SAFETY MANUAL

RHMC

Rock Hill Mechanical Corporation

2021 REVISION

RHMC SAFETY MANUAL INDEX

Rock Hill Mechanical Corporation

SAFETY AND HEALTH POLICY

It is the intent of Rock Hill Mechanical Corporation (RHMC) to have the highest regard for safety and the law. To accomplish this, we must constantly be aware of conditions in all work areas that can produce injuries. No employee will be required to work at a job that he or she knows is not safe or healthy. Your cooperation in detecting hazards and, in turn, controlling them is a condition of your employment. Cease activities immediately and inform your supervisor of any situation beyond your ability or authority to correct.

A. All management employees are responsible for implementing this policy, by setting examples and by maintaining dedicated interest to operations within their respective responsibilities.

B. The Project Manager (PM) has full responsibility to implement this policy, by setting examples and by maintaining dedicated interest to operations within their respective responsibilities.

    1. The PM shall actively support the program as an example to other RHMC employees, and with the deeds, decisions, and directives it may require.

    2. The PM shall be cognizant to regulations pertaining to safety and health and utilize such information in directing project activities.

    3. The PM has the duty to enforce safety rules and regulations to all persons entering the project.

    4. The PM may delegate authority to others under their supervision to expedite and facilitate the application of the safety program.

C. Each Supervisor/Foreman will be responsible to create and maintain a safe and sanitary working environment and to ensure that all rules and regulations are enforced and complied with.

D. Employees are responsible for compliance with all company Safety and Health rules and regulations and with all Federal, State, and Local rules and regulations that are applicable to their own actions and conduct.

SAFETY PROCEDURES AND RULES

The following listed notes are not to be construed as a cure-all for safety. Safety is everyone's responsibility. If there are any questions about safety rules or regulations, they should be presented to the Safety Director.

1. Information for all products being used on site, in the warehouse, and in the office, will be provided and made available to all RHMC employees. Along with notification of any other safety hazards known to be in the work area.

2. Eye protection with side shields are to be worn on **ALL** RHMC projects.

3. Hard hats are to be worn on **ALL** RHMC projects.

4. Ear protection is to be worn when required.

5. Accident reports are to be completed by the Project Manager or a designated Foreman under their supervision.

6. Breathing apparatus', such as respirators or other prescribed equipment, will be furnished by RHMC when required.
7. Guards for power tools such as grinders, skill saws, etc. shall be left intact. Guards shall **NOT** be removed for any reason.
8. Handrails will be installed on any scaffolding over ten (10) feet high and a safety harness will be worn anywhere above six (6) feet.
9. Ladders must be inspected, secured, and properly marked and tagged.
10. All extension cords and power tools are to be grounded.
11. Gas and air regulators are to have burn back protection.
12. RHMC employees will use RHMC provided locks to secure all electrical switches or valves associated with our work. See Safety Lock Out/Tag Out Policy and Procedures.
13. A list of medical services and emergency phone numbers will be placed in clear view at each job site.
14. RHMC employees are to remain in their assigned work area and keep the work areas and lunch area clean and orderly.
15. RHMC will furnish first aid kits for every job with enough supplies for a minimum of 10 men.
16. Weekly toolbox meetings will be held by the job site supervisor, will be documented, and all employees working on the job shall sign an attendance sheet.
17. All equipment, regardless if rented, leased, subcontractor or RHMC owned, must be in good working condition before work can begin.
18. The use of alcohol, drugs, or any substance without a doctor prescription may result in immediate dismissal.
19. Horseplay of any kind is not permitted.
20. No person shall be permitted to carry firearm(s) or any other illegal lethal weapons including knives on RHMC property or in any RHMC vehicles.
21. The use of private/personal cell phones during working hours is to be limited to the following:
    - Lunch time, organized break periods, and in the case of a family emergency. Violators will be subject to the Safety Rule Violation Policy.

