerial Lift Operator

Training Program prior to operating an aerial lift. All operators must re-qualify for their Operator Permit annually through successful completion of the Aerial Lift Operator Refresher Program.

The Aerial Lift Operator Training Program includes a written test and a proficiency demonstration with the student driving and positioning an aerial lift through a predetermined course.

Before using a personal fall arrest system and after any component or system is changed, employees shall be trained in accordance with the requirements of OSHA 1910.66 in the safe use of the system. These are:

- Recognition of, and preventive measures for, the safety hazards associated with their individual work tasks.
- General recognition and prevention of safety hazards associated with the use of working platforms, including the provisions relating to the particular working platform to be operated.
- Emergency action plan procedures as required of the Aerial Lift Safety Program.
- Written work procedures for the operation, safe use and inspection of working platforms shall be provided for employee training.
- Personal fall arrest system inspection, care, use and system performance.
- Only trained and authorized persons shall operate an aerial lift.
- A malfunctioning lift shall be shut down until repaired.
- Lift controls shall be tested each day prior to use to determine that the controls are in safe working condition.
- A full-body harness with lanyard shall be worn and attached to the basket at the manufacturer's anchor point when operating an aerial lift.
- Employees shall always stand on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders or other devices for a work position.
- Load limits specified by the manufacturer shall not be exceeded.
- Aerial lifts shall not be used near electric power lines unless the lines have been de-energized or adequate clearance is maintained.

Employees using aerial lifts shall be instructed how to recognize and avoid unsafe conditions and hazards.

What Causes Accidents?

- Poor equipment maintenance.
- Welding and cutting on lifts - when slag or sparks land on batteries.
- Wheels dropping into holes or slipping off decks - or any other abrupt change in elevation.
- Scissor lifts that have a small foot print can tip easily. Most of the narrow scissor lifts can be pulled or pushed over with 150 lbs. of side force when elevated.
- Using a lift as a crane - attaching a load to the basket.
- Climbing on or over hand rails.
- Painting and sandblasting can damage equipment and cover safety decals.

What Causes Fatalities?

- Human factors - factors that can be directly associated with what the worker involved, other worker(s) or the employer did or failed to do; for example, improper or dangerous work procedures or lack of personal protective equipment.
- Environmental factors - extreme or unplanned environmental conditions in the workplace that severely and adversely affect the working conditions; e.g., strong winds and icy surfaces.
- Getting caught in the pinch point or squeeze point.
- Overhead moving/falling objects.
- Poor condition of the working surface or dangerous facility layout.
- Poor illumination.
- Touching power lines.
- Bad weather conditions.

Operation Checklist:

- Walk around the lift; look for loose or missing parts or visible damage.
- Check hose and cable guards for damage.
- Check tires for loose or missing lug nuts; visible damage (such as cut tires) or tires improperly inflated.
- Check to be sure the fuel filter cap is secure; make sure there are no gasoline Check to be sure the fuel filter cap is secure; make sure there are no gasoline leaks on the tank or accessories.
- Check the engine oil supply.
- Check controls for correct operation.
- Operate on a smooth, firm and level surface.
- Operate within the platform's load limits as displayed on the machine.
- Aerial lifts with extendible axles or outriggers must have these stabilizing devices properly positioned before the platform can be raised or boom extended.
- Do not operate the platform using ground controls with persons in the platform except in an emergency.
- Never remove, modify or disable the foot switch.
- Always maintain a clearance of at least 10 feet between any part of the machine or its load and any electrical line or apparatus carrying up to 50,000 volts; 2 feet of additional clearance is required above 50,000 volts.
- Allow engines and hydraulic system to warm up before inspecting the machine for malfunctions.
- Do not drive the machine to the work location with the boom in any position other than centered over the rear axle and below horizontal.
- Never use the boom on grades or side slopes exceeding those specified for the machine.
- Do not drive the machine on grades or side slopes exceeding those specified for the machine.
- Use extreme caution when driving with the platform elevated. Activate controls with a slow, even motion.

- Never walk or climb the boom to gain access to or to leave the platform.
- Wear a full-body harness and lanyard at all times when in the platform, with the lanyard properly attached to platform. Never attach to an adjacent object or structure.
- Do not operate the machine when wind conditions exceed 25 mph.
- Personnel shall always stand on the floor of the platform, not on boxes, planks, railing or other devices for a work position.
- Turn the ignition switch off and remove the master key to prevent operation by unauthorized personnel.
- Tying off to an adjacent pole, structure or equipment while working from an aerial lift shall not be permitted.
- Load limits specified by the manufacturer shall not be exceeded.

Maintenance:

- Use only clean, approved non-flammable cleaning solvents.
- Shut off all power controls before making adjustments, lubricating or performing any other maintenance.
- Use caution when checking a hot pressurized engine coolant system.
- When refueling, never smoke; never refuel during electrical storms.
- Ensure that the cap is closed after refueling
- Battery charging must be accomplished in well ventilated areas;
- Fuel tanks must not be filled while the engine is running;
- Trucks shall not be operated with a recognized leak in the fuel system;
- Spillage of oil or fuel must be carefully cleaned up and the fuel tank cap replaced before restarting the engine;
- When checking fluid levels in batteries, PPE (face and hand protection) must be worn; and in areas where electrolyte is added to batteries, an eyewash station must be readily accessible.

FATIGUE MANAGEMENT POLICY

Berger Electric is committed to ensuring a safe and healthy work environment and promoting a fatigue management program designed to ensure that employees are fit for duty at all times. This design will provide adequate opportunity for recovery sleep between shifts to ensure an employee's performance is not impaired by fatigue.

With objectives of Berger Electric, Inc. we will use appropriate risk assessment tools (i.e.) personal monitoring, in house training and education to promote fatigue and inform employees as to fatigue symptoms. We shall institute mitigation strategies to ensure compliance and review annually to maintain Fatigue Management within Berger Electric, Inc.

Fatigue Management Program will be designed to provide:

- Input from employees
- Appropriate risks associated with long work hours
- Assuring employees are provided rest times adequate to hours worked.

It is the responsibility of the employee or individual to:

- Ensure that they are fit to work
- Ensure that they comply with rest breaks and management of hours worked
- Cease or take a break when working or driving, if they have reasonable and genuine belief that to continue could cause harm to themselves or others
- Advise their manager of any medical condition which render them unsuitable for work or shift work
- Advise their manager or supervisor when taking medications which may affect their capacity to work

It is the responsibility of Berger Electric, Inc. to:

- Protect the health and safety of employees, contractors and the general public
- Provide employees awareness of risks and controls for fatigue management
- Empower employees to cease or take a break from work or driving if they feel fatigued
- Manage and monitor amount of hours worked

Both Berger Electric and employees have a shared responsibility to avoid fatigue related performance impairment.

- Berger Electric will ensure that employee hours are monitored and adequate breaks are allowed for recovery between shifts.
- All individuals have a duty of care to ensure adequate sleep is obtained between shifts, or long hours. Activities outside of work hours are solely the responsibility of employees and if employee has not received adequate rest prior to next scheduled work period shall be so stated to Management or Supervisor, so preventable measures cam be implemented if employee has not received adequate rest prior to next shift of work.
- Employees shall not put themselves or other employees at risk if proper rests have not been taken.

ACCESS TO MEDICAL RECORDS

Access to Medical Records Program contains requirements for practices designed and implemented to protect employees from the hazards of chemicals, radioactive materials, or toxic materials in the workplace. These toxic and hazardous substances are defined in the OSHA Regulations, 29 CFR 1910.1020, Subpart Z.

Scope: Access to Medical Records Program purpose is to provide employees and their designated representatives a right of access to their personal medical records and relevant exposure records. Access by employees is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational diseases.

Definitions: Definitions as defined in 29 CFR 1910.1020.

Access – Means the right and opportunity to examine and copy.

Analysis using exposure or medical records – Means any compilation of data or any statistical study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.

Designated representative – Means any individual or organization to which an employee gives written authorization to exercise a right of access. For the purposes of access to employee exposure records and analyses using exposure or medical records, a recognized or certified collective bargaining agent shall be treated automatically as a designed representative without regard to written employee authorization.

Employee – means a current employee, a former employee, or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. Employee exposure record – Means a record containing any of the following kinds of information:

- Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling;
- Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood urine, breathing, hair, fingernails, etc.), but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;
- Material Safety Data Sheets (MSDS) indicating that the material may pose a hazard to human health.

Employee medical record – Means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel or technician, including:

- Medical and employment questionnaires or histories (including job description and occupational exposures);
- The results of medical examinations (pre-employment, re-assignment, periodic or episodic) and laboratory tests (including chest and other X -ray examinations taken for the purpose of establishing a base-line or detecting occupational illnesses and all biological monitoring not defined as an "employee exposure record");
- Medical opinions, diagnoses, progress notes, and recommendations: First aid records:
- Descriptions of treatment and prescriptions; and
- Employee medical complaints.

Exposure or exposed – Means that an employee is subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes past exposure and potential (e.g., accidental or possible) exposure, but does not include situations where the employer can demonstrate that the toxic substance or harmful physical agent is not used, handled, stored, generated, or present in the workplace in any manner different from typical non-occupational situations.

Health Professional – Means a physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist providing medical or other occupational health services to exposed employees.

Record – Means any item, collection, or grouping of information regardless of the form or process by which it is maintained (e.g., paper document, microfiche, microfilm, x -ray film or automated data processing).

Specific written consent – Means a written authorization containing the following:

- The name and signature of the employee authorizing the release of medical information;
- The date of the written authorization;
- The name of the individual or organization that is authorized to release the medical information;
- The name of the designated representative (individual or organization) that is authorized to receive the released information;
- A general description of the medical information that is authorized to be released;
- A general description of the purpose for the release of the medical information, and a date or condition upon which the written authorization will expire (if less than one year);
- A written authorization does not operate to authorize the release of medical information not in existence on the date of written authorization, unless the release of future information is expressly authorized, and does not operate for more than one year from the date of written authorization;
- A written authorization may be revoked in writing at any time.

Toxic substance or harmful physical agent – Means any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress (noise, heat, cold, vibration, repetitive motion, ionizing and non-ionizing radiation, hypo- or hyperbaric pressure, etc.) which:

- Is listed in the National Institute for Occupational Safety and Health (NIOSH) Registry of

Toxic Effects of Chemical Substances (RTECS) which is incorporated by reference as specified in Section 1910.6; or

- Has yielded positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer; or
- Is the subject of a Material Safety Data Sheet (MSDS) kept by or known to the employer indicating that the material may pose a hazard to human health?

Preservation of Records: Unless a specific occupational safety and health standard provides a different period of time, each employer shall assure the preservation and retention of records as follows:

1. Employee Medical Records – Medical record for each employee shall be preserved and maintained for at least the duration of employment plus thirty (30) years, except that the following types of records need not be retained for any specified period:

    - Health insurance claims records maintained separately from the University's medical program and its records;
    - First aid records (not including medical histories) of one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and the like which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job, if made on-site by a non-physician and if maintained separately from the University's medical program and its records; and
    - The medical records of employees who have worked for less than one (1) year for the employer need not be retained beyond the term of employment if they are provided to the employee upon the termination of employment.

2. Employee Exposure Records – Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:

    - Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year so long as the sampling results, the collection methodology (sampling plan), a description
    - of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and
    - Material Safety Data Sheets (MSDS) and records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name, if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years; and
    - Biological monitoring results designated as exposure records by specific occupational safety and health standards shall be preserved and maintained as required by the standard.

OSHA Access: Berger Electric, Inc. shall upon request, and without derogation of any rights under the Constitution or the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 "et seq.," that the employer chooses to exercise, assure the prompt access of representatives of the

Assistant Secretary of Labor for Occupational Safety and Health to employee exposure and medical records and to analyses using exposure or medical records. Rules of agency practice and procedure governing OSHA access to employee medical records are contained in 29 CFR 1913.10.

Employee Access: Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner. If the employer cannot reasonably provide access to the record within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

Whenever an employee or designated representative requests a copy of a record, the employer shall assure that either:

- A copy of the record is provided without cost to the employee or representative;
- The necessary mechanical copying facility (e.g., photocopying) are made available without cost to the employee or representative for copying the record; or
- The record is loaned to the employee or representative for a reasonable time to enable a copy to be made.
- Whenever access is requested for analysis the employer shall assure that the contents of the employee medical records are clear of any employee identifiers by either direct identifiers which include: (Name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees include: (exact age, height, weight, race, sex, date of initial employment, job title, etc.) If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.

In the case of an original x-ray, the employer may restrict access to on-site examination or make other suitable arrangements for the temporary loan of the X-ray.

Whenever a record has been previously provided without cost to an employee or designated representative, the employer may charge reasonable, non-discriminatory administrative costs (i.e., search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record, except that:

- An employer shall not charge for an initial request for a copy of new information that has been added to a record which was previously provided; and
- An employer shall not charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.

Employee Information: Upon an employee's first entering into employment, and at least annually thereafter, Berger Electric, Inc. shall inform current employees, covered by this section, of the following:

- The existence, location, and availability of any records covered by this section;

- The person responsible for maintaining and providing access to records; and
- Each employee's rights of access to these records.

Berger Electric, Inc. shall keep a copy of the OSHA Standard and its appendices, and make copies readily available, upon request, to employees.

Trade secret information disclosure: If employee is requested a trade secret disclosure, must be in written format. Employee or designated representative shall in writing request within thirty days. Include any evidence to support the claim, that such request is determined a trade secret. Also state the specific reasons, and explain in detail how alternative information may satisfy the specific requester without revealing any trade secrets.

Transfer of Records: Whenever Berger Electric, Inc. is ceasing to do business Berger Electric, Inc. shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records. Whenever Berger Electric, Inc. is ceasing to do business and there is no successor employer to receive and maintain the records subject to this standard, Berger Electric, Inc. shall notify affected current employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

The purpose of Hazard Identification And Risk Assessment Procedure is to provide a systematic and objective approach to assessing hazards and their associated risks that will provide an objective measure of an identified hazard.

DEFINITIONS

- **Hazard:** A source of potential harm to people or a situation with potential to cause injury or loss to plant, property or equipment.
- **Hazard identification:** Is the process of identifying all situations or events that could give rise injury, illness or damage to plant or property.
- **Risk:** A function of the probability of an adverse event occurring and the potential consequence of that event.
- **Risk Score:** Is measurement of risk on a common score so that risks can be compared and prioritized for control.
- **Risk Assessment:** A systematic approach to assessing hazards which provides an objective measure of the hazard and allows hazards to be prioritized and compared.
- **Hazard Control:** Is the process of implementing measures to reduce the risk associated with a hazard.
- **Hierarchy of Control:** Is the established priority order for the types of measures to be used to control risks.
- **Monitoring and Review:** This involves ongoing monitoring of the hazards identified, risk assessment and risk control processes and reviewing them to make sure they are working effectively.

RESPONSIBILITIES: Managers and supervisor's are responsible for ensuring that:

- Hazards are identified and assessed in consultation with employees.
- Control measures are implemented where appropriate based on the hierarchy of control.
- Records are maintained of all risk assessments

Some of the functions necessary to comply with the Regulations may be delegated to an appropriately authorized person. All employees have a responsibility to report hazards to their manager or supervisor.

Hazard Identification: Hazard Identification is the process of identifying all situations or events that could give rise to the potential of injury or illness. Hazard identification and risk assessment must also accompany any proposal for the introduction of new equipment or processes or the modification of equipment or processes. Hazards can be grouped as physical, chemical, ergonomic, biological, or psychological. Hazards can be identified through the following methods:

- Direct reports from employees
- Incident report form
- Industry information
- Health and Safety Committees
- Hazard Identification checklists such as manual handling risk identification planned inspections, workstations or job sites

- Consultants reports
- Material Safety Data Sheets

Workplace hazard identification, assessment and control is an on-going process. It should be undertaken at various times, including:

- If it has not been done before.
- When a hazard has been identified.
- When a change to the workplace occurs.
- After an incident, accident or workplace illness.
- At regularly scheduled times appropriate to the workplace.

The following procedure for risk assessment (involving hazard identification, risk assessment and control) is a practical guide for helping make Berger Electric, Inc. workplaces safe for employees, contractors, and visitors. It will help both management and employees, through consultation, to comply with the health and safety regulations. These regulations require employers to identify, assess, fix and record all hazards and risks in their workplace.

The procedure will assist in:

- Finding hazards in Berger Electric, Inc. workplaces.
- Assessing the risks that may result because of the hazards.
- Deciding on control measures to prevent or minimize the level of the risks.
- Fixing the problem using control measures.
- Monitoring and reviewing the effectiveness of the measures.

Berger Electric, Inc. is committed to providing and implementing a procedure to cover both systematic and incidental identification, assessment and control of all workplace hazards so that it meets occupational health and safety obligations.

It is the responsibility of all managers and supervisors to ensure that this policy is fully implemented in their area(s) of control as part of undertaking the hazard identification, risk assessment and control process. It is the responsibility of Berger Electric, Inc. to cooperate and comply with this policy.

The risk assessment procedure can best be illustrated in the following way.

- Identify the Hazard - that employers in consultation with employees identify all potentially hazardous situations which could result in any person in the workplace being harmed.
- Assess the risks
- Evaluate the existing controls
- Implement additional risk controls
- Monitor and Review.
- Past incidents/accidents shall be examined to see what happened and whether the incident/accident could happen again.
- Employees be consulted to find out what they consider are safety issues, how could an employee be exposed to this hazard?

- Work areas or work sites be examined to find out what is happening and if any risks are identified.
- Information about equipment (operating instructions) and Material Safety Data Sheets shall be reviewed to see what is said about safety precautions.

Assess the Risks - that once a hazard has been identified, an employer is required, in consultation with employees (or their representative), to determine how likely it is that someone could be harmed by the hazard and what the consequence of the resulting injury or illness could be. This should include: Any hazard which is identified by this process should be recorded on the Risk Assessment and Control Sheet:

- Identify factors that may be contributing to the risk,
- Review health and safety information that is reasonably available from an authoritative source and is relevant to the particular hazard,
- Evaluate the likelihood of an injury occurring and the likely severity of an injury or illness that may occur,
- Identify the actions necessary to eliminate or control the risk; and
- Identify records that it is necessary to keep to ensure that the risks are eliminate or controlled.

Other risk factors should also be identified as they may contribute to the risk including:

- The work premises and the working environment, including their layout and condition,
- The capability, skill, experience and age of people ordinarily undertaking work,
- The systems of work being used; and
- The range of reasonably foreseeable conditions.

The process of assessing the risk is undertaken by reviewing any available information about the hazard (e.g. a law, regulation, standards or guidance material about the hazard) and by using your personal work experience about what sort of accident or illness the hazard could create and how likely this would be to happen. When determining how likely it is that a person could be exposed to a hazard or hazardous event, consideration needs to be given to these “exposure factors”:

- Whether there are any other risk factors that increase the likelihood of exposure?
- How often the person is exposed (frequency)?
- For how long is the person exposed (duration)?
- How many people are exposed?
- The likely dose to which the person is exposed?
- Any recommended exposure levels required by standards or codes.

Risk Assessment: Once a hazard has been identified/reported or if modifications (eg) to equipment, a risk assessment must be undertaken to determine the likelihood of injury or illness being caused by the hazard.

When assessing the risk associated with any hazard, it is necessary to ask the following questions:

- Who is exposed to the hazard?

- How often are people near the hazard?
- Has this hazard already caused any problems?
- How easily could someone be hurt?
- How common is it for the hazard to cause problems in other workplaces?
- Which factors relating to the hazard need to be taken into account, according to health and safety procedures?
- Which factors or specific aspects of the work are increasing the likelihood of injury or illness?

Assessment Process: This requires a systematic approach to assessing hazards and provides an objective measure of the hazard and allows hazards to be prioritized and compared.

Berger Electric, Inc. requires managers and supervisors, safety coordinator to identify hazards, assess the risk of an accident or illness which has occurred and set a priority for corrective action by using a clearly laid out process. The process is as follows:

- Identified hazards on the Risk Assessment and Control Form.
- A Risk Category Table (below) is then used to categorize the type of risk to Berger Electric, Inc.

For each hazard review the tables below. The Exposure to the hazard is related to the frequency with which people may be exposed to the identified hazard. The following ratings from 1 to 10 have been adopted

Choose one exposure

EXPOSURE (E)	EXAMPLE	RATING
Continuously	Exposure to the hazard several times a day	10
Frequently	Exposure approximately once per day	6
Occasionally	Exposure to the hazard approximately once per week to once per month	3
Infrequently	Approximately once per year	2
Rarely	Exposure every 2 years or more.	1

The Probability measures the likelihood of an event linked to the identified hazard occurring or being realized. The ratings are from 0.05 to 1.0

Choose one exposure

PROBABILITY (P)	EXAMPLE	RATING
Most likely	The most likely result of the hazard / event being realized.	1.0
Possible	Has a good chance of occurring and is not unusual	0.6
Conceivable	Can be envisaged to occur after many years of exposure.	0.3
Remote	Has not been known to occur after many years of	0.1

Inconceivable	Is practically impossible and has never occurred.	0.05

The consequences the physical outcome of the hazard and provides an indication of the severity of the risk in relation to the detrimental effects to humans, property and productivity. A rating of 20 to 1 is used.

Choose one consequence

CONSEQUENCE (C)	EXAMPLE	RATING
Catastrophic	Numerous fatalities, irrecoverable property damage and productivity	20
Fatal	Approximately one single fatality, major property damage if hazard is realized	10
Serious	Serious non-fatal injury, permanent disability	5
Minor	Disabling but not permanent injury	2
Negligible	Minor abrasions, bruises, cuts, first aid type injury.	1

To obtain the risk score: Multiply the Exposure X Probability X Consequence, the higher the risk-score the greater priority to control the hazard.

Prioritizing Hazards

RISK	DESCRIPTION	ACTION
> 8	**HIGH**	A HIGH risk requires **immediate** action to control the hazard as detailed in the hierarchy of control. Actions taken must be documented on the risk assessment form including date for completion.
5 - 8	**MEDIUM**	A MEDIUM risk requires a planned approach to controlling the hazard and applies temporary measure if required. Actions taken must be documented on the risk assessment form including date for completion.
< 5	**LOW**	A risk identified as LOW may be considered as acceptable and further reduction may not be necessary. However, if the risk can be resolved quickly and efficiently, control measures should be implemented and recorded.

Implement additional risk controls. Having identified the hazards in your workplace, assessed their risks and reviewed the existing controls, all hazards must be managed before people are hurt, become ill or there is damage to property or the environment.
All hazards that have been assessed should be dealt with in order of priority in one or more of the following hierarchy of controls

- Eliminate the hazard: remove it from the workplace

- Substitute the hazard: substitute a substance, method or material to reduce the risk or the hazard
- Isolate or enclose the hazard: separate the hazard from the workplace.
- Lock out procedures on faulty equipment.
- Appropriate guarding for machinery.
- Use engineering solutions: modify existing machinery or purchase different machinery.
- Administrative Procedures: develop work methods to reduce the conditions of risk (Written Safe Operating Procedures)
- Job rotation to restrict hours worked on difficult jobs.
- Employer and Employees trained in the correct operating procedures.
- Use Personal Protective Equipment (PPE) and training where the hazard cannot be removed or reduced by any other means. May include but not limited to the following: gloves, safety glasses/safety shields, FRC's (fire retardant clothing), safety toed shoes/boots and hard hats

Each measure must have a designated person and date assigned for the implementation of controls. This ensures that all required safety measures will be completed.

Monitor and Review: Hazard identification, risk assessment and control is an on-going process. Therefore, regularly review the effectiveness of your hazard assessment and control measures. Make sure that you undertake a hazard and risk assessment when there is a change to the workplace including when work systems, tools, machinery or equipment change. Provide additional supervision when new employees with reduced skill levels or knowledge are introduced to the workplace.

Training and Review: Managers, supervisors, and employees shall receive training in hazard and risk management procedures prior to performing work. Training shall include the following:

- Proper procedures for performing job
- Proper use of any PPE which maybe required to perform work
- While performing work periodic review of the hazard assessment and
- Any other training that maybe required while performing work.

NORM AWARENESS

NATURALLY OCCURRING RADIOACTIVE MATERIAL or NORM is a major component of background radiation. NORM consists of long-lived radioactive material. This low-level presence has the potential to initiate cancer in persons exposed to it. However, it is generally considered to be negligible.

Higher concentrations of NORM can develop as a result of industrial activities, including the production of petroleum products. These higher concentrations increase the potential for cancer.

When left in its undisturbed natural environment, NORM exists in very low concentrations and is not a significant problem. However, several industries have production activities that concentrate NORM, sometimes referred to as technologically-enhanced NORM (TENORM) and some of these are:

- Oil and Gas Production (i.e. radium and radon gas in liquid and gas products)
- Mining and Ore Processing (i.e. uranium and thorium deposits)
- Metal Recycling (i.e. redistribution of NORM from one industry to another)
- Forest Product Combustion (i.e. fly ash form wood products)
- Thermal-Electric Production (i.e. fly ash from coal plants/co-generation plants)
- Water Treatment Facilities (i.e. filtration systems)
- Tunneling or other Underground Industrial Activities (i.e. radon gas buildup)
- Phosphate Fertilizer Industry (i.e. phosphor gypsum)

Exploration and Production: Uranium is found within underground petroleum reservoirs. It is insoluble and presents no significant problem for drilling and extraction. However, as part of the decay process, is somewhat soluble. Under certain chemical conditions, radium can dissolve within the extracted product as a radium salt. These radium salts can then precipitate out as scale or sludge which can accumulate on equipment surfaces (i.e. in elbows, valves, etc.) during the extraction process. This precipitation can build up, leading to concentrated radioactivity levels within the NORM scale or sludge.

NORM Contaminated Bundles: The degree of radiation hazard to upstream operations is highly dependent on the quantity of uranium present within the underground reservoir geology, and the chemical and physical conditions in the extraction process. Upstream equipment which may contain NORM scales and sludge include:

- produced water tubular
- surface and down hole pumps
- surface equipment exposed to produced water
- enhanced recovery process equipment
- product holding tanks

Potential Locations of NORM in the Oil and Gas Industry during processing and distribution

On the downstream side, natural gas processing plants extract and separate natural gas liquids through a series of distillations. In the stream, radon gas is separated from radium by the distillation process. This result in a concentration of radon gas dissolved in propane, a common consumer product. With large daily production volumes of propane, even small quantities of dissolved radon gas can lead to large concentrations of radon progeny within various gas plant facilities. In particular, in-line gas filtration systems, extraction and distillation process equipment, and propane handling facilities can concentrate radon gas and radon progeny. High-capacity gas straddle plants are particularly susceptible to this problem.

NORM radio nuclides of particular concern include:

- Lead accumulations in gas processing equipment,
- Radon accumulations in propane processing equipment and filtration systems,
- Radon gas build-up in storage vessels is normally dissipated through ventilation procedures.

TYPES OF NORM EXPOSURE

External vs. Internal Exposures: Human exposure to NORM sources can occur both externally and internally. Exposure to any source of radiation leads to a radiation dose to tissues. Radiation dose is the quantity that is regulated by government as yearly dose limits. Effective NORM management practices are base on controlling NORM radiation exposures on a day-to-day basis.

External Exposures: External NORM exposures occur when radiation is emitted by a NORM source that exposes the individual from the outside. From these exposures, only gamma rays and beta particles are of concern.

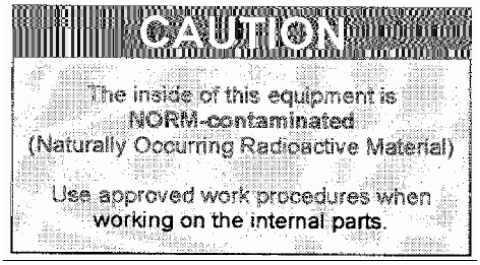
Internal Exposures: Internal NORM exposures occur when radioactive material (i.e. the NORM source) is taken into the body by inhalation, ingestion or absorption through the skin. Once inside the body, the material will accumulate in certain body tissues depending on the chemical and physical properties of the NORM source.

Health Risks from NORM Exposure: Long term exposure to NORM can lead to increased risk of concern, just as similar exposure to asbestos, coal dust which can cause lung cancer. A typical Occupationally-Exposed worker in the oil and gas industry is expected to receive an annual radiation dose less than OSHA required exposure per year.

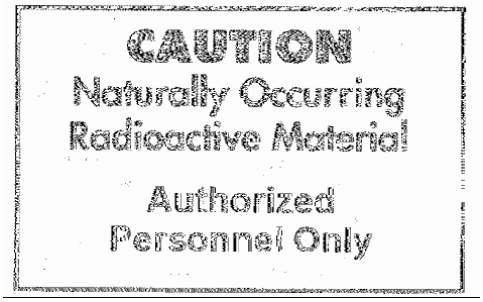
NORM RADIATION WARNING SIGNS

Radiation warning signs assist employers and workers in identifying and avoiding potential radiation exposures. Recognized industry NORM signage is described in the American Petroleum Institute (API), Management of Naturally Occurring Radioactive Material (NORM) in Oil and Gas Production.

Two types of NORM worksite signage may be encountered in the oil and gas industry:
For contained or sealed NORM-contaminated material:



For areas where NORM is or may contaminate the work area, stay out of the area without appropriate authorization and safety precautions.



Worker Protection from External Exposure: Actions to reduce external radiation exposures are:

- Time,
- Distance,
- Shielding.

Time: The amount of exposure time within a radiation field is directly related to the resulting radiation dose received.

Distance: The exposure rate rapidly reduces with distance, utilizing the inverse square law. If the distance between you and the NORM source is doubled, the resulting dose is reduced to 1/4 of the original expected dose. The distance is tripled, the resulting dose is reduced to 1/9 the original expected dose.

Shielding: The type and thickness of construction materials used in contaminated petroleum equipment (i.e. filter housings, steel tubular, etc.) provides substantial shielding from radiation arising from NORM accumulations inside the equipment. Exposure risk will increase when vessels are opened for maintenance and will decrease after contamination.

Protection from External Exposure: The 3 possible internal exposure pathways for a worker in the petroleum industry are:

- Inhalation of NORM-contaminated dust or radon,
- Inhalation of NORM-contaminated particulates or liquids,
- Absorption of NORM-contaminated particulates or liquids through the skin.

Maintenance activities that present a substantial risk of internal radiation exposure include:

- improper safety procedures for entering pressure vessels due to the build-up of radon gas,
- sanding, grinding or polishing activities that produce airborne NORM particulates on equipment containing NORM scales,
- handling of filters that are heavily contaminated with radon progeny, without wearing protective gloves.

Engineering Controls: Engineering controls use equipment specifically designed to eliminate worker exposures by either containing the NORM source or preventing worker access to its radiation emissions. Engineering controls that will work in various circumstances are as follows:

- Dust containment and suppression systems,
- Ventilation systems,
- Radiation shielding.

Administrative Controls: Administrative controls are designed to limit worker access to a NORM source (contained or not). Administrative controls will not be needed if the proper engineering controls eliminate all possible internal radiation exposures. Typical administrative controls are as follows:

- NORM surveys,
- NORM safety policies and procedures,
- Warning signs and barricades,
- Training programs,
- Safe work practices and contamination control procedures,
- Worker exposure assessment/Personal dosimeters,
- Record-keeping.

NORM Surveys

- NORM screening surveys are necessary to identify the potential of NORM exposures or to evaluate the effectiveness of existing or planned engineering controls.
- NORM radiation surveys are usually conducted on a scheduled basis at a frequency based on results from previous screening surveys. A screening survey is also recommended if changes to the worksite are planned or anticipated which may impact on worker safety. Maintenance of NORM radiation survey records confirms the level of safety at the worksite.
- NORM contamination surveys monitor the worksite for possible contamination of the air, work surfaces or immediate ground area. They are particularly important in jobs that involve cleaning, grinding, sand blasting or milling of equipment surfaces potentially contaminated with NORM scale.
- Development of NORM Safety Policies and Procedures
- A NORM safety program is needed when a NORM radiation survey indicates the presence of NORM accumulations in sufficient quantities to harm workers.

- Use of NORM Warning Signs and Barricades
  Signs and barricades restrict access of unauthorized workers or members of the public to certain process areas.
- Training Programs
- Companies must develop NORM policies and procedures reflecting NORM related activities. All workers who will be engaged in activities involving exposure to NORM must receive training which will include the hazards associated with NORM and the specific engineering, administrative and personal protective equipment controls each worker must follow to safely perform his or her job.
- Safe Work Practices and Contamination Control Procedures
- Safe Work Practices
- Effective NORM safe work practices which will minimize possible internal exposures include:

    - Containing potentially dispersible NORM,
    - Minimizing production of airborne NORM particulates with dust minimization and suppression procedures.
    - Good housekeeping practices.

- Personal Hygiene
  Avoid eating, drinking or smoking in restricted access areas with potential for airborne NORM-contaminated dust and particulates, to reduce the chance of NORM ingestion.
- Cover all cuts or wounds to avoid possible absorption of NORM particulates into open skin wounds.
- Upon exiting the NORM-contaminated area, remove protective clothing, properly store or dispose of it, and wash or shower accordingly.
- Conduct personal contamination monitoring.

    - Worker Exposure Assessments/Personal Dosimeters
    - Worker exposure assessments involve radiation monitoring of the working environment and assigning a radiation exposure to all affected workers based on each worker's time spent in the area.

- Where a worker's annual radiation dose is expected to exceed OSHA required doses, the worker must be assigned a personal radiation dosimeter to measure his/her individual radiation dose.
- Record-Keeping

    - Maintain records of all NORM surveys, contamination, and decontamination and disposal activities.

Personal Protective Equipment (PPE)

Purpose of Personal Protective Equipment: Personal protective equipment (PPE) represents the last line of defense against internal exposure to NORM. PPE must be used by workers if NORM radiation surveys indicate the presence of NORM. NORM contamination surveys

provide information for the possible routes of internal radiation exposure. Internal exposure routes and preventive measures are:

- Inhalation of airborne NORM protected against by using appropriate respiratory protection.
- Absorption of NORM, prevented by wearing protective clothing, including gloves, coveralls, etc.
- Ingestion of NORM prevented through the use of good personal hygiene practices, such as not eating, smoking, or drinking in designated areas.

Proper Use of Personal Protective Equipment Selection: PPE must be widely available and will provide appropriate internal radiation exposure protection for the type of job(s) to be undertaken. PPE requirements are highly dependent upon the task to be performed and on the environment in which the task is to be done.

NORM Exposure Tasks involving selection of PPE are as follows:

- Respiratory protection, including air purifying respirators (half face, with goggles, or full face) or full face, self-contained breathing apparatus (SCBA).
- Protective clothing, including coveralls (i.e. disposable impervious coveralls or rain gear), gloves (i.e. latex or surgical) and footwear (i.e. approved safety boots, shoe covers, etc.).
- Radiation monitoring equipment, including a radiation survey instrument, personal dosimeter or alarming dosimeter.

Pre-Use Inspections for PPE

- Visual inspection of the integrity of the equipment,
- Pre-use review of maintenance records for previously-used PPE, including confirmation of no contamination, general maintenance schedules and operational checks of proper PPE function, as required.
- Correct Use
- NORM workers must receive appropriate training in the correct use of PPE, prior to its use.
- Respiratory Protection (follow Berger Electric, Inc. respiratory protection procedures)
- Pre-fit (i.e. fit testing) and adjust (i.e. fit checking) respirators to ensure a good seal.
- Attach filters firmly and never remove them while in the designated work area. Replace filter outside the work area only.

Protective Clothing

- Replace damaged protective clothing as soon as possible.
- Advice your supervisor if the protective clothing creates problems in providing the protection required or if it interferes with completing the intended job (i.e. if the disposable coveralls tear too easily or are too uncomfortably hot).

- Outer work wear may need to be flame-resistant, depending on the nature of the job and/or site-specific policies and procedures.

Radiation Monitoring Equipment: Only qualified (trained) personnel should operate radiation monitoring equipment.

Ensure that a radiation survey instrument, assigned to monitor personal worker exposures, remains in the assigned work area.

- If the instrument readout exceeds the assigned "action level", stop work and report the occurrence to your supervisor.
- Post-Use Inspections
- Equipment Function
- Conduct a visual check of equipment integrity.
- Conduct function tests of correct PPE operation, as applicable.
- Record results of function tests.

Equipment Contamination: Survey all PPE used in areas of known radioactive contamination immediately after completion of assigned work.

- Ensure disposable PPE, if contaminated, is properly packaged for later disposal.
- Ensure reusable PPE, if contaminated, is promptly decontaminated or safely packaged and stored for subsequent decontamination.
- Survey respirator filters with a sensitive radiation instrument for build-up of radioactivity. Contaminated filters must be either properly disposed or sealed and stored for radioactive decay. This may include placing in a barrel, sealing and labeling the barrel, and keeping it separate from other NORM-contaminated waste.
- Maintain records of all contamination, decontamination and disposal activities.

Training: Authorized workers must receive training on the hazards associated with NORM and the specific administrative controls, safe work practices and contamination control procedures, shall be covered in training in order to safely work or complete their job.

ASBESTOS POLICY AWARENESS

Introduction

The purpose of this Asbestos Policy is to provide advice and instruction for all persons involved in work with asbestos containing materials (ACM) in connection with the Berger Electric, Inc.

Berger Electric, Inc. recognizes and accepts its responsibilities to ensure the effective and safe management of ACM within its premises in accordance with current Health and Safety legislation.

Training: In order to comply with the regulations, Berger Electric, Inc. training program will cover the following aspects:

- Asbestos Awareness Training is required for employees whose work activities may contact Asbestos Containing Material (ACM) or Presumed Asbestos Containing Material (PACM) but do not disturb the ACM or PACM during their work activities.
- the properties of asbestos and its effects on health, including its interaction with smoking,
- the types of products or materials likely to contain asbestos
- the operations which could result in asbestos exposure and the importance of preventive controls to minimize exposure
- safe work practices, control measures, and protective equipment
- the purpose, choice, limitations, proper use and maintenance of respiratory protective equipment
- emergency procedures
- hygiene requirements
- decontamination procedures
- waste handling procedures
- medical examination requirements
- the control limit and the need for air monitoring
- training shall be provided prior to or at the time of initial assignment and at least annually thereafter.
- all employees who receive general information and specific hazard training sign a training sheet as documentation.

Re-Assigned/Transferred Employees: Employee's Re-Assigned/Transferred to other work areas will undergo a review of specific hazard training in their new work area. The Immediate Supervisor or Safety Coordinator is responsible for scheduling and insuring that this retraining session is conducted and initiated on the first day of employment in a new work area.

New Hires: Whenever a person is hired for employment, hazard communication training and education will be provided at the time of their initial assignment. New Employee training will be provided by the Safety Coordinator as part of new employee orientation at the time of initial employment and prior to handling hazardous chemicals. New hires will sign an Employee Orientation Sheet.

Only persons who have received adequate information, instruction and training will be authorized to carry out sampling, encapsulation and removal work involving ACM.

Where the presence of ACM is found or strongly suspected, a hierarchy of control measures will be followed;

Any asbestos products that are undamaged (as determined by a suitably qualified person on an individual basis), such as roofing sheets, guttering and pipes, which do not constitute a hazard, may remain in place, but their condition must be monitored on a regular basis by the person(s) nominated as responsible for the building.

- If the material is slightly damaged, but otherwise in a sound condition (as determined by a suitably qualified person on an individual basis) or located in such a position that it may present a future risk to health if it is left untreated, it may be repaired and/or sealed by an approved method and periodically re-inspected to ensure its condition has not deteriorated.

- If the material is in such a condition that it presents a risk to health, or may be disturbed by maintenance work, it should be removed by an approved method.

Friable asbestos-containing material (ACM), is defined by the Asbestos NESHAP, as any material containing more than one percent (1%) asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Sprayed-on materials used for fireproofing, insulation, or sound proofing are considered to be friable, and they readily release airborne fibers if disturbed.

Non-friable ACM is any material containing more than one percent (1%) asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Vinyl-asbestos floor tile or roofing felts are considered non-friable and generally do not emit airborne fibers unless subjected to sanding or sawing operations.

Friability:
Products that damage easily such as sprayed asbestos are clearly more likely to release fibres than strong materials such as cement. This 'likelihood of fibre release' or crumbliness is commonly referred to as friability. Materials with high friability (such as insulation) are higher risk than these with low friability such as cement. Products which are damaged are more likely to release fibres than those in good condition.

Asbestos-backed sheet vinyl flooring was commonly installed in many ways, including over hardwood, softwood and concrete floors. It also was installed over tongue-and-groove wood floors, particleboard and plywood. Not all spray-on “popcorn” ceilings contain asbestos.

All work involving such materials will be subject to a Permit to Work system to ensure all necessary precautions are taken and qualified persons carry out the work.

Statement of Intent

It is the policy of Berger Electric, Inc. to ensure that, as far as is reasonably practicable; no persons are exposed to risks to their health due to the exposure of any ACM that may present within the premises. This includes contractors and others who are reasonably expected to be present on the premises.

Policy Statement
Berger Electric, Inc. conforms to the Health and Safety, Act 1974, the Asbestos Regulations 1983 and the Control of Asbestos at Work 2002. The policy and procedures will apply to all contractors and all individuals therein, without exception. Berger Electric, Inc. policy on asbestos and ACM is;

- To ensure the prevention of exposure to hazards associated with ACM to contractors and others who are reasonably expected to be present on the premises.
- To ensure that all areas are surveyed to identify any ACM that may be present therein, and to prepare and maintain an asbestos register for all surveyed areas (including regular reviews and to update records of any treatment and/or removal work undertaken).

- All areas will be assumed to contain ACM unless there is evidence to prove otherwise.

- To ensure that an appropriate system is installed, maintained and implemented for the management of all ACM identified in the asbestos register.

- To implement an effective management strategy in order that appropriate measures such as encapsulation, labeling, inspection, and working with or removal of the material can be undertaken.

To provide information on ACM to contractors and others who may be working in areas with, or near, asbestos as identified in surveys or assumed to be present.

To annually review the Asbestos Management Policy and Procedures.

- To promote awareness of the risks from ACM and the Berger Electric, Inc.'s management procedures and induction of relevant employees.

- To ensure that all contractors and subcontractors engaged to carry out work on any of the areas provided with a summary listing of all locations that contain, or are strongly suspected of containing, asbestos to ensure that the appropriate procedures and precautions are followed.

- To ensure that any ACM that may be present in any of the areas are maintained in a conditions so as to prevent the possibility of any harm to health occurring.

- Ensure a commitment to comply with all relevant asbestos legislation, Approved Codes of Practice, Health and Safety Guidance Notes, and to commit to the safe disposal of any asbestos waste in accordance with the appropriate legislation.

- Provide adequate resources to ensure the provision of appropriate information, instruction and training.

- Licensed contractors and/or subcontractors, in accordance with HSE recommendations, must carry out all work to ACM, irrespective of the length of time any job is to take of the type of asbestos to be worked on.