SAFETY RESPONSIBILITIES

Safety is the functional responsibility of **EACH EMPLOYEE**, they have the right to demand safe operations. It is the obligation of Rock Hill Mechanical Corporation to teach employees to work safely. Specific duties and responsibilities of all personnel under the firm's safety program are as follows:

Safety Director

Responsible for directing all safety activities and is accountable to senior management. The function of the Safety Director will be carried out by the Director or his designate. Authority has been granted for them to immediately stop or modify any situation endangering life or property.

- Provide services and technical advice needed for proper administration of the safety program to all levels of management.
- Work with the Project Manager/Superintendent toward the elimination of all unsafe conditions on the job site by developing safety procedures during the pre-job conference.
- Formulate, recommend, and administer approval changes in the safety program.
- Prepare and distribute to upper management monthly reports on the status of safety. Also provide project manager's with accident statistics on their jobs via the company's monthly reports.
- Advise all levels of management on matters pertaining to safety, including establishing a "chain of command" and a network to communicate safety matters within the organization.
- Review all accident investigation reports, provide input, personally investigate serious accidents, and ensure corrective action is taken to eliminate accident causes.
- Cooperate with project management personnel in the safety training of employees, to ensure that new employees receive orientation on their first day and that weekly safety meetings are held.
- Conduct monthly job site inspections and discuss results with Project Managers, Safety Coordinators, or Superintendents.
- Oversee operations for compliance with applicable Federal, State, and Local safety laws and codes.
- Recommend programs and activities that will develop and maintain awareness and motivation of employees in safety.
- Recommend disciplinary procedures for repeated violators of safety rules.
- Develop specific safety programs for unusually hazardous jobs when the corporate program is inadequate.
- Assist the Project Manager in selecting proper personal protective equipment appropriate for each job.
- Assist the Project Manager in developing emergency procedure plans appropriate for each job.
- Ensure that all required posters and notices (I.e. OSHA 300 Logs) are posted.
- Provide the Project Managers with lists of medical facilities and emergency numbers prior to start of the job.
- Advise the President of RHMC immediately of any serious accident.

Project Manager/Superintendent

Responsible for total job safety including subcontractor's activities.

- Obtain copies of each safety program and require all personnel to comply with applicable safety regulations(s), Federal, State, and Local, plus RHMC’s safety program.
- Arrange meetings with appropriate supervisory staff of all subcontractors to discuss and resolve any safety issues to ensure full implementation and compliance of RHMC safety program.
- See that all employees on their job are aware of and comply with requirements for safe work practices, and that safe conditions are maintained on job sites.
- Ensure that all employees receive a safety orientation on their first day, and submit documentation to the Safety Director.
- Conduct safety inspections of the work area weekly, direct corrective action for all unsafe conditions noted, and submit to the Safety Director documentation of inspection results.

- Involve their self and review all accidents with first-line supervisors. Submit an initial accident investigation report to the Safety Director within 24 hours and assure that corrective action is taken immediately to alleviate the cause(s).
- Submit documentation to the Safety Director after all weekly safety/tool box meetings.
- Initiate disciplinary action as needed for safety violators (safety citations, 3-strike policy, and termination).
- Ensure that injured employees get treatment at an authorized medical provider.
- Require all employees under their supervision to utilize the proper individual protective equipment and job safety devices.
- Provide accurate information and recommendations ("feedback") to the Safety Director concerning safety matters.

Safety Administrator

Responsible for enforcement of the company's safety program.

- Process all paperwork associated with any accident(s) and distribute to, as necessary by OSHA, insurance carriers, medical facilities, and in-house personnel.
- Distribute all First Reports of Injuries to the Vice President of Construction and the Safety Director.
- Maintain permanent records for company files pertaining to safety statistics.
- Prepare all notices required by OSHA, State, and other appropriate agencies for posting at each construction project location in accordance with designated time regulations (Example: OSHA 300 Annual Summary of Injuries and Illnesses) by sending them to the Project Manager(s) with instructions for posting.

First Line Supervisor/Foreman

Responsible for the safety of all employees under their supervision and for the safe conditions of their work area on the job.