Management of Asbestos – Organization and Arrangements
Berger Electric, Inc. acknowledges the health hazards arising from the exposure to asbestos and therefore it is the policy of Berger Electric, Inc. to ensure that as far as reasonably practicable that no persons are exposed to risks to their health due to the exposure to any ACM that may be present.

Asbestos policy and procedures will apply to all individuals present on the premises without exception.

Asbestos Policy will ensure a commitment to comply with all relevant asbestos legislation, Approved Codes of Practice, Health and Safety Guidance Notes, and to commit to the safe disposal of any asbestos waste in accordance with the appropriate legislation.

Responsibilities: All those who have responsibility for the control and maintenance and/or repair of the Berger Electric, Inc. premises have a duty to manage the ACM present in the premises. The extent of the legal duty is determined by the terms of any tenancy agreement or contract that applies, and in the absence of any such agreement, on the degree of control the party has over the premises.

Therefore, Management and Safety Coordinator, in accordance with the State and Federal regulations shall take the following steps:

- take reasonable steps to determine the location and condition of materials likely to contain asbestos;

- presume materials contain asbestos unless there is strong evidence that they do not;

- make and keep an up to date record of the location and condition of the ACMs or presumed ACMs in the premises;

- assess the risk of the likelihood of anyone being exposed to fibers from these materials;

- prepare a plan setting out how the risks from the materials are to be managed;

- take the necessary steps to put the plan into action;

- review and monitor the plan periodically; and provide information on the location and condition of the materials to anyone who is liable to work on or disturb them.

Office Manager

Summary Manages a variety of general office activities by performing the following duties personally or through subordinate supervisors.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Analyzes and organizes office operations and procedures such as bookkeeping, preparation of payrolls, personnel information, and management, filing systems, requisition of supplies and other clerical services.
- Maximizes office productivity through proficient use of appropriate software applications.
- Researches and develops resources that create timely and efficient workflow.
- Establishes uniform correspondence procedures and style practices.
- Formulates procedures for systematic retention, protection, retrieval, transfer and disposal of records.
- Plans office layout, develops office budget and initiates cost reduction programs.
- Reviews clerical and personnel records to ensure completeness, accuracy and timeliness.
- Prepares activities reports for guidance of management.
- Coordinates activities of various clerical departments or workers within department.
- Maintains contact with customers and outside vendors.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is regularly required to sit, use hands to finger, handle or feel. The employee is frequently required to walk; and talk or hear. The employee is occasionally required to stand; reach with hands and arms; climb or balance and stoop, kneel, crouch or crawl. The employee must regularly lift and /or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this Job, the employee is frequently exposed to moving mechanical parts and vibration. The employee is occasionally exposed to wet and/or humid conditions and risk of electrical shock. The noise level in the work environment is usually moderate.

Safety Coordinator

Summary Plans, directs and implements organization safety program to ensure safe, healthy and accident-free work environment by performing the following duties personally or through subordinate supervisors.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Plans and implements safety policies and procedures in compliance with local, state and federal Occupational Safety and Health Administration (OSHA) rules and regulations.
- Plans and implements programs to train managers and employees in work site safety practices, fire prevention and correct handling techniques for chemicals, toxins, equipment and other materials.
- Prepares studies and analyses of industrial accident causes and hazards to health for use by company personnel and outside agencies.
- Inspects organization facilities to detect existing or potential accident and health hazards, determines corrective or preventative measures where indicated and follows up to ensure measures have been implemented.
- Provides information, signs, posters, barriers and other materials to warn of potential and actual safety hazards and to prevent access to hazardous conditions.
- Leads the investigation of accidents and injuries and cooperates in the preparation of material and evidence for organization use in hearings, lawsuits and insurance investigations.
- Compiles and submits accident reports required by regulatory agencies.
- Oversees the administration of workers' compensation program, including working with the insurance carrier to reduce employee lost time.
- Prepares and arranges safety exhibits and material for display, promotional work, industry conferences and exhibitions.
- Represents the organization in community or industry safety groups and programs.
- Maintains safety files and records.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this Job, the employee is regularly required to use hands to finger, handle or feel. The employee is frequently required to stand; walk and talk or hear. The employee is occasionally required to sit; reach with hands and arms; climb or balance and stoop, kneel, crouch or crawl. The employee must regularly lift and /or move up to 10 pounds, frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this Job, the employee is frequently exposed to moving mechanical parts; risk of electrical shock and vibration. The employee is occasionally exposed to wet and/or humid conditions; toxic or caustic chemicals and outside weather conditions. The noise level in the work environment is usually moderate.

Bookkeeper/Secretary

Summary Keeps records of financial transactions for establishment Schedules appointments, gives information to callers, takes dictation and otherwise relieves officials of clerical work and minor administrative and business detail by performing the following duties.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Verifies, allocates and posts details of business transactions to subsidiary accounts in journals or computer files from documents such as sales slips, invoices, receipts, check stubs and computer printouts.
- Summarizes details in separate ledgers or computer files and transfers data to general ledger.
- Reconciles and balances accounts.
- Compiles reports to show statistics such as cash receipts and expenditures, accounts payable and receivable, profit and loss and other items pertinent to operation of business.
- Calculates employee wages from records or time cards and prepares checks for payment of wages.
- Prepares withholding, Social Security and other tax reports.
- Computes, types and mails monthly statements to customers.
- Completes records to or through trial balance.
- Reads and routes incoming mail. Locates and attaches appropriate file to correspondence to be answered by employer.
- Composes and types routine correspondence.
- Organizes and maintains file system and files correspondence and other records.
- Answers and screens manager's telephone calls and arranges conference calls.
- Greets scheduled visitors and conducts to appropriate area or person.
- Coordinates and arranges meetings, prepares agendas, reserves and prepares facilities and records and transcribes minutes of meetings.
- Makes copies of correspondence or other printed materials.
- Prepares outgoing mail and correspondence, including e-mail and faxes.
- Orders and maintains supplies and arranges for equipment maintenance.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this Job, the employee is regularly required to use hands to finger, handle or feel. The employee is frequently required to sit; reach with hands and arms and talk or hear. The employee is occasionally required to stand; walk and stoop, kneel, crouch or crawl. The employee must regularly lift and /or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision and depth perception.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is occasionally exposed to moving mechanical parts and electrical shock. The noise level in the work environment is usually moderate.

Operations Manager

Summary Manages all activities related to operations and development of company products by performing the following duties personally or through subordinate supervisors.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Develops and maintains manufacturing operations business plans to include all program requirements, labor hours, cycle, production costs and image.
- Provides input to the development of product strategy and research and development of new and emerging products.
- Establishes production and quality control standards, develops budget and cost controls and obtains data regarding types, quantities, specifications and delivery dates of products ordered.
- Provides guidance to the development of a manufacturing process plan, including personnel requirements, material needs, subcontract requirements, facility needs and tooling and equipment needs.
- Ensures all established costs, quality and delivery commitments are met.
- Coordinates manufacturing activities with all other functions of the organization and suppliers to obtain optimum production and utilization of human resources, machines and equipment.
- Reviews production and operating reports and directs the resolution of operational, manufacturing and maintenance problems to ensure minimum costs and prevent operational delays.
- Performs administrative activities associated with the effective management of shop operations, including compiling, storing and retrieving production data for reports.
- Determines responsibilities of assigned organization and staff positions to accomplish business objectives.
- Trains and ensures all assigned employees are aware of and comply with company, government and customer policies, procedures and regulations.
- Estimates costs of materials, labor and use of equipment required to fulfill provisions of contract and prepares bids.
- Confers with clients to negotiate terms of contract.
- Subcontracts specialized craft work such as electrical, structural steel, concrete and plumbing.
- Purchases and ensures that materials for construction are on site as needed.
- Inspects work at sites for compliance with terms and specifications of contract.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is regularly required to talk or hear. The employee is frequently required to stand and use hands to finger, handle or feel. The employee is occasionally required to walk; sit; reach with hands and arms; climb or balance and stoop, kneel,

crouch or crawl. The employee must regularly lift and /or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is occasionally exposed to wet and/or humid conditions; moving mechanical parts; high, precarious places; outside weather conditions; extreme cold, vibration and risk of electrical shock. The noise level in the work environment is usually moderate.

Light Truck Driver

Summary Drives truck with capacity under 3 tons to transport materials in liquid or packaged form and personnel to and from specified destinations such as railroad stations, plants, residences, offices or within industrial yards by performing the following duties.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Verifies load against shipping papers.
- Drives truck to destination.
- Prepares receipts for load picked up.
- Collects payment for goods delivered and for delivery charges.
- Maintains truck log according to state and federal regulations.
- Maintains telephone or radio contact with supervisor to receive delivery instructions.
- Loads and unloads truck.
- Drives truck equipped with public address system through city streets to broadcast announcements over system for advertising or publicity purposes.
- Inspects truck equipment and supplies such as tires, lights, brakes, gas, oil and water.
- Performs emergency roadside repairs such as changing tires, installing light bulbs, fuses, tire chains and spark plugs.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to sit and use hands to finger, handle or feel. The employee is occasionally required to stand; walk; reach with hands and arms; climb or balance; stoop, kneel, crouch or crawl and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is frequently exposed to moving mechanical parts; risk of electrical shock and vibration. The employee is occasionally exposed to wet and/or humid conditions; outside weather conditions; extreme cold and extreme heat. The noise level in the work environment is usually moderate.

Electrical Technician

Summary Applies electrical theory and related knowledge to test and modify developmental or operational electrical machinery and electrical control equipment and circuitry by performing the following duties.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Assembles and tests experimental motor control devices, switch panels, transformers, generator windings, solenoids and other electrical equipment and components.
- Modifies electrical prototypes to correct functional deviations under direction of Electrical Engineer.
- Diagnoses cause of electrical or mechanical malfunction or failure of operational equipment and performs preventative and corrective maintenance.

- Develops wiring diagrams, layout drawings and engineering specifications for system or equipment modifications or expansion and directs personnel performing routine installation and maintenance duties.

- Plans, directs and records periodic electrical testing and recommends or initiates modification or replacement of equipment which fails to meet acceptable operating standards.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is regularly required to stand. The employee is frequently required to walk; use hands to finger, handle or feel; reach with hands and arms and stoop, kneel, crouch or crawl. The employee is occasionally required to sit; climb or balance and talk or hear. The employee must regularly lift and /or move up to 10 pounds, frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is regularly exposed to risk of electrical shock. The employee is frequently exposed to moving mechanical parts and vibration. The employee is occasionally exposed to wet and/or humid conditions; high, precarious places; fumes or airborne particles; outside weather conditions; extreme cold and extreme heat. The noise level in the work environment is usually moderate.

Electrician Helper

Summary Assists Electrician or Maintenance Electrician to install and repair electrical wiring, fixtures and equipment by performing the following duties.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Gathers tools and supplies to be used at work site.
- Measures, cuts and bends wire and conduit.
- Drills holes for wiring and pulls or pushes wiring through opening.
- Traces out short circuits in wiring.
- Assists in lifting, positioning and fastening objects such as wiring, conduit and motors.
- Performs minor repairs such as replacing fuses, light sockets, bulbs and switches.
- Maintains tools and equipment and keeps supplies and parts in order.
- Disassembles defective electrical equipment, replaces defective or worn parts and reassembles equipment.
- Cleans work area, machines, tools and equipment.
- Performs other routine duties.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is regularly required to stand. The employee is frequently required to walk; use hands to finger, handle or feel; reach with hands and arms and stoop, kneel, crouch or crawl. The employee is occasionally required to sit; climb or balance and talk or hear. The employee must regularly lift and /or move up to 10 pounds, frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is frequently exposed to risk of electrical shock and risk of radiation. The employee is occasionally exposed to wet and/or humid conditions; moving mechanical parts; high, precarious places; outside weather conditions; extreme cold and extreme heat. The noise level in the work environment is usually moderate.

Drafter

Summary Prepares clear, complete and accurate working plans and detail drawings from rough or detailed sketches or notes by performing the following duties.

Essential Duties and Responsibilities include the following. Other duties may be assigned.

- Makes final sketch of proposed drawing, checking dimension of parts, materials to be used, relation of one part to another and relation of various parts to whole structure or project.
- Utilizes knowledge of various machines, engineering practices, mathematics, building materials and other physical sciences to complete drawings.
- Makes any adjustments or changes necessary or desired.
- Inks in lines and letters on pencil drawings as required.
- Draws charts for representation of statistical data.
- Draws finished designs from sketches.
- Uses computer assisted drafting (CAD) equipment and software.

Physical Demands The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is regularly required to sit; walk; use hands to finger, handle or feel; reach with hands and arms. The employee is occasionally required to stoop, kneel, crouch or crawl and talk or hear. The employee must occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Work Environment The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this Job, the employee is frequently exposed to risk of radiation. The employee is occasionally exposed to moving mechanical parts; outside weather conditions; extreme cold; extreme heat and risk of electrical shock. The noise level in the work environment is usually moderate.

CLAIMS MANAGEMENT PROGRAM

Injury prevention begins with education. By stressing **JOB SAFETY**, Managers and Supervisors will prevent injuries from occurring and lessen the severity of injuries that do occur. Managing injured workers also depends on training of employees prior to an injury occurring and follows through the procedures once an injury has occurred. Managers and Supervisors must know how the Workforce Safety & Insurance system works, so they can lead employees through the system efficiently and effectively.

INJURED EMPLOYEES SHALL IMMEDIATELY REPORT THE INJURIES TO THEIR MANAGEMENT OR SUPERVISOR. - We shall designate one person to handle Workforce Safety & Insurance claims and to do claims management. We will notify all employees who that person is. Claims maybe handled by the Safety Coordinator or person so designated to handle claims.

Policy requires immediate report of every incident, even if the worker does not seek medical attention. Reporting shall be done on line to Workforce Safety & Insurance within 24 hours to waive the $250.00 assessment if computer accessibility is available. Immediately following the report of the accident, an investigation will be completed to identify the causes of the accident and take corrective actions to prevent future injuries.

We will encourage employees to use Berger Electric, Inc.'s designated medical provider and where possible accompany the injured worker to the doctor's office or hospital. Emergency care will always supersede the Designated Medical Provider Law.

Once medical attention has been initiated, the injured worker must complete all the necessary report forms along with their employer to begin the claims process. Forms to be completed by the injured employee include: Initial report of injury - Medical Release form - incident/accident report.

Forms to be completed by the employer include: Accident investigation Employer section of the Workforce Safety & Insurance claims form - Other (Witness statement, police reports, 3rd party liability and etc.) The medical provider shall fill out the medical portion of the First Report of Injury Report.

Workforce Safety & Insurance claims forms can only be obtained from the employer and must be completed in house. Claims forms may be obtained from the Workforce Safety & Insurance Web Site at (www.WorkforceSafety.com). The forms completed by the injured worker must be in their own handwriting or done on line by manager, supervisor or safety coordinator.

The first Report of Injury and accident investigation reports are intended for internal use, but copies shall be sent to the bureau when a claim is filed and also be available for bureau review. Other forms used are as follows: Job Description (From safety program/where available) Police or Sheriff’s reports if applicable - Witness information.)

Inform employees and remind injured worker of Berger Electric, Inc.'s policy on Return to

Work. Express very clearly that Berger Electric, Inc. wants the injured worker to return to work and expect the injured worker to follow the instructions given for appropriate care. Modified work or light duty work is offered in writing to clearly define job duties for the injured worker and their supervisor.

We will stay in contact with and document all communication with the injured worker, claims analyst and medical provider. We will inform them of what duties the employee performs and what light duty is available to encourage an early return to work.

ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS: Employees and former Employees of Berger Electric, Inc. who are, have been or may be exposed to toxic substances or harmful physical agents, have direct access to exposure and medical records maintained by Berger Electric, Inc. as required by OSHA Standard 1910.1020.

Employees will be informed of the existence, location and availability of these records. Employees will be informed of their rights to have to access to these records. Request for these records will be made in writing.

"Access" will mean the right and opportunity to examine and copy. Access to Employee medical and exposure records will be provided in a reasonable manner and place. Access will be provided as promptly as possible. If access cannot be provided within 15 days after the Employee's request, Berger Electric, Inc. will state the reason for the delay and the earliest date that the records will be made available.

Responses to initial requests, and new information that has been added to the initial request, will be provided without cost to the Employee or their designated representative. At the sole discretion of Berger Electric, Inc., Employees requesting access will be given records and the use of mechanical copying facilities so the Employee may copy the records; or lend Employees their records for copying off the premises. Additionally, medical and exposure records will be made available, on request, to authorized OSHA representatives to examine and copy.

Regarding exposure records, if no such records exist for the Employee making written request, Berger Electric, Inc. will provide records (if such exist) of other Employees who have job duties/environment similar to those of the requesting Employee. Medical records relevant to the Employee requesting access will be provided to this Employee, their designated representative, or to authorized representatives of OSHA, under guidelines and provisions contained in 1910.1020(e)(2)(ii). Access to the medical records of another Employee will be provided ***ONLY*** if specific written consent can be obtained from that Employee.

The Employee requesting access, their designated representative, or OSHA will also have access to analyses (if any such exist) that were developed using information from exposure or medical records about the Employee's working conditions or workplaces. Personal identities, such as names, addresses, social security and payroll numbers, age, race and sex will be removed from the data analyses prior to access. A copy of 29 CFR 1910.1020 is maintained by Berger Electric, Inc. for general reference and review by Employees. It is available to any Employee upon request.

ANALYSIS AND REVIEW: Management and the Safety Coordinator will periodically review and analyze records and documentations pertaining to ongoing implementation of the Safety & Health Program, accidents, injuries and near miss incidents.

An executive must certify that he or she has examined the OSHA 300 Log and that he or she reasonably believes based on his or her knowledge of the process by which the information was recorded, that the annual summary is correct and complete. This review will focus on hazard analysis and recognition of any developing trends. Trend analysis will identify recurring accidents and near miss incidents resulting in, or potentially involving injury, illness or property damage.

The analysis also will be used to identify deficiencies in program components so that enhancements can be made as needed. This process will include review of Employee training records to ensure that new hire and safety procedures training are being accomplished in accordance with company's requirements.

RECORDKEEPING: Berger Electric, Inc. believes that effective recordkeeping is essential for reviewing and identifying good results, deficiencies and trends relating to safety and health performance. Berger Electric, Inc. is committed to implementing and maintaining consistent, up-to-date recordkeeping. Therefore, specific documents and records applicable to Berger Electric, Inc.'s safety and health program, training, activities, incidents, injuries and overall results will be maintained on file at the address given below:

Company Name:	Berger Electric, Inc.
Attention:	Recordkeeping
Address:	265 21 Street East
City, State, ZIP:	Dickinson, ND 58601
Telephone:	701-225-2810

INJURY & ILLNESS DATA: The Personnel Department will maintain records of all work-related Employee injuries and illnesses. The following records are applicable only to work-related injuries and illnesses:

- OSHA 300 Log or Recordable Injuries and Illnesses, or equivalent if required;
- OSHA 301 Injury and Illnesses Incident Report, or equivalent if required;
- OSHA 300A Summary of Work-Related Injuries and Illnesses, or equivalent if required; and State workers' compensation and insurance carrier forms (as appropriate)

The OSHA 300 Log, an Annual Log of Recordable Injuries and Illnesses, or an equivalent record, will be maintained at each job site for the duration of the project, and thereafter by Berger Electric, Inc. Safety Coordinator for not less than five (5) years.

The OSHA 301 Injury and Illness Incident Report, or an acceptable equivalent will be established bearing a case number correlating with the case identifier on the OSHA 300 Log and all pertinent and required information. The information contained or entered on these records will be made current within six working days of a recordable incident. A copy of the completed and signed OSHA 300 annual summary must be posted in each establishment in a conspicuous place or places where notices to Employees are customarily posted. Berger Electric, Inc. will

ensure that the posted annual summary is not altered, defaced or covered by other material. The completed and signed OSHA 300 annual summary will be posted no later than February 1 of the year following the year covered by records. The posting will remain in place until April 30.

SAFETY & HEALTH SURVEYS & INSPECTIONS/PROGRAM EVALUATIONS: Berger Electric, Inc. will maintain and review records of all safety audits and inspections that are conducted within or that affect Berger Electric, Inc., Employees, job sites or facilities.

Applicable forms and records: Comprehensive surveys reports and records of action(s) taken; and documented checklists of self-inspections and records of action(s) taken.

Documentation will also show the date corrections were made or action(s) taken. These reports and all associated documentation will be maintained for record and periodic review to ensure hazard corrections and implemented recommendations are maintained.

A checklist will be developed as part of the periodic self-inspection process. This checklist will be utilized and completed including the name of the person performing the evaluation and the date the inspection takes place.

The self-inspection checklist will be reviewed by management and Supervisors upon completion. All discrepancies identified during the survey will be evaluated as soon as possible. The periodic self-inspection checklist will be reviewed and evaluated on a regular basis to ensure current applicability.

This review will be performed throughout the workplace with input from Supervisors and Employees of each work area. The checklist will be retained along with other applicable data for review. The formal Accident Prevention Plan components will be reviewed annually to identify insufficiencies or component failure. Each component will be audited individually with the findings documented and recorded. This documentation will be utilized to identify trends in the Program element deficiency and to track improvement modifications. This documentation will be maintained for review.

SAFETY-RELATED MEETINGS: Berger Electric, Inc. will maintain records of in accordance with the *Safety & Health Program*. This includes applicable forms, logs and records contained in or required by the program. These records will be maintained by the Safety Coordinator.

TRAINING RECORDS: Berger Electric, Inc. will document and maintain records of safety and health related Employee training. This documentation will be maintained as proof of attendance and for review to assist in determining the need for additional or recurring training for Employees on an individual basis.

ACCIDENT INVESTIGATION: Berger Electric, Inc. will maintain records and documentation of accident and incident investigations. Applicable forms and records include:

- Accident investigation forms and supporting data including photographs, drawings, diagrams, videotapes and audio-taped recordings; and

- Records of corrective action(s) or preventive measures implemented.

EQUIPMENT INSPECTION & MAINTENANCE: Berger Electric, Inc. will maintain records and data pertaining to equipment and maintenance programs performed at each workplace. Applicable forms and records are:

- Routine inspection and maintenance records;
- Documentation of services performed by contract agreement; and
- Documentation of repair and replacement of parts or equipment.

REPORTING FATALITIES & MULTIPLE HOSPITALIZATION INCIDENTS

Basic Requirement.
Within eight (8) hours after the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of a work-related incident, you must orally report the fatality/multiple hospitalization by telephone or in person to the Area Office of the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, that is nearest to the site of the incident. You may also use the OSHA toll free telephone number, 1-800-321-OSHA (1-800-321-6742).

Implementation.

1. *If the Area Office is closed, may I report the incident by leaving a message on OSHA's answering machine, faxing the area office, or sending an e-mail?*
   No, if you can't talk to a person at the Area Office, you must report the fatality or multiple hospitalization incidents using 1-800-321-OSHA (1-800-321-6742).

2. *What information do I need to give to OSHA about the incident?* You must give OSHA the following information for each fatality or multiple hospitalization incident:
   - The establishment name;
   - The location of the incident;
   - The time of the incident;
   - The number of fatalities or hospitalized employees;
   - The names of any injured employees;
   - Your contact person and his or her phone number; and
   - A brief description of the incident.

3. *Do I have to report every fatality or multiple hospitalization incidents resulting from a motor vehicle accident?*
   No, you do not have to report all of these incidents. If the motor vehicle accident occurs on a public street or highway, and does not occur in a construction work zone, you do not have to report the incident to OSHA. However, these injuries must be recorded on your OSHA injury and illness records, if you are required to keep such records.

4. *Do I have to report a fatality or multiple hospitalization incidents that occurs on a commercial or public transportation system?*
   No, you do not have to call OSHA to report a fatality or multiple hospitalization incidents if it involves a commercial airplane, train, subway or bus accident. However,

these injuries must be recorded on your OSHA injury and illness records, if you are required to keep such records.

5. *Do I have to report a fatality caused by a heart attack at work?*
Yes, your local OSHA Area Office director will decide whether to investigate the incident, depending on the circumstances of the heart attack.

6. *Do I have to report a fatality or hospitalization that occurs long after the incident?*
No, you must only report each fatality or multiple hospitalization incidents that occurs within thirty (30) days of an incident.

7. *What if I don't learn about an incident right away?*
If you do not learn of a reportable incident at the time it occurs and the incident would otherwise be reportable, you must make the report within eight (8) hours of the time the incident is reported to you or to any of your agent(s) or employee(s).

PROVIDING RECORDS TO GOVERNMENT REPRESENTATIVES:

(a) Basic requirement. When an authorized government representative asks for the records you keep under Part 1904, you must provide copies of the records within four (4) business hours.
(b) Implementation.

(1) What government representatives have the right to get copies of my Part 1904 records? The government representatives authorized to receive the records are:

- A representative of the Secretary of Labor conducting an inspection or
- investigation under the Act;
- A representative of the Secretary of Health and Human Services
- (including the National Institute for Occupational Safety and Health -- NIOSH) conducting an
- investigation under section 20(b) of the Act, or
- A representative of a State agency responsible for administering a State plan approved under section 18 of the Act.

(2) *Do I have to produce the records within four (4) hours if my records are kept at a location in a different time zone?*
OSHA will consider your response to be timely if you give the records to the government representative within four (4) business hours of the request. If you maintain the records at a location in a different time zone, you may use the business hours of the establishment at which the records are located when calculating the deadline.

PERIODIC REVIEW AND REVISION OF PROGRAM AND ELEMENTS: At least annually, the Safety Coordinator, management and other designated Company personnel will review and revise the components of the *Accident Prevention Plan* and the *Safety & Health Program* for effective implementation. Specific attention will be devoted to the introduction of new projects, procedures, processes and equipment, as well as indications that a program component needs revision or updating. Information for this review process will be solicited from Supervisors and Employees.

ERGONOMICS PROGRAM

Berger Electric, Inc. Ergonomics Program requires employers to educate and train employees on the basic principles of ergonomics and develops a written program to address muscular skeletal injuries caused by exertions, repetitive motion or sustained postures. This would include back injuries, sprains, carpal tunnel syndrome and cumulative trauma disorders.

Berger Electric, Inc. Employees shall receive ergonomics training in order that employees understand:

1. Cumulative trauma or repetitive motion injuries such as carpal- tunnel syndrome and back injury.

2. Proper body mechanics, posture, manual lifting techniques, tool design and work station design.

3. Work related stress such as vibrations, heat and cold, poor lighting or static positioning.

4. Early symptoms of ergonomic related injuries, with instruction to employees on how to report symptoms to their Supervisor or Management.

After the first year initial certification, an ergonomic evaluation shall be done within the work place, to address work place hazards and exposures. Hazards and exposures shall be addressed. A written policy shall be developed to eliminate or reduce hazards. Work place analysis is a method that provides for identification of:

- Existing hazards and conditions.

- Operations that create hazards.

- Areas where potential hazards may develop.

- Also a system for FEEDBACK provides for employees to notify employers of potential conditions or hazards.

- A maintenance program should be developed to monitor mechanical equipment and tools to ensure that they are in proper working condition.

- Training shall continue and be developed to keep Supervisor and employees updated and trained in recognizing potential work place hazards and exposure. This training shall be on an ongoing basis with work practices established to control ergonomic hazards.

Hazards to be addressed may be found in reviewing the following:

- Review of Workforce Safety & Insurance Claims

- Review of OSHA 300 Injury Log
- Visually Observe Employees Performing Work Tasks
- Questioning Employees as to Work Place Hazards
- Review Exposures That May Be Encountered

Administrative controls reduce the duration, frequency and severity of exposure to ergonomic hazards.

Examples of administrative controls are:

- Reducing the total number of repetitions performed within an hour.
- Provide short rest periods to relieve fatigue.
- Provide for job rotation where feasible or needed.

ENGINEERING CONTROLS

Engineering controls are the preferred method of control. Premises of ergonomics are to fit the job to the person rather than fitting the person to the job. This can be accomplished through designing or modifying the workstation, work methods and tools to eliminate excessive exertion or awkward postures and to reduce repetitive motions.

WORK PRACTICES

A good work practice program includes proper work techniques, Employee conditioning, inspections, feedback and maintenance.

- Proper work techniques would include training in proper lifting techniques, correct use of tools and knowledge to modify or adjust workstations to reduce repetitive motions.
- Employee conditioning would include working the Employee at a slower pace into a job and fitting the job to skills and pace of employee. Reassignment of employees to new positions or jobs shall also provide for employee break-in time into new position.
- Inspections conducted periodically shall ensure that safe operating procedures are being followed.

Management and or the Safety Coordinator shall sign all documentation. Berger Electric, Inc. has implemented a program and process to identify, correct and control workplace hazards on an ongoing basis.

SAFETY AND HEALTH SELF-INSPECTION

Safety Coordinator and Supervisors in each department and at each job site will conduct “in-house” safety and health self-inspections at least monthly in their area(s) of responsibility.

Inspection will include, but will not be limited to: any tools, equipment, and machinery, operating procedures and any existing and\or potential hazards on the work site, or working conditions that are unsanitary, hazardous or dangerous to Employees. Employees will be notified of any hazard that poses an immediate threat of physical harm or property damage, and informed of measures taken to eliminate, correct or control the hazard.

Berger Electric, Inc. will develop one or more job site self-inspection checklists for this process. Job site checklists will be drafted utilizing a basic standardized inspection checklist with the addition of site-specific items as required.

Each checklist will indicate:

- The location, specific site or area surveyed;
- Date and time of the inspection;
- Name and title of the inspector;
- Confirmation of safe and compliance situations observed;
- Notation of unsafe and non-compliant situations observed;
- Corrective action(s) taken for specific hazards or violations; and
- Specific person(s) either initially informed or assigned to make sure that corrective actions are effectively implemented.

Checklist formats will be updated periodically with hazards that are identified during inspections, and based on other pertinent data (injury reports, "near misses," Employee observations and suggestions) as such information is acquired.

Completed inspection reports will become a part of the project construction record.
A copy of each inspection report will be forwarded to the Safety Coordinator for review, trend analysis and sharing pertinent information with Supervisors at other work locations. The Safety Coordinator will review self-inspection checklists to confirm that any required corrective action has been completed.

ORIENTATION AND TRAINING

Berger Electric, Inc. will provide initial safety and health orientation and related ongoing training to Employees at all levels of the organization.

The Safety Coordinator will develop, implement and maintain the safety and health orientation and training programs. These are intended to educate and familiarize Employees with safety and health procedures, rules and safe work practices established for Company operations.

Management will encourage and require participation of all Employees.

Management will support the safety orientation and training programs with sufficient allocations of time and funding for effective implementation.

TRAINING & DEVELOPMENT

Safety and health orientations and training will be developed to inform Employees about:

- Potential hazards associated with the work area;
- Potential hazards associated with specific job or task assignments;
- Emergency procedures;
- Personnel Protective Equipment (PPE) required for specific tasks or assignments;
- Hazard Communication Standard (Right-to-Know) information about chemicals used in the workplace;
- Specific equipment operations training related to Employee tasks or job assignments;
- Company safety rules and safe work procedures;
- Employee reporting requirements regarding safety hazards, accidents, injuries and near miss incidents;
- Accident investigation procedures and requirements; and
- Personnel health monitoring requirements as applicable to a task or job assignment.

Employee safety and health training will be implemented in three ways:

- New Hire Safety & Health Orientation;
- Reassigned Personnel Safety and Health Orientation; and
- Ongoing / Annual Safety & Health Training

NEW HIRE SAFETY & HEALTH ORIENTATION

New Hire Safety Orientation will be presented to all newly hired Employees prior to their initial work assignment. The orientation will consist of all Berger Electric, Inc.-required training

programs as well as job and site-specific safety and health information.

New Hire Orientation includes an overview of the Safety & Health Program, plus explanation of Individual Employee Safety Responsibilities; the written Hazard Communication Standard (Right-to-Know) Program; General Safe Working Procedures; Job-Specific and Site-Specific Safety and Health Procedures (including special training about Berger Electric, Inc. safety and safe work procedures); Fire Extinguisher Training and Emergency Response Procedures.

All new Employees will be given a tour of the facility/job site and an opportunity to pose questions to the Site Supervisor.

REASSIGNED PERSONNEL SAFETY & HEALTH ORIENTATION

Personnel who are given a new work assignment will receive an orientation on safety rules and safe work procedures relating to these new duties.

This is referred to as the ***REASSIGNED PERSONNEL SAFETY ORIENTATION***. In addition to job specific safety training, reassigned personnel will receive information/training on the chemical hazards and emergency procedures for the reassigned work area.

ONGOING SAFETY & HEALTH TRAINING

Employees will participate in ongoing Berger Electric, Inc. safety and health training. This periodic activity provides both refresher training and reinforcement of safe work procedures. It also helps communicate new information and general safety awareness.

ANNUAL SAFETY & HEALTH TRAINING

Annual training and recertification training will be developed and/or reviewed by the Safety Coordinator. Annual training topics may include, but are not be limited to, the following:

- Hazard Communication / Chemical Safety / H_2S Safety
- Proper Selection and Use of Personal Protective Equipment
- Responding to Injuries and Illnesses at Work – First Aid and CPR Options
- Bloodborne Pathogens Awareness
- Fire Safety, Prevention and Response
- Electrical Safety, Assured Grounding and Ground Fault Circuit Interrupter Policies
- Control of Hazardous Energy – Lockout and Tagout
- Emergency Response, Evacuation and Shelter In Place Procedures
- Housekeeping for Safety / Safe Walking and Working Surfaces
- Material Handlings
- Safe Lifting / Preventing Back Injuries
- Safe Operations of Powered Pools and Equipment
- Weather-Related Illnesses / Preventing Heat and Cold Injuries
- Fall Protection for Affected Workers
- Ladder Safety for Affected Workers

The Safety Coordinator will maintain a written record of safety training taken by each Employee during the year.

DOCUMENTATION OF TRAINING

Employee safety and health training will be documented with at least the following information:

- Date and time of training;
- Location of training;
- Subject matter;
- Legible name of attendee(s) and their individual signatures;
- Printed name and signature of the training provider; and
- Printed name and signature of any translator who facilitates communication to employees in a language other than English.

Individual training records will be maintained by the Safety Coordinator.

GENERAL SAFETY AND SPECIFIC DUTY TRAINING

The *Safety & Health Program* is designed to provide site-specific information to Employees about Berger Electric, Inc. safety policies, rules and safe work procedures. It also serves as a training guide and reference.

The program presents ***GENERAL SAFETY TRAINING*** about health and safety information that all Employees are required to know.

Job-specific or task-specific safety and health orientation is presented as ***SPECIFIC DUTY TRAINING***. This separate and supplemental training is provided to Employees who are assigned to work in jobs or at tasks that require specialized safety/health knowledge, understanding, proficiency, and/or certification or authorization.

Examples of when confirmation of Specific Duty Training is required include: operation of heavy equipment, cranes and hoists; forklift operator safety training and certification; performance of lockout and tagout by authorized persons; excavation safety training and certification; confined space entry safety training and certification; operation of powered equipment and tools; and vehicle operations when in the course and scope of Berger Electric, Inc. employment. Employees will receive both types of training as required before they begin a job assignment.

SAFETY COORDINATOR/COMMITTEE RESPONSIBILITY

Darrell Berger, President of Berger Electric, Inc. will designate an individual to serve as Safety Coordinator.

The Safety Coordinator will be responsible for the overall implementation of Berger Electric, Inc. *Safety & Health Program*. This will include taking steps to identify workplace hazards and conditions that are unsafe, unsanitary, unhealthy or otherwise dangerous to Employees.

When such hazards or conditions are identified, the Safety Coordinator will initiate timely and appropriate corrective actions.

The Safety Coordinator will be knowledgeable about general workplace safety and health issues. This knowledge will be gained through training and experience.

The Safety Coordinator will monitor and report results of safety and health programs directly to Darrell Berger, President of Berger Electric, Inc. These results, including training and accident prevention activities, will be measured by criteria such as:

- Records of new hire safety orientations and ongoing safety training activities
- The tracking of accident and "near miss" incidents
- Injury and illness incidents that are recordable on the OSHA 300 form
- Workers' compensation injury and illness initial and ongoing reports
- Insurance company loss runs and statistical analysis
- Job site safety observations and confirmation inspections

Other Safety Coordinator responsibilities include, but are not be limited to:

- Conduct or schedule to be conducted safety inspections, surveys, audits and assessments on job sites and throughout Berger Electric, Inc. workplace.
- Review safety inspection reports for unsafe or unsanitary conditions that are reported by Supervisors, Employees or others. Confirm or obtain corrective actions as needed.
- Resolve questions and approve or recommend necessary expenditures for safety and health implementation, and to perform corrective actions as needed.
- Actively support and promote Berger Electric, Inc. safety and health programs and activities.

Plan, coordinate, perform and/or delegate safety training of Supervisors and Employees.

- Maintain training and testing records for each Employee.
- Report unsafe Employee practices and/or behaviors to their respective Supervisors.
- Review and monitor any disciplinary actions and/or remedial training.

- Conduct or delegate regular safety meetings with Supervisors and Employees to promote safety awareness and compliance with the *Safety & Health Program*.
- Investigate or assign the investigation of at-work accidents, injuries, illnesses and "near miss" incidents. Assist as needed when these investigations are performed by Supervisors or others.
- Review investigation reports to determine root causes and possible preventative actions. Take immediate corrective action as required.
- Ensure that reportable injuries are being documented on applicable state workers' compensation forms and OSHA forms as required.

Review the safety and health programs of contractors before they perform work at a Company job site or premises. Contractor safety and health programs will meet OSHA requirements and support Berger Electric, Inc. own safety and health programs. Contractor safety programs, training and activities should protect contractor personnel and also Berger Electric, Inc. Employees who may be exposed to hazards associated with work performed by contractors.

DESIGNATED MEDICAL PROVIDER

ST. JOSEPH'S HOSPITAL	DICKINSON CLINIC	GREAT PLAINS CLINIC
30 7TH STREET WEST	938 2ND AVENUE WEST	SIMS AND 9TH STREET
DICKINSON, ND	DICKINSON, ND	DICKINSON, ND
701-456-4000	701-225-5183	701-483-0397

OR NEAREST FACILITY!

All Berger Electric, Inc. Employees shall be made aware of whom our Medical Provider is. Prearranged consultation with the provider shall be established. We shall post the Designated Medical Provider sheet in an area that is visible to all employees.

When an injury does occur, we shall conduct the following procedure to stay informed and to work with the injured employee on a return to work process:

1. We shall request that an employee fill out a Medical Consent Form and give it to the Medical Provider. After treatment of the injury, a determination to the nature and extend of injuries shall be available.

2. The Safety Coordinator or Management responsible for Claims Management shall request the Medical Provider fill out a Physical Capabilities Form and return it to Berger Electric, Inc.

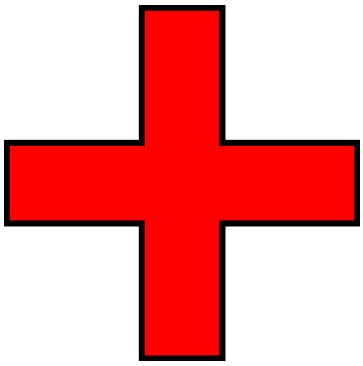
3. The Safety Coordinator or Management, responsible for Claims Management, using the Physical Capabilities Form and the Injured Employee Status Report, shall within the restrictions and recommendations of the Medical Provider arrange for the injured employee to return to work or in a modified duty position.

4. The Safety Coordinator or Management shall keep in touch with the injured employee, the Medical Provider and North Dakota Workforce Safety & Insurance Bureau to ensure that he or she is receiving the benefits and care necessary to return to work in a timely manner.

All Berger Electric, Inc. Employees are urged to use our Medical Provider.

The Medical Provider is aware of the job hazards that may occur within the scope of our business operations and shall be of aid in immediate care, if an injury does occur.

IN CASE OF AN INJURY



REPORT IT IMMEDIATELY TO THE
SAFETY COORDINATOR FOR MEDICAL ATTENTION

BERGER ELECTRIC, INC.

DESIGNATED MEDICAL PROVIDER

ST. JOSEPH'S HOSPITAL AND HEALTH CENTER
30 7TH STREET WEST
DICKINSON, ND
701-456-4000

DICKINSON CLINIC
938 2ND AVENUE WEST
DICKINSON, ND
701-225-5183

GREAT PLAINS CLINIC
SIMS AND 9TH STREET
DICKINSON, ND
701-483-6017

IN A MEDICAL EMERGENCY CALL **911**

OR NEAREST FACILITY

SAFETY CONCERN REPORT
(Near Miss Accident/Hazard Report)

Date of Incident	Supervisor

Location of Incident: _____
_____

Incident/Hazard: _____
_____
_____
_____
_____

Cause of Incident/Hazard: _____
_____
_____
_____
_____

Corrective Action Taken by Employee/Supervisor: _____
_____
_____
_____
_____
_____

Submitted By (optional)	Date

To be completed by Safety Coordinator

Additional Recommendations/Follow-Up	
Safety Coordinator's Signature	Date

INCIDENT REPORT

EMPLOYEE SECTION

This Section is to be completed by the employee with their supervisor.

Check All That Apply:
____ Property Damage _____ Incident with Medical Treatment _____Incident without Medical Treatment

Date of Incident: Time: Location of Incident:

Name of person(s) Involved (Please Print):

1. Description of Incident: _____
_____
_____

2. Description of extent of injury and body part injured: _____
_____

3. Treating physician/medical facility, if needed: _____
_____

4. Witness (es) to the incident: _____

5. How could the incident/accident have been prevented: _____
_____
_____

Employee Signature: Date:

SUPERVISOR'S INVESTIGATION SECTION

1. Nature of injury or illness (body part): _____
_____

2. Object/equipment/substance, which inflicted injury or caused illness: _____
_____

3. Description of event (Who, What, How): _____
_____
_____

ANALYSIS OF CAUSES

4. Primary & contributing causes: _____
_____

5. Would safety equipment or training have prevented the accident: _____
_____

6. Corrective action taken (Ex. Remove the hazard and replaces, repair or retrain on proper procedure):
_____
_____

Investigated by: _____ Date: _____
Management Review: _____ Date: _____

NEW EMPLOYEE ORIENTATION TRAINING

Date(s) of Orientation: _____

Company: _____ Employee Name: _____

Instructor: _____ Company (If other than employer): _____

Training Topics Covered

- ☐ Safety Policy and Responsibilities
- ☐ General Safety Rules
- ☐ Ergonomics Basic (Repetitive Motion)
- ☐ Incident/Accident and Near Miss Reporting
- ☐ Hazard communication program and procedures
- ☐ Emergency action plan program and procedures
- ☐ Machine guarding policy and procedures
- ☐ Lockout/tag out policy and procedures
- ☐ Electrical hazards and safety policy and procedures
- ☐ Personal protective equipment (PPE) policy and procedures
- ☐ Respiratory protection program and procedures
- ☐ Small equipment safety
- ☐ Bloodborne pathogens program and procedures
- ☐ Welding/cutting safety policy and procedures
- ☐ Ladder safety policy and procedures
- ☐ Motor vehicle safety policy and procedures
- ☐ Noise Exposure safety policy and procedures
- ☐ Fall protection program and procedures
- ☐ Slips, Trips and Falls
- ☐ Use of Portable Fire Extinguisher safety policy and procedures
- ☐ Hand and power tool safety policy and procedures
- ☐ Handling of flammable liquids
- ☐ Battery Safety
- ☐ Chemical Spills
- ☐ Housekeeping
- ☐ Seatbelt Safety
- ☐ Others List:

_____

_____

I _____acknowledge that I have received training in the subjects, checked in the above outline, and acknowledge that I know and understand the materials presented.