- Correct and coordinate safety activities within their area of responsibility, including the motivation of employees for safe work practices.
- Assure that safety devices and proper individual protective equipment are used by persons under their supervision.
- Instruct all persons within their area of the responsibilities of job safety and health requirements and insist on compliance.
- Submit documentation of weekly safety meetings to the Safety Director.
- Ensure that injuries are treated promptly at an authorized medical facility and reported properly by submitting a First Report of Injury within 24 hours of the incident to the home office.
- Assist in investigating all accidents by completing an initial accident investigation report and submit it to the Safety Director within 24 hours.
- Perform continuous daily "informal" job site inspections and, by corrective actions, eliminate unsafe conditions immediately or stop work and then report to the Project Manager on any corrective actions needed that are beyond their control.
- Conduct new employee orientation with new employee(s) on their first day and submit documentation for each to the Project Manager to forward to the Safety Director.

All Employees

Responsible for conducting his or herself in a safe manner at all times.

- Be familiar with and comply with all safety and health practices, rules, and regulations as a condition of employment.
- Use the required safety devices and proper personal protective safety equipment needed to perform the job safely.
- Notify the supervisor immediately of unsafe equipment conditions and acts.
- Report all injuries and accidents to the supervisor immediately.
- As a condition of employment, abide to all of RHMC safety rules.
- Attend and complete new employee orientation to the satisfaction of management.
- Attend all job site safety meetings.
- Get medical attention whenever he or she is injured from doctors authorized by RHMC.

ORIENTATION

The health, welfare, and safety of RHMC employees is the prime objective for all employees. Therefore, the following rules and regulations have been selected as a minimum standard. They do not cover all hazards that workers will be faced within the course of their work. Specific hazards will require special attention.

1. Work as carefully as possible at all times.
2. Report any unsafe condition to your supervisor and/or foreman.
3. Obey all safety and warning signs.
4. Hard hats, safety harnesses, goggles and other types of personal equipment, determined by the work being done, must be worn and maintained in good condition.
5. All injuries, no matter how minor, must be reported immediately to your foreman, they will direct you to proper treatment.
6. Intoxicating beverages, illegal drugs, or firearms of any kind are not allowed to be brought on the job site. Fighting, horseplay, practical jokes, or stealing will not be tolerated.
7. All safety requirements and rules must be followed.

SAFETY RULES

For a safety program to be effective, it is vital that rules be established, monitored by responsible individuals, and implemented by all levels of employment.

The following are some of the general rules applicable to our operations that must be enforced on every project contracted by RHMC, this is a partial listing only. The pertinent requirements of OSHA Regulations CFR 29, Part 1926 Safety and Health Regulations for Construction with CFR 29, Part 1910 Identified as Applicable to Construction, also apply in the firm. THESE RULES ARE NOT ALL INCLUSIVE, BUT ONLY GUIDELINES FOR MAKING A SAFE JOB SITE.

GENERAL SAFETY AND HEALTH PRACTICE

- Always use the right tool for the job. Do not use substitutions.
- Inspect all hand and power tools daily. Damaged or defective tools must be tagged “Do Not Use” and returned to your supervisor for repair.
- Understand and follow project emergency procedures.
- All employees must report any unsafe conditions, tools, equipment, and/or practices to their immediate supervisor.
- Familiarize yourself with medical emergency, fire department, and police numbers. Know where to find them posted.
- Obtain First Aid for every injury, no matter how slight.
- Know the locations of and how to operate the fire extinguishers nearest to your work area.
- Horseplay is strictly prohibited.
- All fuel-powered tools must be shut down before refueling.
- During storage, use, and transport compressed gas cylinders must be secured in an upright position.
- All temporary lighting must be protected from breakage.
- Unattended vehicles and equipment must not be left running.
- Never work alone while performing excavation, trenching, or shoring operations.
- Always wear the personal protective equipment required to perform the work, its use is mandatory.
- Signs, barriers, banner tape, and/or barricades shall always be provided as warning of hazards such as; Overhead work, crane swing, excavations, etc.
- Keep your work area clean. Do not leave materials, scraps, or tools where they may be a hazard to others.
- When a hole or floor opening is created during the performance of a work activity, a cover or a barricade must be installed immediately.
- Do not take short cuts. Use provided stairways, walkways, ladders, ramps, and never cross through a barricaded area.
- Remember, safety is everyone’s responsibility. Safety is no accident!