Supervisor: _____ Date: _____

Notification To Employees:
Your Right to Add Additional Medical Providers
To the Designated Medical Provider Selection

Berger Electric, Inc. is participating in the Workforce Safety & Insurance Risk Management Program. This program will help us provide a safer workplace for all employees and also more effectively handle work-related injuries or illnesses.

An employer has the option of selecting a designated medical provider to treat employees' work injuries. The benefits of having a designated medical provider are that the provider will gain an understanding about the employer's business and learn about the types of jobs being performed. This information will help the medical provider to better assist an injured worker in returning to work after a work-related injury or illness occurs.

Berger Electric, Inc. designated medical provider selections are:

ST. JOSEPH'S HOSPITAL 30 7TH STREET WEST DICKINSON, ND 701-456-4000	DICKINSON CLINIC 938 2ND AVENUE WEST DICKINSON, ND 701-225-5183	GREAT PLAINS CLINIC SIMS AND 9TH STREET DICKINSON, ND 701-483-0397

OR NEAREST FACILITY

This designated medical providers selection does not apply to emergency care.

Employees have the right to add additional medical providers to the above list. In order for the employee to see the medical provider they have added (other than the designated medical provider selections listed above), the employee must notify their employer prior to an injury occurring.

NOTE: Workforce Safety & Insurance may not pay for medical treatment from medical providers other than those designated medical providers listed above unless the designated medical provider made a referral or unless you have selected a different medical provider and notified us, in writing, prior to an injury occurring.

I wish to add the following provider as a designated provider to seek treatment in the event of a workplace injury or illness.

Name

Address

Employee Name (please print)

I have been informed of Berger Electric, Inc.'s designated medical providers and the requirements of Workforce Safety & Insurance concerning treatment for work-related injuries and illnesses.

Employee Signature	Date

WITNESS INFORMATION REPORT

DATE OF REPORT_____

WITNESS_____

ACCIDENT LOCATION_____
_____

DATE OF ACCIDENT _____TIME OF ACCIDENT ____AM __PM __

STATEMENT_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

SATISFACTORY AS WRITTEN If Yes Signature_____
_____
_____
_____

If No Explain_____
_____
_____
_____

REPORT TAKEN BY _____DATE_____

CONSENT TO RELEASE JOB RELATED MEDICAL INFORMATION

TO: _____

_____

_____

_____

I_____ authorize all medical records pertaining to my injury/accident/illness and any other medical records which my employer consider significant or in any way related to this incident/accident/illness which was sustained on _____to be released to_____

I fully understand that _____will keep all records fully confidential and will disclose only the necessary information needed in regards to my injury/accident/illness.

I am not legally obligated to sign this consent. I have also been informed that I may ask questions regarding this consent. I understand that all information will be used to assist my employer in evaluating my injury and to work towards back to work or modified duty and how it may affect my employment status.

Questions that I have asked have been answered to my satisfaction.

Employee Signature_____Date_____

TRANSITIONAL
JOB OFFER

Employee_____Department_____

Address_____Date_____/_____/_____

Your physician, _____, has released you to return to work with the following restrictions:

_____
_____
_____

We would like you to work effective ____/____/____. Your duties will include:

_____
_____
_____

We have work available _____ Days Per Week, _____Hours Per Day and the rate of pay will be _____. Your medical provider has indicated that they believe that this position is physically appropriate for you at this time. The restrictions as recommended by your physician were reviewed and it is understood that you are to perform only duties within the guidelines and you will obtain assistance as needed for duties not within your recommendations.

You understand that you may be reassigned to another department if duties are not found within the doctor's recommendations. You also understand that you are to notify your immediate supervisor if you are experiencing any problems in the performance of any duties within your restrictions and your supervisor will contact the Safety Director. You are responsible for notifying your supervisor of any time off or modifications to your work schedule. We are obligated to inform injured employees that failure to accept a modified work position that is approved by a medical provider may result in termination of wage loss benefits.

Please return this form to your employer by ____/____/____ indicating whether you will be returning to work.

_____ I accept the position
_____ I do not accept the position

Employee Signature _____ Date____ /____/____

Safety Director _____ Date____ /____/____

If you do not understand within the time indicated above, it means that you agree the job outlined above is appropriate, but you do not wish to accept the job and you are termination your employment with us.

WEEKLY INJURED EMPLOYEE STATUS REPORT

Date of injury: _____Employee telephone: _____

Physicians telephone number: _____

Workforce Safety & Insurance Claims Analyst and telephone if known: _____

Date status reporting began: _____Time: _____Contact Person: _____

STATUS REPORT: _____
_____
_____
_____
_____
_____
_____
_____
_____

SECOND WEEK STATUS REPORT Time: _____ Contact Person: _____
_____
_____
_____
_____
_____

THIRD WEEK STATUS REPORT Time: _____Contact Person: _____
_____
_____
_____
_____

FOURTH WEEK STATUS REPORT Time: _____Contact Person: _____
_____
_____
_____
_____
_____
_____

Safety Coordinator: _____ Date: _____

Management: _____ Date: _____

VEHICLE/PROPERTY ACCIDENT REPORT

To be completed by employee/employees

Name_____Date_____
Date and time of accident_____ Time _____AM PM
Description of accident and property involved
_____
_____
_____
_____
_____
Primary cause of accident_____
_____
_____
Weather conditions or other causes for accident_____
_____
_____
How to prevent future accidents_____
_____
_____
Witnesses if any_____
_____
Signature_____Date_____

To be completed by supervisor
Accident review comments_____
_____
_____
_____
_____
Signature supervisor_____Date_____

Safety Coordinator review comments_____
_____
_____

Was accident preventable Yes No Was accident non-preventable Yes No
Corrective action taken to prevent accident in future_____
_____
_____

Reviewed by_____Position_____Date_____
Management_____ Date_____

EMPLOYEE DISCIPLINARY ACTION REPORT

Employee_____Position_____

Supervisor_____Date_____

PREVIOUS WARNINGS:	ORAL	WRITTEN	DATE	BY WHOM
1st warning	_____	_____	_____	_____
2nd warning	_____	_____	_____	_____
3rd warning	_____	_____	_____	_____

Other_____

Employer Statement

Date of incident __/___/___Time_____
Employer's statement. The reasons are:
_____
_____
_____
_____
_____
_____
_____
Employee signature

Employee Statement

I ___agree ___disagree with
_____
_____
_____
_____
_____
_____
____/____/____
Date

ACTION TO BE TAKEN

WARNING_____PROBATION_____SUSPENSION_____DISMISSAL_____
OTHER_____
_____

Disciplinary consequences should incident occur again: _____
_____
_____
_____
_____

I_____ have read and understand the disciplinary action report and the reasons for this report being filed.

_____ ___/___/___
Signature Employee Date
_____ ___/___/___
Signature Supervisor/Management Date

SELF INSPECTION REPORT

Date: _____ Location: _____ City: _____

Company: _____

Inspection performed by: _____

Corrections performed by: Position_____ Date: _____

FINDINGS OR DISCREPANCIES	CORRECTIONS AND DATE

Management Review: _____Date: _____

SAFETY TRAINING REPORT

Date: ______________

Company: ____ City: ____________________

Instructor: _______________________________ Company: ______________________________

Visual Aids: Yes No Topic(s) of Safety Training: ________________________________

NAME **(PRINTED)**	SIGNATURE	DATE

JOB HAZARD ANALYSIS

JHA#	Job Title	Page
Date	Title of Person Doing Job	
New Revised	Company	
Location	Department	Supervisor
Analysis By	Reviewed By	Approved By
Required / Recommended Personal Protective Equipment		

JOB STEP	POTENTIAL HAZARD (s)	SAFETY PROCEDURES	SAFETY EQUIPMENT

ROOT CAUSE ACCIDENT INVESTIGATION REPORT

Date/Time of Accident: _____ Date of Report: _____

Name of Injured Person: _____

Address: _____, City: _____, State: _____

Sex: _____ Date of Birth: _____ Age: _____

Employer: _____ Supervisor: _____

Employers Telephone: _____Department: _____

Length of Employment: Years: _____ Months: ____

Employment: Full Time: _____ Part Time: _____ Temp: _____

Occupation: _____

Parts of Body Injured: _____

Location of Accident: _____

_____

_____

Any Others Injured? Yes: _____ No: _____ If Yes (Explain)_____

_____

_____

_____

_____

DESCRIPTION OF ACCIDENT: _____

_____

_____

_____

_____

_____

CORRECTIVE ACTIONS: _____

_____

_____

_____

WITNESSES:

Name: _____ Address: _____Telephone: _____
Name: _____ Address: _____Telephone: _____
Name: _____ Address: _____Telephone: _____

ADDITIONAL COMMENTS AND FINDINGS: _____

_____

_____

_____

_____

ROOT CAUSE ANALYSIS OF ACCIDENT / INJURY CONTINUED:

Injury ☐ Near Miss ☐ Property Damaged: _____

Date of Event: _____ Time: ____ AM / PM. Work Location: _____

Person Injured: _____ Extent of Injury: _____

_____

_____

_____

Exact Location of Event: _____

_____

Witness (es): _____

_____

Describe What Happened: _____

_____

_____

_____

_____

What task did the Injured Person Perform Prior to the Accident / Near Miss: _____

_____

_____

_____

Describe any Tools, Machinery or Equipment That Were Being Used: _____

_____

_____

_____

_____

Was This Person Working Alone? Yes ☐ No ☐ With Whom: _____

Time in This Work Area? 1 2 3 4 5 6 7 Days ☐ Weeks ☐ Years ☐

How Much Experience Did The Person Have in Performing this Task? _____

_____

Additional Comments: _____

_____

_____

_____

GETTING TO THE ROOT CAUSE

Step 1 – Contributing Factors

- Use this listing as an aid for identifying the factors that contributed to this event.
- Don't be limited by the categories listed – add items as needed. Check all that apply.

PROCEDURES			COMMUNICATION	
Not developed			Insufficient Planning for Tasks	
Developed–Not Communicated			Lack of Workers Communication	
Developed–Not Understood			Lack of Supervisors Instruction	
Developed–Not Followed			Work Team Breakdown	
Lack of Disciplinary Policy			Confusion After Communication	
Other			Other	

Hazard (s)			TRAINING	
Unidentified				
Known But Not Corrected				
Created By External Factors				
Documented But Not Repaired				
Condition changes Not Conveyed				
Repaired deficiently				
Unforeseen Emergency				
Other				

PRODUCTION FACTORS			WORK BEHAVIOR	
Heavy Workload			Shortcuts Taken	
Tight Schedule			Required PPE Not Used	
Long/Unusual Working Hours			PPE Not Used Properly	
Falsely Perceived Need to Hurry			Tool/Equipment Used Incorrectly	
Co-Worker Competition			Overexertion/Fatigue	
Lack of Teamwork			Distraction	
Changes in Production			Drug/Alcohol Use/Influence	
Other			Other	

FACILITIES/EQUIPMENT			ENVIRONMENT	
Poor/Faulty Equipment Design			Weather/Temperature	
Corrosion/Wear			Poor Housekeeping	
Equipment Not Guarded			Poor lighting	
Awkward Workspace Design			Poor Visibility	
Lack of Preventive Maintenance			Air quality	
Other			Other	

GETTING TO THE ROOT CAUSE – CONTINUED:

STEP 2 – MAJOR CAUSE

☐	**PROCEDURES**	☐	**COMMUNICATION**
☐	**HAZARD**	☐	**TRAINING**
☐	**PRODUCTION FACTORS**	☐	**WORK BEHAVIOR**
☐	**FACILITIES/EQUIPMENT**	☐	**ENVIRONMENT**

STEP 3 ANALYSIS OF MAJOR CAUSE (S)

Why did this happen? _____

Why…? _____

Why…? _____

Why…? _____

Why…? _____

Major Caused: _____
_____
_____
_____
_____
_____

Corrective Steps for Contributory Caused: _____
_____
_____
_____
_____

For each answer to "why?" seek one or more underlying or contributing causes
To assure elimination of all hazards identified above, it may be necessary to repeat the above five steps <u>several times</u> if a major cause appears in more than one category.

CERTIFICATE OF PERSONAL PROTECTIVE EQUIPMENT TRAINING

I have received a copy of the hazard assessment for my work unit and job tasks.

I have been trained and understand the following PPE requirements:

	YES OR NO
1. When PPE is necessary	_____
2. What PPE is necessary	_____
3. How to don, doff, adjust, and wear PPE	_____
4. Limitations of PPE	_____
5. Proper care, maintenance, useful life, and disposal of PPE	_____
6. I have demonstrated that I can properly use PPE	_____

I will require retraining in PPE when the following occurs:

1. Changes in the workplace render previous training obsolete
2. Changes in the types of PPE render previous training obsolete
3. Observed inadequacies in an employee's knowledge or use of assigned PPE indicate that the employee has not retained an understanding of PPE training

Note: Employees are not to perform work requiring the use of PPE prior to receiving training.

SUPERVISOR'S SIGNATURE_____ DATE _____

EMPLOYEE'S NAME (print) _____

EMPLOYEE'S SIGNATURE_____ DATE _____

BERGER ELECTRIC, INC.

Date: _____ Time of Meeting: ☐ AM ☐ PM Facility Name and Location: _____

Work Description: _____

Nearest Emergency Medical Services Telephone Number (other than 911)

☐ Dickinson 701-456-4000 ☐ Minot 701-857-5000 ☐ Williston 701-774-7400 ☐ Sidney 701-488-2100 ☐ Tioga 701-664-3305 ☐ New Town 701- 627-2990 ☐ Killdeer 701-764-5822 ☐ Watford City 701-842-3000

MINIMUM STANDARD REQUIREMENTS VERIFICATION (Must be verified for all persons in the work group)

□ Hard Hat □ Safety Glasses w/side-shields □ Safety Toed Footwear □ Flame Resistant Clothing □ Has Received Basic Orientation □ Proof of Training Available □ Multi-Gas Monitor (if hazardous atmosphere) □ Locks & Tags (if LO/TO in use) □ Excavation/Confined Spaces □ New on the Job Employees Identified □ Energy Control Procedure (if LO/TO in use) □ Job Safety Analysis Reviewed (if available □ Radios Provided for Communications for Heavy Equipment Operations (if necessary)

HAZARD IDENTIFICATION AND ASSIGNMENT TABLE

Potential Hazards (Check if Applicable)	Action Taken to Minimize Potential Hazards	Persons (S) Assigned to Minimize Potential Hazards
☐ Falling From Heights		
☐ Hazard Atmospheres		
☐ Flammables/Explosive		
☐ Outside Temperatures Extremes		
☐ Gravity/Motion/Pinch Points		
☐ Radiation (NORM)		
☐ Noise/Communication Interference		
☐ Trapped Pressure/High Pressure Hoses		
☐ Slips/Trips (boot soles worn, slick)		
☐ Tools Equipment		
☐ Chemicals/Oil (MSDS available)		
☐ Underground & Surfaces Utilities		

☐ Overhead Hazards/Power Lines		
☐ Vehicle Concerns (parking, hitch inspection)		
☐ Snakes & Insects		
☐ Site Security (gate check if necessary)		
☐		
☐		
☐		
☐		
☐		
☐		

ADDITIONAL PPE REQUIREMENTS (BASED ON THE JOB SPECIFIC HAZARDS (check all that applies)

EYES HANDS FEET OTHER

☐ Tinted Lenses ☐ Chemical Resistant Gloves ☐ Rubber Boots ☐ Air Purifying Respirator

☐ Goggles ☐ Heat Resistant Gloves ☐ Over-Boots ☐ Supplied Air Respirator

☐ Face Shield ☐ Cotton/Leather Gloves ☐ Dielectric Boots ☐ Personal Fall Arrest System ☐ Hearing Protection ☐ Cut Resistant Gloves ☐ Chemical Resistant Clothes ☐ Safety Vests (for vehicular traffic)

ENVIRONMENTAL CONCERNS (if unsure on how to address environmental concerns, please contact a HES Technician or HES Professional)

☐ Potential for Spills/Gas Releases ☐ Impact to Sensitive Areas ☐ Hazardous Wastes

☐ Non-Hazardous/Exempt Waste

EMERGENCY PREPARATION

☐ Muster Areas Identified ☐ Communication Methods ☐ Means of Egress ☐ Emergency Equipment ☐ Fire Ext. Locations ☐ 1st Aid Kit Locations

ADDITIONAL TOPICS COVERED (list on lines) -

_____

_____

Supervisors are responsible for performance of personnel under their direction Attendees (Please Print Name / Company)

1. _____ 13. _____
2. _____ 14. _____

3. _____ 15. _____
4. _____ 16. _____
5. _____ 17. _____
6. _____ 18. _____
7. _____ 19. _____
8. _____ 20. _____
9. _____ 21. _____
10. _____ 22. _____
11. _____ 23. _____
12. _____ 24. _____

POST JOB REVIEW (Complete this section after the job is finished at the end of the day)

Were any near misses or injuries reported during this work? ☐ Yes ☐ No

_____
_____
_____
_____

Additional Comments:

_____
_____
_____
_____
_____

List one thing that went well today that will be continued:

_____

List one thing that didn't go well where an improvement is needed:

_____

Audited by Berger Electric Supervisor: _____

Date: _____

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An Overview:
Recording Work-Related Injuries and Illnesses

The Occupational Safety and Health (OSH) Act of 1970 requires certain employers to prepare and maintain records of work-related injuries and illnesses. Use these definitions when you classify cases on the Log. OSHA's recordkeeping regulation (see 29 CFR Part 1904) provides more information about the definitions below.

The *Log of Work-Related Injuries and Illnesses* (Form 300) is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened. The *Summary* — a separate form (Form 300A) — shows the totals for the year in each category. At the end of the year, post the *Summary* in a visible location so that your employees are aware of the injuries and illnesses occurring in their workplace.

Employers must keep a *Log* for each establishment or site. If you have more than one establishment, you must keep a separate *Log* and *Summary* for each physical location that is expected to be in operation for one year or longer.

Note that your employees have the right to review your injury and illness records. For more information, see 29 Code of Federal Regulations Part 1904.35, *Employee Involvement.*

Cases listed on the *Log of Work-Related Injuries and Illnesses* are not necessarily eligible for workers' compensation or other insurance benefits. Listing a case on the *Log* does not mean that the employer or worker was at fault or that an OSHA standard was violated.

When is an injury or illness considered work-related?

An injury or illness is considered work-related if an event or exposure in the work environment caused or contributed to the condition or significantly aggravated a preexisting condition. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the workplace, unless an exception specifically applies. See 29 CFR Part 1904.5(b)(2) for the exceptions. The work environment includes the establishment and other locations where one or more employees are working or are present as a condition of their employment. See 29 CFR Part 1904.5(b)(1).

Which work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- death,
- loss of consciousness,
- days away from work,
- restricted work activity or job transfer, or
- medical treatment beyond first aid.

You must also record work-related injuries and illnesses that are significant (as defined below) or meet any of the additional criteria listed below.

You must record any significant work-related injury or illness that is diagnosed by a physician or other licensed health care professional. You must record any work-related case involving cancer, chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum. See 29 CFR 1904.7.

What are the additional criteria?

You must record the following conditions when they are work-related:

- any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material;
- any case requiring an employee to be medically removed under the requirements of an OSHA health standard;
- tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis.
- an employee's hearing test (audiogram) reveals 1) that the employee has experienced a Standard Threshold Shift (STS) in hearing in one or both ears (averaged at 2000, 3000, and 4000 Hz) and 2) the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 Hz) in the same ear(s) as the STS.

What is medical treatment?

Medical treatment includes managing and caring for a patient for the purpose of combating disease or disorder. The following are not considered medical treatments and are NOT recordable:

- visits to a doctor or health care professional solely for observation or counseling;

What do you need to do?

1. Within 7 calendar days after you receive information about a case, decide if the case is recordable under the OSHA recordkeeping requirements.
2. Determine whether the incident is a new case or a recurrence of an existing one.
3. Establish whether the case was work-related.
4. If the case is recordable, decide which form you will fill out as the injury and illness incident report.

   You may use *OSHA's 301: Injury and Illness Incident Report* or an equivalent form. Some state workers compensation, insurance, or other reports may be acceptable substitutes, as long as they provide the same information as the OSHA 301.

How to work with the Log

1. Identify the employee involved unless it is a privacy concern case as described below.
2. Identify when and where the case occurred.
3. Describe the case, as specifically as you can.
4. Classify the seriousness of the case by recording the **most serious outcome** associated with the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.
5. Identify whether the case is an injury or illness. If the case is an injury, check the injury category. If the case is an illness, check the appropriate illness category.

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- diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes; and
- any procedure that can be labeled first aid. (*See below for more information about first aid.*)

What is first aid?

If the incident required only the following types of treatment, consider it first aid. Do NOT record the case if it involves only:

- using non-prescription medications at non-prescription strength;
- administering tetanus immunizations;
- cleaning, flushing, or soaking wounds on the skin surface;
- using wound coverings, such as bandages, BandAids™, gauze pads, etc., or using SteriStrips™ or butterfly bandages.
- using hot or cold therapy;
- using any totally non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.;
- using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards).
- drilling a fingernail or toenail to relieve pressure, or draining fluids from blisters;
- using eye patches;
- using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye;
- using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye;
- using finger guards;
- using massages;
- drinking fluids to relieve heat stress

How do you decide if the case involved restricted work?

Restricted work activity occurs when, as the result of a work-related injury or illness, an employer or health care professional keeps, or recommends keeping, an employee from doing the routine functions of his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred.

How do you count the number of days of restricted work activity or the number of days away from work?

Count the number of calendar days the employee was on restricted work activity or was away from work as a result of the recordable injury or illness. Do not count the day on which the injury or illness occurred in this number. Begin counting days from the day after the incident occurs. If a single injury or illness involved both days away from work and days of restricted work activity, enter the total number of days for each. You may stop counting days of restricted work activity or days away from work once the total of either or the combination of both reaches 180 days.

Under what circumstances should you NOT enter the employee's name on the OSHA Form 300?

You must consider the following types of injuries or illnesses to be privacy concern cases:

- an injury or illness to an intimate body part or to the reproductive system,
- an injury or illness resulting from a sexual assault,
- a mental illness,
- a case of HIV infection, hepatitis, or tuberculosis,
- a needlestick injury or cut from a sharp object that is contaminated with blood or other potentially infectious material (see 29 CFR Part 1904.8 for definition), and
- other illnesses, if the employee independently and voluntarily requests that his or her name not be entered on the log.

You must not enter the employee's name on the OSHA 300 *Log* for these cases. Instead, enter "privacy case" in the space normally used for the employee's name. You must keep a separate, confidential list of the case numbers and employee names for the establishment's privacy concern cases so that you can update the cases and provide information to the government if asked to do so.

If you have a reasonable basis to believe that information describing the privacy concern case may be personally identifiable even though the employee's name has been omitted, you may use discretion in describing the injury or illness on both the OSHA 300 and 301 forms. You must enter enough information to identify the cause of the incident and the general severity of the injury or illness, but you do not need to include details of an intimate or private nature.

What if the outcome changes after you record the case?

If the outcome or extent of an injury or illness changes after you have recorded the case, simply draw a line through the original entry or, if you wish, delete or white-out the original entry. Then write the new entry where it belongs. Remember, you need to record the most serious outcome for each case.

Classifying injuries

An injury is any wound or damage to the body resulting from an event in the work environment.

Examples: Cut, puncture, laceration, abrasion, fracture, bruise, contusion, chipped tooth, amputation, insect bite, electrocution, or a thermal, chemical, electrical, or radiation burn. Sprain and strain injuries to muscles, joints, and connective tissues are classified as injuries when they result from a slip, trip, fall or other similar accidents.

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Optional

Worksheet to Help You Fill Out the Summary

At the end of the year, OSHA requires you to enter the average number of employees and the total hours worked by your employees on the summary. If you don't have these figures, you can use the information on this page to estimate the numbers you will need to enter on the Summary page at the end of the year.

How to figure the average number of employees who worked for your establishment during the year:

❶ ***Add*** the total number of employees your establishment paid in all pay periods during the year. Include all employees: full-time, part-time, temporary, seasonal, salaried, and hourly.

The number of employees paid in all pay periods = ❶ _____

❷ ***Count*** the number of pay periods your establishment had during the year. Be sure to include any pay periods when you had no employees.

The number of pay periods during the year = ❷ _____

❸ ***Divide*** the number of employees by the number of pay periods.

❶ / ❷ _____ = ❸ _____

❹ ***Round the answer*** to the next highest whole number. Write the rounded number in the blank marked *Annual average number of employees.*

The number rounded = ❹ _____

For example, Acme Construction figured its average employment this way:

For pay period...	Acme paid this number of employees...		
1	10	Number of employees paid = 830	❶
2	0	Number of pay periods = 26	❷
3	15	830 / 26 = 31.92	❸
4	30		
5	40		
▼	▼		
24	20	31.92 rounds to 32	❹
25	15		
26	+10	32 is the annual average number of employees	
	830		

How to figure the total hours worked by all employees:

Include hours worked by salaried, hourly, part-time and seasonal workers, as well as hours worked by other workers subject to day to day supervision by your establishment (e.g., temporary help services workers).

Do not include vacation, sick leave, holidays, or any other non-work time, even if employees were paid for it. If your establishment keeps records of only the hours paid or if you have employees who are not paid by the hour, please estimate the hours that the employees actually worked.

If this number isn't available, you can use this optional worksheet to estimate it.

Optional Worksheet

_____ ***Find*** the number of full-time employees in your establishment for the year.

X _____ ***Multiply*** by the number of work hours for a full-time employee in a year.

_____ This is the number of full-time hours worked.

\+ _____ ***Add*** the number of any overtime hours as well as the hours worked by other employees (part-time, temporary, seasonal)

_____ ***Round*** the answer to the next highest whole number. Write the rounded number in the blank marked *Total hours worked by all employees last year.*

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Optional

Calculating Injury and Illness Incidence Rates

What is an incidence rate?

An incidence rate is the number of recordable injuries and illnesses occurring among a given number of full-time workers (usually 100 full-time workers) over a given period of time (usually one year). To evaluate your firm's injury and illness experience over time or to compare your firm's experience with that of your industry as a whole, you need to compute your incidence rate. Because a specific number of workers and a specific period of time are involved, these rates can help you identify problems in your workplace and/or progress you may have made in preventing work-related injuries and illnesses.

How do you calculate an incidence rate?

You can compute an occupational injury and illness incidence rate for all recordable cases or for cases that involved days away from work for your firm quickly and easily. The formula requires that you follow instructions in paragraph (a) below for the total recordable cases or those in paragraph (b) for cases that involved days away from work, *and* for both rates the instructions in paragraph (c).

(a) *To find out the total number of recordable injuries and illnesses that occurred during the year,* count the number of line entries on your OSHA Form 300, or refer to the OSHA Form 300A and sum the entries for columns (G), (H), (I), and (J).

(b) *To find out the number of injuries and illnesses that involved days away from work,* count the number of line entries on your OSHA Form 300 that received a check mark in column (H), or refer to the entry for column (H) on the OSHA Form 300A.

(c) *The number of hours all employees actually worked during the year.* Refer to OSHA Form 300A and optional worksheet to calculate this number.

You can compute the incidence rate for all recordable cases of injuries and illnesses using the following formula:

Total number of injuries and illnesses x *200,000* ÷ *Number of hours worked by all employees* = *Total recordable case rate*

(The 200,000 figure in the formula represents the number of hours 100 employees working 40 hours per week, 50 weeks per year would work, and provides the standard base for calculating incidence rates.)

You can compute the incidence rate for recordable cases involving days away from work, days of restricted work activity or job transfer (DART) using the following formula:

(Number of entries in column H + Number of entries in column I) x *200,000* ÷ *Number of hours worked by all employees* = *DART incidence rate*

You can use the same formula to calculate incidence rates for other variables such as cases involving restricted work activity (column (I) on Form 300A), cases involving skin disorders (column (M-2) on Form 300A), etc. Just substitute the appropriate total for these cases, from Form 300A, into the formula in place of the total number of injuries and illnesses.

What can I compare my incidence rate to?

The Bureau of Labor Statistics (BLS) conducts a survey of occupational injuries and illnesses each year and publishes incidence rate data by various classifications (e.g., by industry, by employer size, etc.). You can obtain these published data at www.bls.gov/iif or by calling a BLS Regional Office.

Worksheet

Total number of injuries and illnesses			Number of hours worked by all employees		Total recordable case rate
	X 200,000	÷		=	

Number of entries in Column H + Column I			Number of hours worked by all employees		DART incidence rate
	X 200,000	÷		=	

OSHA's Form 301
Injury and Illness Incident Report

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by _____

Title _____

Phone (____)____–_____ Date ___/___/___

Information about the employee

1) Full name _____

2) Street _____

City _____ State _____ ZIP _____

3) Date of birth ___/___/___

4) Date hired ___/___/___

5) ☐ Male
☐ Female

Information about the physician or other health care professional

6) Name of physician or other health care professional _____

_____

7) If treatment was given away from the worksite, where was it given?

Facility _____

Street _____

City _____ State _____ ZIP _____

8) Was employee treated in an emergency room?
☐ Yes
☐ No

9) Was employee hospitalized overnight as an in-patient?
☐ Yes
☐ No

Information about the case

10) Case number from the *Log* _____ *(Transfer the case number from the Log after you record the case.)*

11) Date of injury or illness ___/___/___

12) Time employee began work _____ AM / PM

13) Time of event _____ AM / PM ☐ Check if time cannot be determined

14) ***What was the employee doing just before the incident occurred?*** Describe the activity, as well as the tools, equipment, or material the employee was using. Be specific. *Examples:* "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."

15) ***What happened?*** Tell us how the injury occurred. *Examples:* "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."

16) ***What was the injury or illness?*** Tell us the part of the body that was affected and how it was affected; be more specific than "hurt," "pain," or sore." *Examples:* "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."

17) ***What object or substance directly harmed the employee?*** *Examples:* "concrete floor"; "chlorine"; "radial arm saw." *If this question does not apply to the incident, leave it blank.*

18) ***If the employee died, when did death occur?*** Date of death ___/___/___

How to Fill Out the Log

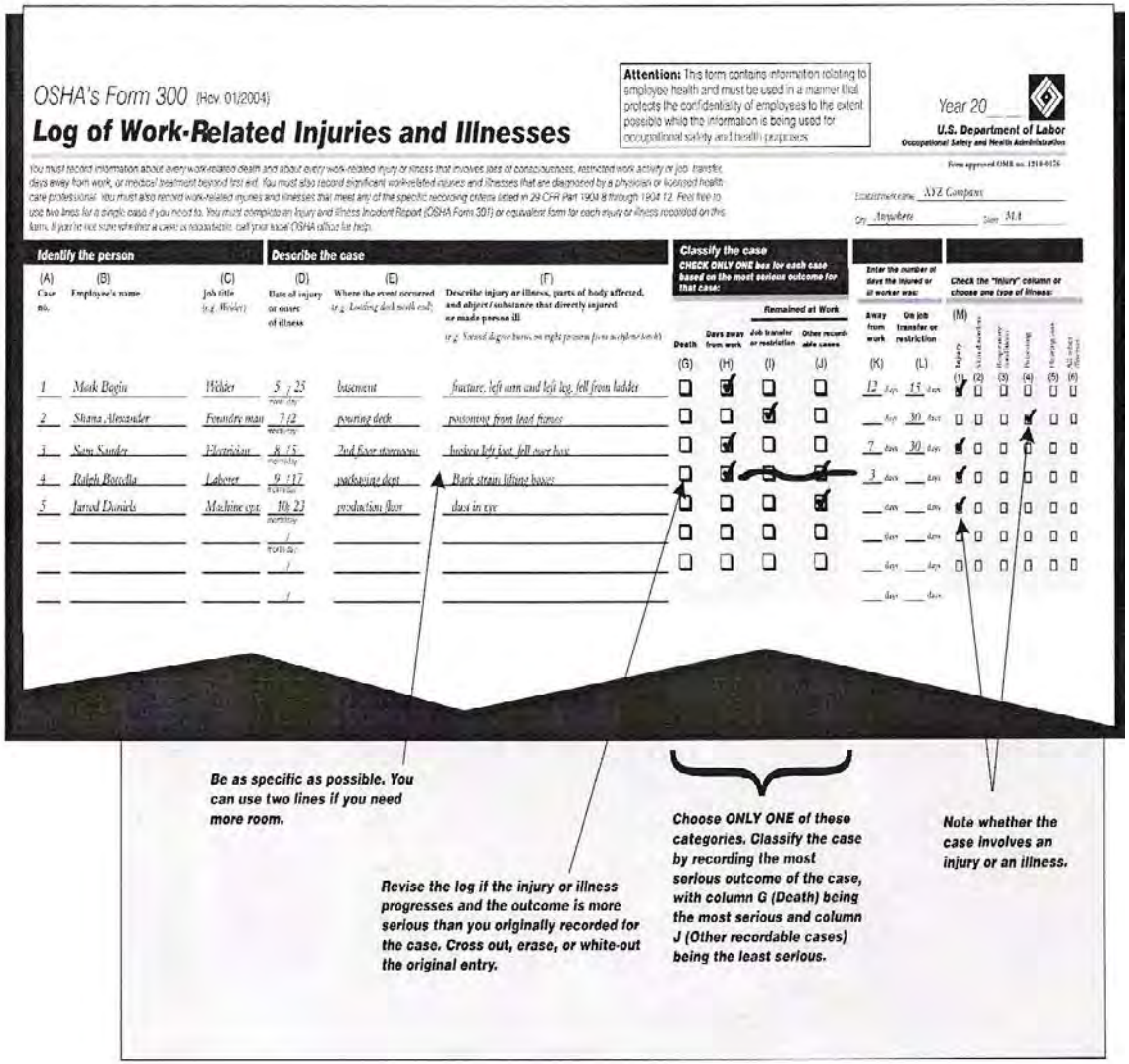
The *Log of Work-Related Injuries and Illnesses* is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened.

If your company has more than one establishment or site, you must keep separate records for each physical location that is expected to remain in operation for one year or longer.

We have given you several copies of the *Log* in this package. If you need more than we provided, you may photocopy and use as many as you need.

The *Summary* — a separate form — shows the work-related injury and illness totals for the year in each category. At the end of the year, count the number of incidents in each category and transfer the totals from the *Log* to the *Summary*. Then post the *Summary* in a visible location so that your employees are aware of injuries and illnesses occurring in their workplace.

You don't post the Log. You post only the Summary at the end of the year.



OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20 ___

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name: XYZ Company
City: Anywhere State: MA

Identify the person			Describe the case			Classify the case (CHECK ONLY ONE box for each case based on the most serious outcome for that case)				Enter the number of days the injured or ill worker was:		Check the "Injury" column or choose one type of illness:					
(A) Case no.	(B) Employee's name	(C) Job title (e.g. Welder)	(D) Date of injury or onset of illness	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	Death (G)	Days away from work (H)	Remained at Work: Job transfer or restriction (I)	Remained at Work: Other recordable cases (J)	Away from work (K)	On job transfer or restriction (L)	(M) Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
1	Mark Begin	Welder	5/25	basement	fracture, left arm and left leg, fell from ladder	☐	☑	☐	☐	12 days	15 days	☑	☐	☐	☐	☐	☐
2	Shana Alexander	Foundry man	7/12	pouring deck	poisoning from lead fumes	☐	☐	☑	☐	___ days	30 days	☐	☐	☐	☑	☐	☐
3	Sam Sander	Electrician	8/15	2nd floor storeroom	broken left foot, fell over box	☐	☑	☐	☐	7 days	30 days	☑	☐	☐	☐	☐	☐
4	Ralph Botella	Laborer	9/17	packaging dept	Back strain lifting boxes	☐	☑	☐	☐	3 days	___ days	☑	☐	☐	☐	☐	☐
5	Jarrod Daniels	Machine op.	10/23	production floor	dust in eye	☐	☐	☐	☑	___ days	___ days	☑	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐

Be as specific as possible. You can use two lines if you need more room.

Revise the log if the injury or illness progresses and the outcome is more serious than you originally recorded for the case. Cross out, erase, or white-out the original entry.

Choose ONLY ONE of these categories. Classify the case by recording the most serious outcome of the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.

Note whether the case involves an injury or an illness.

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name ______________________

City ______________ State ______________

Identify the person			Describe the case			Classify the case: CHECK ONLY ONE box for each case based on the most serious outcome for that case:				Enter the number of days the injured or ill worker was:		Check the "Injury" column or choose one type of illness: (M)					
								Remained at Work									
(A) Case no.	(B) Employee's name	(C) Job title (*e.g., Welder*)	(D) Date of injury or onset of illness	(E) Where the event occurred (*e.g., Loading dock north end*)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (*e.g., Second degree burns on right forearm from acetylene torch*)	Death (G)	Days away from work (H)	Job transfer or restriction (I)	Other record-able cases (J)	Away from work (K)	On job transfer or restriction (L)	Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
___	___	___	___/___ month/day	___	___	☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
					Page totals	___	___	___	___	___	___	___ Injury (1)	___ Skin disorder (2)	___ Respiratory condition (3)	___ Poisoning (4)	___ Hearing loss (5)	___ All other illnesses (6)

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Page __ of __

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR Part 1904.35, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
_____	_____	_____	_____
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
_____	_____
(K)	(L)

Injury and Illness Types

Total number of . . .

	(M)		
(1) Injuries	_____	(4) Poisonings	_____
		(5) Hearing loss	_____
(2) Skin disorders	_____	(6) All other illnesses	_____
(3) Respiratory conditions	_____		

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 50 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name _____

Street _____

City _____ State ____ ZIP _____

Industry description (e.g., *Manufacture of motor truck trailers*)

_____

Standard Industrial Classification (SIC), if known (e.g., *3715*)

__ __ __ __

OR

North American Industrial Classification (NAICS), if known (e.g., 336212)

__ __ __ __ __ __

Employment information *(If you don't have these figures, see the Worksheet on the back of this page to estimate.)*

Annual average number of employees _____

Total hours worked by all employees last year _____

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

_____ _____
Company executive Title

( ) - _____ / /
Phone Date

Date of Implementation: May, 2008

This policy certifies Berger Electric intent to maintain a drug/alcohol free workplace. In response to the federal requirements for drug/alcohol free workplace, and in keeping with Berger Electric concern for the health and safety of our employees, Berger Electric has instituted the following drug/alcohol free workplace policy.

SECTION A of this policy prohibits the manufacture, distribution, sale, possession, and or use of a controlled substance or alcohol in the workplace.

SECTION B of this policy addresses a drug/alcohol Awareness Program that shall provide information to employee's on the dangers of workplace drug/ alcohol use, and on the available private and community treatment facilities.

SECTION C of this policy contains an employee acknowledgment that must be signed and dated by each employee who has received and reviewed a copy of this policy.

The Drug/Alcohol Free Workplace Act requires that Berger Electric notify each employee, as a condition of employment that each employee must:

1. Comply with the companies drug/alcohol free workplace policy.

2. Notify the company of any convictions for drug/alcohol related offense committed in the workplace within five (5) days of the conviction.

3. Any employee who violates the policy shall be subject to disciplinary action, up to and including termination of employment.

SECTION A PROHIBITIONS

Berger Electric Drug/Alcohol Free Workplace Policy prohibits employees from engaging in any of the following activities:

1. Use, possession, manufacture, distribution dispensation, or sale of illegal drugs or alcohol on company premises, vehicles, or during working hours.

2. Unauthorized use or possession, or any manufacture, distribution, dispensation, or sale of a controlled substance or alcohol on company’s premises, or while conducting company business, or while in a company vehicle.

3. Storing in a locker, desk, automobile, or other repository on company premises, any controlled substance or alcohol whose use is unauthorized.

4. Being under the influence of a controlled substance or alcohol on company premises or while on company business, or while in company supplied vehicle.

5. Any possession, use, manufacture, distribution, dispensation, or sale of illegal drugs/alcohol off companies premises that adversely affect the individual's work performance, his/her own or other's safety at work, or the companies regard or reputation in the community.

6. Failure to adhere to the requirements of any drug treatment or counseling program in which the employee is enrolled.

7. Failure to notify the company of any conviction under criminal drug statutes for a workplace offense within five (5) days of the conviction.

8. Refusal to sign statement to abide by the Drug/Alcohol Free Workplace Policy.

DEFINITIONS:

"Alcohol" includes all forms of beer, wine, or distilled liquor containing alcohol or any substance containing alcohol.

"Drug" means any substance that has known mind or function altering effects on humans.

"Under the Influence or Impaired" means that alcohol or a drug or a combination of alcohol or drug affects an individual, such that the person is limited in the performance of his/her work in a safe and productive manner.

AUTHORIZED USE OF PRESCRIBED MEDICINE:

An employee undergoing prescribed medical treatment with any drug which may alter his or her physical or mental ability must report this treatment to the company. Berger Electric shall determine whether a temporary change in the employee's job assignment during the period of treatment is warranted.

SECTION B DRUG AWARENESS PROGRAM:

To assist employees and their families to understand and to avoid the perils of drug/alcohol abuse, Berger Electric has developed a comprehensive Drug Awareness Program. Berger Electric will use this program in an educational effort to prevent and eliminate drug/alcohol abuse that may effect the workplace.

The Drug Awareness Program will inform employees about:

1. The dangers of drug/alcohol abuse in the workplace.
2. The companies Drug/Alcohol Free Workplace Policy.

3. The availability of treatment and counseling services for employee's who voluntarily seek such assistance.
4. Sanctions for violations of companies Drug/ Alcohol Free Workplace Policy.

Employees of Berger Electric are our most valuable resource and for that reason, their health and safety is our number one concern. Any drug/alcohol use, which imperils the health and well being of our employee's or threatens our business, will not be tolerated. The use of illegal drugs/alcohol and abuse of other controlled substances, on or off duty, is inconsistent with the law-abiding behavior expected of citizens. Employees who use illegal drugs/alcohol or abuse other controlled substances on or off duty tend to be less productive, less reliable, and prone to greater absenteeism. This, in turn, can result in increased costs, delays and risks to the business. Drug/alcohol use in the workplace puts health and safety of the abuser and workers around him/her at an increased risk. Employees have the right to work in a drug/alcohol free environment. In addition, drug/alcohol abuse inflicts a terrible toll on the nation's productive resources and the health and well being of American workers.