Safety and Health Training Requirements

All affected RHMC employees shall receive safety and health training on the following subjects if applicable to the work they will perform. Some of the training subjects listed below may be covered during safety orientation.

- General Safety and Health Provisions – General Safety and Health Provisions, Safety Training and Education, Hazard Communication
- Occupational Health and Environmental Controls – Medical Services and First Aid, Gases, Vapors, Fumes, Dusts and Mists
- Personal Protective and Life Saving Equipment – Hearing Protection, Respiratory Protection
- Fire Protection and Prevention – Fire Protection
- Signs, Signals, and Barricades – Signaling
- Hand and Power Tools – Power Operated Hand Tools

- Welding and Cutting – Gas Welding and Cutting, Arc Welding and Cutting, Fire Prevention
- Electrical – Ground Fault Protection
- Fall Protection – Fall Protection
- Cranes, Derricks, Hoists, and Conveyors – Cranes and Derricks, Material Hoists, Personnel Hoists
- Excavations – General Protection Requirements
- Demolition – Mechanical Demolition
- Stairways and Ladders – Ladders
- Toxic and Hazardous Substances – Asbestos, Lead, Cadmium, Benzene
- Hexavalent Chromium – Contents of the Standard and Purpose

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NEW EMPLOYEE ORIENTATION

1. Individual Employee Safety Requirements

- PPE
- Work Clothing
- Traffic Rules
- Vehicle Entry
- Housekeeping
- Fighting, Horseplay
- Drugs, Alcohol, Firearms
- Smoking Areas
- Eating Areas
- Special Health Conditions

2. Emergency Procedures

- Emergency Alarms
- Evacuation Plans and Procedures
- Reporting of Accidents/Injuries

3. Daily Inspections

- Identify Potential Hazards
- Improve Pre-Job Planning
- Potential Hazards, if identified, are corrected immediately and discussed at Safety Meetings

4. Safety Meetings

5. Fire Watch Responsibilities (As Necessary)

6. Confined Spaces (As Necessary)

7. Respirators (As Necessary)

- General
- Conditions for Use
- Fitting Instructions and Testing
- Inspection
- Maintenance and Cleaning
- Storage
- Additional Man and Stand By Rules

8. Lockout/Tagout (L.O.T.O) (As Necessary)

9. Hazard Communication (HAZCOM)

- Introduction
- Employee Information and Training
- SDS
- Labels and other forms of Warning
- Hazards Determination
- Common Terms and Definitions
- Multi-Employer Job Sits
- Community Right to Know Reporting Requirements

10. Site Specific Safety Program

- Unsafe Work Condition Awareness
- Safe Work Practices/Procedures
- Awareness/Use of Job-Site Emergency Equipment

11. Safety Violations

12. Substance Abuse Policy

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SAFETY REQUIREMENTS FOR RHMC SUBCONTRACTORS

Subcontractors must prepare and submit to RHMC their Project Safety and Health Program that fully describes their commitment to providing a safe and healthy working environment for their employees. Subcontractors should contribute to and enhance the safety of the job site. Their program shall reference Federal and State OSHA standards, along with other rules and regulations applicable to their construction activities on the project. The Subcontractor's Project Safety and Health Program should contain, but is not limited to, the following subjects:

NEW EMPLOYEE(S) SAFETY ORIENTATION PROGRAM

The Contractor shall provide safety orientation for all new employees to familiarize them with the requirements of their safety program. This should provide the employee with the basic information about the contractor's Project Safety and Health Program, Federal and State OSHA requirements, along with other applicable safety rules and regulations. If necessary, the Contractor shall provide additional safety instructions at a later date for the performance of hazardous or unfamiliar tasks. Employee attendance shall be required, and the records be kept on file in the contractor's office for review by RHMC.