Early recognition and treatment of drug/alcohol abuse is important for successful rehabilitation. Whenever feasible, Berger Electric will assist employees in overcoming drug/alcohol abuse by assisting with information on treatment opportunities and programs which may be available. However, the decision to seek diagnosis and accept treatment for drug/alcohol abuse is primarily the individual employee's responsibility.

Employees with drug/alcohol abuse problems will request assistance from management. Berger Electric will treat such requests as confidential and will refer employee to the appropriate treatment and counseling services. Employees who voluntarily request assistance in dealing with a drug/alcohol abuse problem may do so without jeopardizing their continued employment, provided that they strictly adhere to the terms of their treatment and counseling program.

At as minimum, these terms include the immediate cessation of any drug/alcohol usage and participation, where required by the program, periodic unannounced testing for a twenty-four month period following enrollment in the program.

Voluntary requests for assistance from employees will not, however, prevent disciplinary action for violation of the Drug/Alcohol Free Workplace Policy.

Berger Electric is committed to maintaining a safe workplace free from the influence of drugs/alcohol. Employees and subcontractors are hereby notified that our company will comply with the requirements of the DRUG/ALCOHOL FREE WORKPLACE ACT of 1988, and applicable regulations issued thereunder, as well as, when applicable, any more stringent rules promulgated by other federal or state agencies.

Assistance will not necessarily be at the expense of Berger Electric

SECTION C DISCIPLINARY ACTIONS FOR VIOLATING DRUG/ALCOHOL FREE WORKPLACE POLICY:

1. A violation of the Drug/Alcohol Free Workplace Policy may result in disciplinary action, up to and including discharge, at the sole discretion of Berger Electric

2. In addition to any disciplinary action, Berger Electric may in its sole discretion, refer the employee to a treatment and counseling program for drug/alcohol abuse. Employees referred to such a program must immediately cease any drug/alcohol usage, may be subject to periodic unannounced testing for a period of twenty-four months, and must comply with conditions of the treatment and counseling program. Berger Electric shall determine whether an employee it has referred for drug/alcohol treatment and counseling will be temporarily reassigned for safety reasons to another position.

3. Berger Electric will promptly terminate any employee who tests positive for drugs/alcohol while undergoing treatment and counseling for drug/alcohol abuse, regardless of whether such treatment and counseling is voluntary or required by Berger Electric

Definition of positive alcohol test:

Alcohol tests shall be considered positive if the breath test indicates an alcohol presence of 0.08% or greater. If an alcohol test indicates an alcohol concentration of at least 0.02%, but less than 0.08%, the test is considered negative, but the employee will be taken out of service for 24 hours. If the test results are positive, the employee and supervisor will be notified before the employee leaves the test site.

Definition of positive controlled-substance test:

A test will be considered positive if an illegal controlled substance, or an unacceptable level of certain prescription medication, is found in the urine.

MANDATORY DRUG TESTING PROGRAM

Berger Electric falls under:

DRUG/ALCOHOL FREE WORKPLACE ACT (PL 100-690)

a. The company policy is based on this act.

b. Non-DOT Employees are included in this program.

c. Copies of this policy are available in the office at any time.

Berger Electric employees must:

1. Read and understand the written program and policy which is adapted from the Federal Drug/Alcohol Free Workplace Act.

2. Read, sign, and date the POLICY ACKNOWLEDGMENT SHEETS.

Testing conducted by:	Name:	Consolidated Medical Service
	Address:	402 W County RD D
	City:	St. Paul, MN 55112
	Telephone:	1-800-832-3244
	Contact:	Bonnie Wilkins

TESTING WILL BE CONDUCTED IN THE FOLLOWING MANNER:

Testing conducted by:	Name:	Badlands Integrity Group
	Address:	528 21st Street West Suite C
	City:	Dickinson, ND 58601
	Telephone:	701-483-6559

a. Random

b. Unannounced

c. Announced

d. Probable Cause

e. Reasonable Suspicion

f. Post-Accident

Pre-employment tests:

New employees hired for safety-sensitive positions, will submit to and pass a urine and breath alcohol/drug test, employees must achieve negative results for employment. Job announcements should state whether the position is a safety-sensitive and requires pre-employment testing.

Post-accident tests:

Is required when a fatality of any person involved in an accident or when the employee is cited for a moving violation of any kind and any involved vehicle requires towing from the scene or any person involved requires medical treatment away from the scene of the accident.

EXAMPLE:

A. Did the accident involve a fatality? If yes, must be tested. If no, were there any citations filed or pending if no then no testing required.

B. Did any vehicle involved require towing? If yes, must be tested. If no, were any persons involved require medical attention away from scene if not then no testing required.

If yes to above examples then tests shall be conducted within 8 hours for alcohol and within 24 hours for drugs.

Employee assistance maybe obtained through:

Heart River Alcohol & Drug Abuse Center
7 1st Avenue West
Dickinson, North Dakota 58601
(701) 483-0795

Badlands Human Service Center
Pulver Hall
Dickinson, ND 58601
701-227-7500

Testing conducted by:	Name:	Consolidated Medical Service
	Address:	402 W County RD D
	City:	St. Paul, MN 55112
	Telephone:	1-800-832-3244
	Contact:	Bonnie Wilkins
Testing conducted by:	Name:	Badlands Integrity Group
	Address:	528 21st Street West Suite C
	City:	Dickinson, ND 58601
	Telephone:	701-483-6559

Employee/Supervisory Positions Subject to Drug Testing

Covered Positions/Supervisory Positions

*Managers

Laborers

Equipment Operators

ALCOHOL SUPPLEMENT

A. Why you should get involved:

1. Although (company) has no history of substance abuse problems, we recognize that alcoholism and alcohol misuse are problems throughout America.

2. There are three good reasons why you should be concerned if any of your coworkers is using drugs or alcohol on the job.

   a. Your health and safety may be at risk.
   b. Alcohol misuse costs you money.
   c. Alcohol creates a negative work environment.

3. According to the National Institute on Alcohol Abuse and Alcoholism, drug and alcohol use on the job costs society an estimated $102 billion a year. Since most of this cost is passed on to you in the form of higher health insurance rates or in consumer prices, drug and alcohol use on the job costs you and your fellow workers a significant amount of money.

4. Absenteeism among problem drinkers or alcoholics is 3.8 to 8.3 times greater than normal. If your fellow workers don't come to work, you may have to do their jobs in addition to your own.

5. Workers who misuse alcohol don't function at their full potential. Not only is absenteeism a problem, when they are at work these employees may have reduced capabilities and productivity. Since our product is the safe transportation of hazardous liquid (or natural gas), alcohol misuse is an especially serious issue.

6. No matter what your problem is in the organization, there is something you can do to ensure that drug and alcohol use on the job never becomes a problem at the company. Acceptance of any misuse puts you, the company, and the public, at risk.

B. Effects of alcohol misuse on an individual's health, work, and personal life:

1. Alcohol is a central nervous system depressant. Taken in large quantities, it causes not only the euphoria associated with being drunk but also adversely affects your judgement, ability to think, and your motor functions. Drink enough alcohol fast enough and it will kill you.

2. Long term overuse of alcohol can cause liver damage, heart problems, sexual dysfunction, and other serious medical problems.

3. In some cases, alcohol use can lead to physical and psychological dependence on alcohol. Alcoholism is a serious chronic disease. Left untreated it will inevitably get worse.

4. Workers who use alcohol (and other drugs) affect everyone. Studies show that compared to alcohol-free and drug-free workers, substance abusers are far less productive, miss more workdays, are more likely to injure themselves or someone else, and file more workers compensation claims.

5. The measurable dollar costs of workplace substance abuse from absenteeism, overtime pay, tardiness, sick leave, insurance claims, and workers' compensation can be substantial. However, the hidden costs resulting from diverted supervisory and managerial time, friction among workers, damage to equipment, and damage to the company's public image mean that workplace substance abuse can further cut profits and competitiveness.

6. Alcohol can also destroy relationships, lead to serious problems with the law (e.g., drunk driving), and even cause harm to the people you love.

7. If drinking affects your life, it could lead to job loss and all financial problems would follow.

C. Signs and symptoms of alcohol misuse, any one or more of the following may indicate a drinking problem:

- Family or social problems caused by drinking
- Job or financial difficulties related to drinking
- Loss of a consistent ability to control drinking
- "Blackouts" or the inability to remember what happened while drinking
- Distressing physical and/or psychological reactions if you try to stop drinking
- A need to drink increasing amounts of alcohol to get the desired affect
- Marked changes in behavior or personality when drinking
- Getting drunk frequently
- Injuring yourself or someone else while intoxicated
- Starting the day with a drink

D. Available methods of evaluating and resolving problems associated with the misuse of alcohol.

1. Outpatient programs exist in a variety of settings:

   a. Community mental health centers
   b. Full service agencies
   c. Private physicians' and therapists' offices
   d. Occupational settings
   e. Specialized alcoholism treatment facilities

2. Inpatient services, designed for those with more serious problems, can be found in hospitals, residential care facilities, community halfway houses, and some alcoholism clinics.

3. Your local phone directory will list helpful referral organizations such as:

    a. Local council on Alcoholism
    b. Alcoholics Anonymous
    c. Community alcoholism or mental health clinic
    d. Social Services or human resources department
    e. County Medical society

4. The SAP will perform an initial evaluation, recommend any additional treatment if necessary and refer employees needing assistance for treatment covered under our health insurance program.

DRUG AND ALCOHOL POLICY SIGN-OFF SHEET

I have read and been instructed in the Drug and Alcohol Policy. I am under full understanding of the contents and the procedures therein. I fully know and understand that non-compliance with the Drug and Alcohol Policy can and may be reason for disciplinary action up to and including termination from employment.

Employee Name	Date
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Instructor/Trainer______________________ Management__________________________

Date________________ Date __________________

DOT ALCOHOL & CONTROLLED SUBSTANCES ABUSE POLICY

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ALCOHOL AND CONTROLLED SUBSTANCES POLICY.

Original Date of Implementation: August 2009

THIS POLICY IS EFFECTIVE OCTOBER 2010 AND WILL SUPERSEDE ALL PRIOR POLICIES AND STATEMENTS RELATING TO ALCOHOL OR DRUGS**.**

INTRODUCTION and POLICY STATEMENT

Berger Electric, Inc. is dedicated to the health and safety of our drivers. Drug and/or alcohol use may pose a serious threat to driver health and safety. Therefore, it is the policy of Berger Electric, Inc. to prevent the use of drugs and abuse of alcohol from having an adverse effect on our drivers.

The federal government has recognized the serious impact of drug use and alcohol abuse. The Federal Motor Carrier Safety Administration (FMCSA) has issued regulations, which require Berger Electric, Inc. to implement an alcohol and controlled substances testing program.

The purpose of the FMCSA issued regulations is to establish programs designed to help prevent accidents and injuries resulting from the misuse of alcohol or use of controlled substances by drivers of commercial vehicles.

Berger Electric, Inc. will comply with these regulations and is committed to maintaining a drug-free workplace.

It is the policy of Berger Electric, Inc. that the use , sale, purchase, transfer, possession, or presence in one's system of any controlled substance (except medically prescribed drugs) by any driver while on Berger Electric, Inc. premises, engaged in company business, operating company equipment, or while under the authority of Berger Electric, Inc. is strictly prohibited. Disciplinary action will be taken as necessary.

Neither this policy nor any of its terms are intended to create a contract of employment or contain the terms of any contract employment. Berger Electric, Inc. retains the sole right to change, amend, or modify any term or provision of this policy without notice.

Regulatory Requirements

All drivers who operate commercial motor vehicles that require a commercial driver's license under 49 CFR Part 383 are subject to FMCSA's drug and alcohol regulations, 49 CFR Part 382.

Non-Regulatory Requirements

The Federal Motor Carrier Safety Regulations (FMCSR) set the minimum requirements for testing. Berger Electric, Inc.'s policy in certain instances may be more stringent. This policy will clearly define what is mandated by the FMCSR and what company procedure is.

WHO IS RESPONSIBLE: It is Berger Electric, Inc. responsibility to provide testing for the driver that is in compliance with all federal and state laws and regulations, and within the provisions of this policy. Berger Electric, Inc. will retain all records related to testing and the testing process in a secure and confidential manner.

Berger Electric, Inc. alcohol and program administrator who is designated to monitor, facilitate, and answer questions pertaining to these procedures is:

Contact Person:	Darrel Berger
Position:	President
Street Address:	265 21 Street East
City, State & Zip Code:	Dickinson, ND 58601
Phone Number:	701-225-2810

The driver is responsible for complying with the requirements set forth in this policy. The driver will not use, have possession of, abuse, or have the presence of alcohol or any controlled substance in excess of regulation established threshold levels while on duty. The driver will not use alcohol within 4 (four) hours of performing a "safety-sensitive" function or while performing a "safety-sensitive" function. Employees are prohibited from using alcohol beverages while on duty at all times.

All Berger Electric, Inc. supervisors must make every effort to be aware of a driver's condition at all times; the driver is in service of Berger Electric, Inc. The supervisor must be able to make a reasonable suspicion observation to determine if the driver is impaired in some way, and be prepared to implement the requirements of this policy if necessary.

DEFINITIONS: When implementing and interpreting the drug and alcohol policies and procedures required by the FMCSA, as well as, the policies and procedures required by Berger Electric, Inc. the following definitions apply:

Alcohol: The intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohol's including methyl and isopropyl alcohol.
Alcohol Concentration (or content): The alcohol in a volume of breath expressed in terms of grams of alcohol per 210 liters of breath as indicated by an evidential breath test.
Alcohol Use: The consumption of any beverage, mixture, or preparation, including any medication, containing alcohol.
Breathe Alcohol Technician (BAT): An individual who instructs and assists individuals in the alcohol testing process, and operates an evidential breathing device (EBT).
CFR: Code of Federal Regulations
Collection Site: A place designated by Berger Electric, Inc., where individuals present themselves for the purpose of providing a specimen of their urine to be analyzed for the presence of drugs.
Commercial Motor Vehicle: A motor vehicle or combination of motor vehicles used in commerce to transport passengers or property if the motor vehicle:

- Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds: or
- Has a gross vehicle weight rating of 26,001 or more pounds: or
- Is designed to transport 16 or more passengers, including the driver: or
- Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazards Materials Transportation Act and which require the motor vehicle be placarded under the Hazardous Materials Regulations (49 CFR Part 172, subpart F).

Consortium: An entity, including a group or association of employers or contractors, that provides alcohol or controlled substances testing as required by Part 382, or other DOT alcohol or controlled substances testing rules, and acts on behalf of Berger Electric, Inc.. Controlled substances has the meaning assigned by 21 U.S.C. 802 and includes all substances listed on Schedules I through V and any subsequent revisions to the list. The list can be found in 21 CFR 1308.

In accordance with FMCSA rules, urinalyses will be conducted to detect the presence of the following substances:

- Marijuana
- Cocaine
- Opiates
- Amphetamines
- Phencyclidine (PCP)

Detection levels requiring a determination of a positive result shall be in accordance with the guidelines adopted by the FMCSA in accordance with the requirements established in 49 CFR, Section 40.29(e) (f).

Disabling Damage: Damage that precludes departure of a motor vehicle from the scene of the accident in its usual manner in daylight after simple repairs.

1. Inclusions
   Damage to motor vehicles that could have been driven, but would have been further damaged if so driven.

2. Exclusions
   - Damage, which can be remedied temporarily at the scene of the accident without special tools or parts.
   - Tire disablement without other damage even if no spare tire is available.
   - Headlight or taillight damage.
   - Damage to turn signals, horn, or windshield wipers, which make them inoperative.

Driver: Any person who operates a commercial motor vehicle. This includes, but is not limited to:

Full time, regularly employed drivers: casual, intermittent or occasional drivers: leased drivers and independent, owner-operated contractors who either directly employed by or under lease to an employer who operates a commercial motor vehicle at the direction of or with the consent of an employer.

Drug: Any substance (other than alcohol) that is a controlled substance as defined in this policy and 49 CFR Part 40.

EBT: (Evidential Breath Testing device) – An EBT approved by the National Highway Traffic Safety Administration (NHTSA) for the evidential testing of breath and placed on NHTSA's "Conforming Products List of Evidential Breath Measurement Device's" (CPL), and identified on the CPL as conforming with the model specifications available from the National Highway Traffic Safety Administration, Office of Alcohol and State Programs.

FMCSA: Federal Motor Carrier Safety Administration, U.S. Department of Transportation.

Licensed Medical Practitioner: A person who is licensed, certified, and/or registered in accordance with applicable federal, state, local, or foreign laws and regulations to prescribe controlled substances and other drugs.

Medical Review Officer (MRO): A licensed physician (medical doctor or doctor of osteopathy) responsible for receiving laboratory results generated by Berger Electric, Inc.'s drug testing program who has knowledge of substance abuse disorders and has appropriate medical training to interpret and evaluate an individual's confirmed positive test result together with his/her medical history and any relevant biomedical information.

Performing (a safety-sensitive function): A driver is considered to be performing a safety-sensitive function during any period in which he/she is actually performing, ready to perform, or immediately available to perform any safety-sensitive functions.

Prescription Medications: The use (by a driver) of legally prescribed medications issued by a licensed health care professional familiar with the driver's work related responsibilities.

Refuse to submit: (to an alcohol or controlled substances test) means that a driver:

- Fails to provide adequate breath for alcohol testing as required by Part 40, without a valid medical explanation, after he/she has received notice of the requirement for breath testing in accordance with the provisions of Part 382.
- Fails to provide an adequate urine sample for controlled substances testing as required by Part 40, without a genuine inability to provide a specimen (as determined by a medical evaluation), after he/she has received notice of the requirement for urine testing in accordance with the provisions of Part 382, or
- Engages in conduct that clearly obstructs the testing process.

Safety-Sensitive Function: All time from the time a driver begins work or is required to be in readiness to work until the time he/she is relieved from work and all responsibility for performing work.

Safety-sensitive functions include:

- All time at an employer or shipper plant, terminal, facility, or other property, or on any public property, waiting to be dispatched, unless the driver has been relieved from duty by Berger Electric, Inc.:
- All time inspecting equipment as required by Sections 392.7 and 392.8 or otherwise inspecting, servicing, or conditioning any commercial motor vehicle at any time:
- All time spent at the driving controls of a commercial motor vehicle in operation:
- All time, other than driving time, in or upon any commercial motor vehicle, except time spent resting in a sleeper berth (a berth conforming to the requirements of Section 393.76):
- All time loading or unloading a vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded: and
- All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle.

Screening Test (also known as initial test): In alcohol testing, it means an analytical procedure to determine whether a driver may have a prohibited concentration of alcohol in his or her system. In controlled substance testing, it means an immunoassay screen to eliminate "negative" urine specimens from further consideration.

Substance Abuse Professional (SAP): A licensed physician, or a licensed or certified psychologist, social worker, or employee assistance professional: or an addiction counselor (certified by the National Association of Alcoholism and Drug Abuse Counselors Certification Commission). The SAP must have knowledge of the clinical experience in the diagnosis and treatment of alcohol and controlled substances-related disorders.

PROHIBITIONS

Alcohol Prohibitions

Part 382, Subpart B, prohibits any alcohol misuse that could affect performance of safety-sensitive functions.

The alcohol prohibition includes:

- Use while performing safety-sensitive functions:
- Use during the four (4) hours before performing safety-sensitive functions:
- Reporting for duty or remaining on duty to perform safety-sensitive functions with an alcohol concentration of 0.04 or greater:
- Use of alcohol for up to eight (8) hours following an accident or until the driver undergoes a post accident test: or
- Refusal to take a required test.

NOTE: FMCSA regulation (Section 382.505), a driver found to have an alcohol concentration of 0.02 or greater but less than 0.04 shall not perform, nor be permitted to perform, safety-sensitive functions for at least twenty-four (24) hours.

Drug Prohibitions

Part 382, Subpart B, prohibits any drug use that could affect the performance of safety-sensitive functions.

This drug prohibition includes:

- Use of any drug, except when administered to driver by, or under the instructions of, a licensed medical practitioner, who has advised the driver that the substance will not affect the driver's ability to safely operate a commercial motor vehicle. (The use of marijuana under California Proposition 215 or the use of any Schedule I drug under Arizona Proposition 200 is not a legitimate medical explanation. Under federal law, the use of marijuana or any Schedule I drug does not have a legitimate medical use in the United States.)
- Testing positive for drugs; or
- Refusing to take a required test.

Berger Electric, Inc. Drug/Alcohol Policy prohibits employees from engaging in any of the following activities:

- Use, possession, manufacture, distribution dispensation, or sale of illegal drugs or alcohol on company premises, vehicles, or during working hours.

- Unauthorized use or possession, or any manufacture, distribution, dispensation, or sale of a controlled substance or alcohol on company's premises, or while conducting company business, or while in a company vehicle.

- Storing in a locker, desk, automobile, or other repository on company premises, any controlled substance or alcohol whose use is unauthorized.

- Being under the influence of a controlled substance or alcohol on company premises or while on company business, or while in company supplied vehicle.

- Any possession, use, manufacture, distribution, dispensation, or sale of illegal drugs/alcohol off companies premises that adversely affects the individual's work performance, his own or other's safety at work, or the companies regard or reputation in the community.

- Failure to adhere to the requirements of any drug treatment or counseling program in which the employee is enrolled.

- Failure to notify Berger Electric, Inc. of any conviction under criminal drug statutes for workplace offense within five (5) days of the conviction.

- Refusal to sign statement to abide by the Drug/Alcohol Policy.

All drivers will inform Berger Electric, Inc. of any therapeutic drug (prescription drug) use prior to performing a safety-sensitive function. He/she may be required to present written evidence from a health care professional, which describes the effects such medications may have on the driver's ability to perform his/her tasks.

CIRCUMSTANCES FOR TESTING

Condition for Employment

A driver applicant who has failed a random, reasonable suspicion, post accident, return to duty, follow-up alcohol test, or tested positive for controlled substances will be considered for employment with Berger Electric, Inc. if the following conditions are met;

They have undergone an evaluation by a Substance Abuse Professional (SAP), completed any treatment recommended by the SAP, undergone a return to duty test with a result indicating an alcohol concentration of less than 0.02 or a verified negative result for controlled substance use, and will be subject to follow-up testing on at least six (6) occasions within the next twelve (12) months and other follow-up tests as determined by the SAP for up to sixty (60) months.

A driver applicant who refused a drug or alcohol test will not be considered for employment with Berger Electric, Inc.

Pre-Employment Testing

(Section 382.301): All driver applicants will be required to submit to and pass a urine and breath drug/alcohol test as a condition of employment.

Job applicants, who are denied employment because of a positive test, may reapply for employment after one year.

Driver applicant drug/alcohol testing shall follow the collection, chain-of-custody, and reporting procedures set forth in 49 CFR Part 40.

An existing employee of Berger Electric, Inc. transferring to a driving position is also subject to and must pass a urine drug test as a condition of the transfer. A transferring employee who tests positive for controlled substances will face the same consequences as any other company driver who tests positive for drugs or alcohol.

Reasonable Suspicion Testing

(Section 382.307): If the driver's supervisor or another company official designated to supervise drivers believes a driver is under the influence of alcohol or drugs, the driver will be required to undergo a breath test and/or urinalysis test.

The basis for the decision will be specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of the driver.

The driver's supervisor or another company official will immediately remove the driver from any and all safety-sensitive functions and take the driver or make arrangements for the driver to be taken to a testing facility.

The person who makes the determination that reasonable suspicion exists to conduct an alcohol test may not administer the alcohol test.

FMCSA regulation, reasonable suspicion alcohol testing is only authorized if the observations are made during, just proceeding, or after the driver is performing a safety-sensitive function.

FMCSA regulation, if the driver tests 0.02 or greater, but less than 0.04, for alcohol the driver will be removed from all safety-sensitive functions, including driving a commercial motor vehicle for at least twenty-four (24) hours.

If an alcohol test is not administered within two (2) hours following a reasonable suspicion determination, the program administrator will prepare and maintain a record stating the reasons why the test was not administered within the time of two (2) hours.

If the test is not administered within eight (8) hours after a reasonable suspicion determination, all attempts to administer the test shall cease. A record of why the test was not administered must be prepared and maintained.

A written record of the observations leading to a controlled substance reasonable suspicion test, signed by the supervisor or company official who made the observation, will be completed within twenty-four (24) hours of the observed behavior or before the results of the controlled substances test are released, whichever is first. A written record of the observations leading to a reasonable suspicion test for alcohol use will be completed and signed by the supervisor who made the observation within twenty-four (24) hours of the observed behavior.

NOTE: A driver awaiting results of a reasonable suspicion drug/alcohol test will be suspended with pay.

Post Accident Testing

(Section 382.303): Drivers are to notify Berger Electric, Inc., immediately if they are involved in an accident.

According to FMCSA regulations (Section 382.303), if the accident involved:

- A fatality,
- Bodily injury with immediate medical treatment away from the scene and the driver received a citation, or
- Disabling damage to any motor vehicle requiring being towed and the driver received a citation

The driver will be tested for drugs and alcohol as soon as possible following the accident. The driver must remain readily available for testing. If the driver isn't readily available for alcohol and drug testing, he/she may be deemed as refusing to submit to testing. A driver involved in an accident may not consume alcohol for eight (8) hours or until testing is completed.

If the alcohol test is not administered within two (2) hours following the accident Berger Electric, Inc. will prepare a report and maintain a record of why the test was not administered within the allotted time.

If the alcohol test is not administered within eight (8) hours following the accident, all attempts to administer the test will cease. A report and record of why the test was not administered will be prepared and maintained.

The drug test must be administered within thirty-two (32) hours of the accident. If the test could not be administered within 32 hours, all attempts to test the driver will cease.

Berger Electric, Inc. will prepare and maintain a record stating the reasons why the test was not administered within the allotted time frame.

Random Testing

(Section 382.305): Berger Electric, Inc. will conduct random testing for all drivers as follows:

- Berger Electric, Inc. will use a consortium. The consortium will use a selection process based on a scientifically valid method, developed by FMCSA regulations.

- The consortium administrator will administer the random testing program, maintaining all pertinent records on random tests administered.

At least ten (10) percent of Berger Electric, Inc.'s average number of driver's positions will be tested for alcohol each year. At least fifty (50) percent of Berger Electric, Inc.'s driver's positions will be tested for drugs each year.

The random testing will be spread reasonably throughout the calendar year. All random alcohol and drug tests will be unannounced, with each driver having an equal chance of being tested each time selections are made.

A driver may only be tested for alcohol while he/she is performing a safety-sensitive function, just before performing a safety-sensitive function, or just after completing a safety-sensitive function.

Once notified that he/she has been randomly selected for testing, the driver must proceed immediately to the assigned collection center or site.

Return To Duty Testing

(Section 382.309): After failing an alcohol test, a driver must undergo a return-to-duty test prior to performing a safety-sensitive function. The test result must indicate a breath alcohol concentration of less than 0.02.

After testing positive for a controlled substance, a driver must undergo a return-to-work test prior to performing a safety-sensitive function. The test must indicate a verified negative result for drug use.

Follow-Up Testing

(Section 382.311): Following the driver's violation of this policy and/or Part 382, Subpart B, through the determination of a SAP that the driver is in need of assistance in resolving the driver's substance abuse problems, the driver will be subject to follow-up testing. Follow-up testing will be unannounced. The number and frequency of such follow-up testing will be directed by the SAP and consist of at least six (6) tests in the first twelve (12) months and follow-up testing may be done for up to sixty (60) months.

Refusal to Submit

(Section 382.211): A driver may not refuse to submit to a post-accident, random, reasonable suspicion, or follow-up alcohol or controlled substances test required by the regulations. A driver who refuses to submit to such tests may not perform or continue to perform safety-sensitive functions and must be evaluated by a substance abuse professional as if the driver tested positive for drugs or failed an alcohol test.

Refusal to submit includes failing to provide adequate breath or urine sample for alcohol or drug testing and any conduct that obstructs the testing process. This includes adulteration or tampering with the urine or breath sample.

A driver refuses to submit to a post-accident, random, reasonable suspicion or follow-up alcohol or controlled substances test required by the regulations will have their employment with Berger Electric, Inc. terminated.

TESTING PROCEDURES

Alcohol Testing Procedures

Alcohol testing will be conducted at a location of Berger Electric, Inc.'s choosing by a qualified breath alcohol technician (BAT), section 49 CFR Part 40 Subpart C procedures will be followed. Only products on the conforming products list (approved by the National Highway Traffic Safety Administration (NHTSA) will be utilized for testing under this policy.

The testing will be performed in a private setting. Only authorized personnel will have access, and are the only individuals who can see or hear the test results.

When the driver arrives at the testing site, the breath alcohol technician (BAT) will ask for identification.

The driver may ask the technician for identification and/or proof of certification.

The BAT will then explain the testing procedure to the driver. The BAT may only supervise one test at a time, and may not leave the testing site while test is in progress.

A screening test is performed first. The mouth-piece of the evidential breath-testing device (EBT) used in the test must be sealed before use, and opened in the driver's presence.

The driver must blow forcefully into the mouthpiece of the testing device for at least six (6) seconds or until an adequate amount of breath has been obtained.

Once the test is completed, the BAT must show the driver the results. The results may be printed on a form generated by the EBT or may be displayed on the EBT. If the EBT does not print results and test information, the BAT is to record the displayed result, test number, testing device, serial number of the testing device, and time on the breath alcohol testing form. If the EBT prints results, but not directly on to the form, the BAT must affix the printout to the breath alcohol testing form in the designated space.

If the reading is less than 0.02, both the driver and the BAT must sign and date the result form. The form will then be confidentially forwarded to Berger Electric, Inc..

If the reading is 0.02 or more, a confirmation test must be performed. An EBT must be used for all confirmation tests.

The test must be performed after fifteen (15) minutes have passed, but within thirty (30) minutes of the first test. The BAT will ask the driver not to eat, drink, belch, or put anything into his/her mouth. These steps are intended to prevent the buildup of mouth alcohol, which could lead to an artificially high result.

A new, sealed mouthpiece must be used for the new test. The calibration of the EBT must be checked. All of this must be done in the driver's presence.

If the results of the confirmation test and screening test are not the same the confirmation test will be used.

Refusal to complete and sign the testing form or refusal to provide breath will be considered a failed test, and the driver will be removed from all safety-sensitive functions until the matter is resolved.

Results: According to FMCSA regulation, the BAT will transmit all results to the employer in a confidential manner. The results will be transmitted via a phone call followed by a written document, and must be done in a timely fashion so Company can prevent the driver who fails an alcohol test from performing any safety-sensitive functions. If the initial transmission is not in writing, the BAT must send a copy of the driver's breath alcohol testing form as soon as possible.

Drug Testing Procedures

Drug testing will be conducted at a location of Berger Electric, Inc. choosing. Specimen collection will be conducted in accordance with 49 CFR Part 40, Subpart B, and any applicable state law. The collection procedures have been designed to ensure the security and integrity of the specimen provided by each driver. The procedures will strictly follow federal chain of custody guidelines.

A drug testing custody and control form will be used to document of chain of custody from the time the specimen is collected at the testing facility until it is tested at the laboratory.

As well as the use of a custody and control form, test preparation includes:

- Use of a clean, single use specimen bottle that is securely wrapped until filled with specimen.
- Use of a tamperproof seal system designed in a manner that the specimen bottle can be sealed, revealing any unauthorized tampering (including unauthorized opening of the bottle). The system must allow for identification of the test subject, either by number of some other confidential mechanism.
- Use of a shipping container for transporting the specimens and associated paperwork, which can be sealed and initialed, to prevent undetected tampering.
- Written procedures and instructions for the collection site person.

The collection of specimen must be conducted in a suitable location and must contain all necessary personnel, materials, equipment, facilities, and supervision to provide for collection, security, and temporary storage and transportation of the specimen to a certified laboratory.

When the driver arrives at the collection site, the collection site employee will ask for identification. The driver may ask the collection site person for identification. The driver will be asked to remove all unnecessary outer garments (coat, jacket) and secure all personal belongings. The driver may keep his/her wallet. The driver will then wash and his/her hands. After washing hands, the driver must remain in the presence of the collection site person and may not have access to water fountains, faucets, soap dispensers, or other materials that could adulterate the specimen. The driver is then instructed to provide his/her specimen in the privacy of a stall, or otherwise portioned area that allows for privacy.
The specimen must consist of at least forty-five (45) ml of urine. The sample must be split in front of driver into a primary specimen of thirty (30) ml and a second specimen (used as the split) of fifteen (15) ml. Both bottles must be shipped in a single shipping container.

Within four (4) minutes after obtaining the specimen, the collection site person will measures its temperature. This acceptable temperature range is 90-100 degrees Fahrenheit. The collection site person will also inspect the specimen for color and look for any signs of contamination or tampering. Unusual signs must be noted on the collection form. Whether the specimen is suspected of being tampered with or not, it must be forwarded to the lab for testing.

If the collection site person believes the specimen was tampered with, a second specimen must be obtained as soon as possible under the direct observation of a same gender collection site person.

The specimen must be kept in the view of the collection site person and driver at all times prior to the specimen being sealed and labeled. The specimen must be sealed and labeled by the collection site person in the presence of the driver. The identification label must be placed securely on the bottle and must contain the date, the individual specimen number, and any other identifying information required. The driver must initial the identification label on the specimen bottle, certifying the specimen collected was his/hers.

The collection site person must enter all identifying information on the custody and control form. The collection site person, certifying collection was accomplished in accordance what the instructions provided, and must sign the form. The driver must also sign this form indication the specimen was his/hers.

Laboratory Analysis: As required by FMCSA regulations, only a laboratory certified by the Department of Health and Human Services (DHSS) to perform urinalysis for the presence of controlled substances will be retained by Berger Electric, Inc.. The Laboratory will be required to maintain strict compliance with federally approved chain-of custody procedures, quality control, maintenance, and scientific analytical methodologies.

All specimens are required to undergo an initial screen followed by confirmation of all positive screen results. The confirmation process is done by gas chromatography/mass spectrometry (GC/MS), revealing a specific, scientific level of drug contained in a collected specimen.

Results: According to FMCSA regulations, the laboratory must report all test results directly to Company medical review officer (MRO) within an average of five (5) working days. All results, positive and negative, must be reported. Only specimens confirmed by the GC/MS as positive are reported as positive.

The MRO is responsible for reviewing and interpreting all positive results. The MRO must determine whether alternate medical explanations could account for the positive test results. The MRO must also give the driver who tested positive an opportunity to discuss the results prior to making a final determination that the test was positive. After the decision is made, the MRO must notify Berger Electric, Inc..
If the MRO, after making and documenting all reasonable efforts, is unable to contact a tested driver the MRO shall contact Berger Electric, Inc.. This company official will arrange for the driver to contact the MRO before going on duty.

The MRO may verify a positive test without having communicated what the driver about test results if:

- The driver expressly declines the opportunity to discuss the results of the test.
- Neither the MRO or employer has been able to make contact with the driver for fourteen (14) days or

- Within five (5) days after a documented contact by designated company official instructing the driver to contact the MRO, the driver has not done so.

Split Sample: As required by FMCSA regulations, the MRO must notify each driver who has tested positive that he/she has seventy–two (72) hours to request the test of the split specimen. If the driver requests the testing of the split, the MRO must direct (in writing) the lab to provide the spilt specimen to another certified laboratory for analysis. The driver will pay for the testing of the split specimen.

If the analysis of the spit specimens fails to reconfirm the presence of the drug(s) or drug metabolite (s) found in the primary specimen, or if the split specimen is unavailable, inadequate for testing, or unstable, the MRO must cancel the test and report the cancellation and the reasons for it to the DOT, Company and the driver.

Specimen Retention: Long term frozen storage will ensure that positive urine specimens will be available for any necessary retest. Company designated drug testing laboratory will retain all confirmed positive specimens for at least one (1) year in the original labeled specimen bottle.

CONFIDENTIALITY/RECORDKEEPING

All driver alcohol and controlled substance test records are considered confidential (Sec.382.401). For the purpose of this policy/procedure, confidential record keeping is defined as records maintained in a secure manner, under lock and key, accessible only to Berger Electric, Inc. Designate Representative.

If Berger Electric, Inc. Designate Representative is unavailable, the President of Berger Electric, Inc. will have access to the alcohol and controlled substance e records.

Driver alcohol and controlled substance test records will only be released in the following situations:

- To the driver, upon his/her written request.
- Upon request of a DOT agency with regulatory authority over Berger Electric, Inc.
- Upon request of state or local officials with regulatory authority over Company
- Upon request y the United States Secretary of Transportation
- Upon request by the National Transportation Safety Board (NTSB) as part of an accident investigation
- Upon request by subsequent employers upon receipt of a written request by a covered driver
- In a lawsuit, grievance, or other proceeding if it was initiated by or on behalf of the complainant and arising from results of the tests
- Upon written consent by the driver authorizing the release to a specified individual

All records will be retained for the time period required in Sec.382.401.

NOTICE OF NO EXPECTATION OF PRIVACY IN CONNECTION WITH EMPLOYMENT SEARCHES AND INVESTIGATIONS

Berger Electric, Inc. reserves the right to investigate and to interview employees in the course of implementing and enforcing this Policy, and other policies of Company, to require truthful answers to inquiries in connection with such investigations and inter views, to conduct searches of employees' persons vehicles, work stations and locations, clothing, purses, briefcases, luggage, personal items, other possessions, documents, and any other articles within their possession or control while employees are on duty, on Company or customer property or while operating or being transported in a commercial motor vehicle or any other vehicle used, at that or any other time, in the service of Berger Electric, Inc., and to conduct the tests provided for in the Policy. Company may, in its sole discretion, seize any items that it deems to represent possible evidence of a violation of this Policy or other Company policies or state or federal law. An employee's refusal to submit to such investigations, interviews, searches and seizures, or to required tests, may lead to disciplinary action up to and including discharge.

EMPLOYEE ASSISTANCE

Driver Education and Training: (Sec. 382.601): All drivers will be given information regarding the requirements of Part 382 and this policy by their Company. All drivers will be given a copy of this policy and a publication that explains the effects of alcohol and drugs.

Supervisor Training: According to FMCSA regulation, all employees of Company designated to supervised drivers will receive training on this program. The training will include at least 60 minutes on alcohol misuse and 60 minutes on drug use. The training content will include the physical, behavioral, speech, and performance indicators of probable alcohol misuse and drug use. The training allows supervisors to determine reasonable suspicion that a driver is under the influence of alcohol or drugs.

Referral, Evaluation, and Treatment (Sec. 382.605): According to FMCSA regulation, a list of substance abuse professionals will be provided to all drivers who fail an alcohol test or test positive for drugs. The employee will pay for the evaluation by the SAP and any treatment required.

According to FMCSA regulations, prior to returning to duty for Berger Electric, Inc., a driver must be evaluated by a SAP and must complete the treatment recommended by the Substance Abuse Professional (SAP). Successful completion of a return to duty test and all follow-up tests is mandatory. A driver who fails to complete an evaluation by the SAP, treatment recommended by the SAP, a return to duty test, or a follow-up test will be suspended without pay until the driver is qualified to drive.

CONSEQUENCES FOR VIOLATIONS

According to FMCSA regulation, no person who has failed an alcohol or drug test, or refused to test, will be allowed to perform safety-sensitive functions until the referral, evaluation, and treatment requirements have been complied with. The following Company disciplinary measures apply to all reasonable suspicion, post accident, and random tests.

Drivers committing violations under this Policy (including testing positive for controlled substances or receiving alcohol test results showing alcohol concentration of at least 0.04) will be removed from all driving and any other work duties.

After removal from driving and other work duties, employees will be referred to a Substance Abuse Professional (SAP) and will be notified of resources to evaluate and resolve problems associated with controlled substances use and misuse of alcohol. The SAP will evaluate whether the employee needs assistance with alcohol or controlled substances problems and will prescribe and oversee any necessary rehabilitation programs. After referral to the SAP, drivers will not be allowed to return to duty until:

- At least 24 hours have passed
- The driver has passed a return-to-duty alcohol and/or controlled substances test
- The driver has reported to the SAP, and has cooperated with and recommenced any SAP referrals or treatment or rehabilitation recommendations to Company satisfaction; and
- Appropriate discipline has been imposed. In addition, once back on duty, drivers will be required to pass unannounced follow-up alcohol and/or controlled substances tests, consistent with the SAP"s evaluation.

Drivers will bear the costs of referral, treatment or rehabilitation under this provision. Applicants who refuse to submit to or fail a pre-employment controlled substance test are not eligible for employment.

In addition to the preceding consequences, any driver who violates this Policy, tests positive for controlled substances, or shows alcohol concentrations of 0.04 or more, will be suspended without pay for three (3) days**.** The employee will also be subject to additional disciplinary action up to and including discharge if he/she has previously hand low (or high) level positive alcohol test results or other drug or alcohol related policy violations, or if this result represents failure to adhere to a rehabilitation program.

If a driver's alcohol test shows an alcohol concentration between 0.02 and 0.039 percent**,** the employee shall be removed immediately from driving, or any other safety-sensitive duty, and placed on unpaid status for one (1) day. The employees will also subject to additional disciplinary action up to and including discharge if he/she has previously had low(or high) level positive alcohol test results or other drug or alcohol related policy violations, or if this result represents failure to adhere to a rehabilitation program.

ACKNOWLEDGMENT OF RECEIPT, REVIEW AND UNDERSTANDING OF COMPANY NAME'S ALCOHOL AND CONTROLLED SUBSTANCE POLICY

I certify that I have received and reviewed a copy of Berger Electric, Inc. Alcohol and Controlled Substance Policy and understand that Berger Electric, Inc. requires its drivers to work under and to abide by this policy. I understand that Berger Electric, Inc. and its agents may, in the course of implantation and enforcement of this Policy:

- Investigate and interview me
- Search my person, my work locations and vehicles and any property, documents or to there articles in my possession or control
- Administer to me urine and/or breathe analysis tests for drugs or alcohol
- Use the results of such interviews, investigations, searches and tests, any refusal to submit to or cooperate in such interviews, investigations, searches and tests as well as other relevant evidence, in determining whether to hire me as an employee, to refer me for evaluation or rehabilitation, or to discipline or discharge me as an employee of Company Name.

In addition, I acknowledge that this Policy is not intended to confer third-party beneficiary status upon any third and does not create any affirmative obligations or duties for Berger Electric, Inc. aside from those expressly required by stature. I also acknowledge receipt of a copy of this signed Acknowledgment Form.

Employee/Applicant: _____

Signature

Name of Employee/Applicant: _____

Printed

Witness: _____ Date: _____