The Contractor's new employee Safety Orientation shall include, but is not limited to, the following subjects:

- Employer/Employee responsibilities under the Federal and State OSHA Safety and Health Act.
- Eye protection with side shields are to be worn on ALL work sites.
- Head protection shall be worn by ALL employees in construction areas.
- Hearing protection for individuals working/visiting in posted designated high noise level areas is required as a condition of employment.
- Respiratory equipment
- Fall protection
- Scaffolding
- Floor/Wall openings and penetration protection
- Housekeeping
- Fire protection
- First Aid facilities and Emergency procedures
- Toxic Substances/Hazard Communication
- Special project requirements and procedures (Smoking, welding and cutting permits, Lock Out/Tag Out, confined spaces, etc.)
- Trenching and Excavating
- Material handling, Rigging procedures, and Crane safety
- Electrical safety

WEEKLY TOOLBOX SAFETY MEETINGS

Contractor shall conduct Weekly Tool Box Safety Meetings to provide its employees with up-to-date safety information relevant to work in progress. Employee attendance shall be required, and records

shall be kept on file in their office for RHMC review at any time, including; subjects discussed, time, date, weather, and any handout materials.

SUPERVISORS SAFETY ORIENTATION

The contractor must familiarize all its supervisory personnel with their safety responsibilities by conducting a Supervisor's Safety Orientation with each supervisor upon assignment or promotion. Each orientation must cover, at a minimum, all of the subjects below. Orientation records shall be kept on file in the Contractor's office for review by RHMC.

1. Contractor's Safety Program – The Contractor shall review its Safety Program in detail with each supervisor.
2. Safe Work Areas – Contractor shall require each of its supervisors to be familiar with the conditions in each area of the project to which its employees are assigned. The Contractor shall direct all its supervisors to correct unsafe conditions that exist in the work area before work begins.
3. Safe Work Practices – Contractor must require each supervisor, when making work assignments, to inform the crew involved of the safety practices, work methods, and personal protective equipment required. Each supervisor shall be responsible for determining that each worker has the proper protective equipment and suitable tools provided for them for their assignment.
4. Supervising for Safety – Supervisors should constantly review the safe practices and procedures used by their crews and initiate corrective action when necessary.
5. Tool Box Meetings – Each supervisor shall conduct a Tool Box Meeting with the entire crew at the time(s) specified.
6. Emergency Procedures – Contractor shall familiarize all supervisors with emergency procedures so that they are able to provide leadership required to cope with serious injuries, fire, evacuations, and/or similar situations.
7. Accident Investigations – Contractor shall require each supervisor to participate in the investigation of any accident which resulted in; personal injury to a member of their crew, equipment or property damage in their area(s) of responsibility, or near misses that are a potential threat to serious injury or death.
8. Accident Reporting – Contractor shall require each supervisor to notify all employees under their supervision of their obligation to immediately report all injuries, however minor, in accordance with established procedures.
9. Fire Protection and Prevention – Contractor shall require its supervisors to maintain awareness of the fire potential in their area of responsibility. If a potential fire hazard is noted, the supervisor must initiate corrective action and notify RHMC.

INCIDENT REPORTING

Contractor shall cooperate with RHMC in investigating any major safety related incidents. Additionally, the contractor shall immediately investigate and submit to RHMC written reports of any accident wherein injuries or fatalities occur, or which results in damage or loss of property. These reports shall be submitted within 24 hours of the occurrence.

SAFETY INSPECTION

The contractor's Project Manager, or a designated representative, shall make a general inspection of the project weekly, and shall take appropriate measures to have all unsafe conditions and unsafe acts corrected immediately.

Should a life-threatening condition be discovered, the inspector shall be authorized to shut down that portion of the work until conditions are safe. All weekly inspections shall be documented, and corrective responsibilities identified. All unsafe acts or conditions shall be reported to the RHMC Project Manager immediately.

SUBCONTRACOR JOB SITE RESPONSIBILITIES

- Erecting and maintaining all required barricades associated with their work that may be needed to protect all employees.
- Posting any signs, tags, or other posting requirements that will advise employees of unsafe or conditions, personal protection equipment use, areas to exercise caution, etc.
- Install guardrails and toe boards on any scaffold 10 feet in height and above and must require employees to wear the necessary fall protection equipment.
- Ensure that all employees exposed to fall heights of 6 feet or greater will wear full body harnesses and are tied off per OSHA Fall Protection Guidelines.
- Have a program for securing and marking floor, wall, and roof openings to protect employees from falls.
- Have a Confined Space Entry Procedure. The procedure shall include training, posting, testing, monitoring, and record keeping.
- Advise its employees of RHMC's Substance Abuse Policy that prohibits the use, possession, sale, and distribution of alcohol, drugs, or other controlled substances on its project. Also, to prohibit the presence of individuals with such substances in their body for non-medical reasons in the work place. Any person who is found in violation of this policy shall be removed or barred from the project premises.

DRUG AND ALCOHOL POLICY

Rock Hill Mechanical is committed to the safety of our employees. To help ensure a safe, healthy, and productive work environment, it is our intention to establish a drug free workplace and to maintain compliance with the Drug Free Workplace Act.

RHMC has adopted the Plumbers and Pipefitters Local 562/MCA/PIC Drug and Alcohol Testing Policy and Program (January 1, 2013).

Full compliance with the following policies, rules, and procedures are a condition of employment with RHMC. Employees who have questions or concerns regarding the policy should contact the Safety Director for additional information.

PROGRAM OBJECTIVE

The objective of the Drug and Alcohol Testing Policy is to provide consistent, fair, and manageable procedures for drug and alcohol screening of applicants and employees that will be accepted by participating contractors and job site Owners, and to maintain a central database of participating individuals in order to expedite their employment and success to job sites.

Use, possession, or being under the influence of any illegal/unauthorized drug, legal drug and/or alcohol during working time is strictly prohibited.

It is a violation of this policy for employees to report to work, or to enter onto any company premises, while under the influence of alcohol and/or illegal or unauthorized drugs.

Failure to submit to any drug or alcohol texting under this policy, including, but not limited to; failure to report in a timely manner to a collection site, sign any required consent form, or otherwise fully cooperate in the collection of any specimen, is also strictly prohibited.

Any employee who violates this policy will be subject to disciplinary action, up to and including, immediate termination.

Sample Collections

Certified Collection Specialists and Breath Alcohol Technicians will collect all samples, utilizing Substance Abuse & Mental Health Services Administration (SAMHSA) procedures to ensure both proper chain of custody protocols and employee confidentiality are met. All samples will be collected with concern for each employee's personal privacy, dignity, and confidentiality. The Third-Party Administrator (TPA) shall provide the following 3 options for drug and alcohol screening collections:

1. Mobile On-Site Collections: Certified collectors are to conduct the substance abuse collections at the job site, the employer's office, or union hall.
2. Clinical Collections: The TPA shall make arrangements with clinical collection sites for testing of employees.
3. TPA Office Collections: Substance abuse collections are available at the TPA office in the area.

Federal Contracts

All employees working on jobsites that are under federal contract with the company in excess of $25,000.00 must abide by this policy as a condition of their employment. This requirement and those that follow are mandated by the Federal Law H.R. 5210, Drug Free Workplace Act of 1988. Any employee found in violation of this policy is subject to immediate discharge. All employees are required to report to the company any conviction on a criminal drug offense within 5 days after said conviction. The company will notify the Federal Contracting Agency of Criminal Drug Convictions within 30 days after it has received notice.

HAZARD COMMUNICATION PROGRAM

POLICY

It is the policy of RHMC to perform work in the safest manner possible. It is a condition of employment for employees of RHMC to acknowledge that they have received a briefing on the program and they agree to follow all directions, written, verbal, and visual, pertaining to this program. This written Hazard Communication Program will be available upon request to employees, their designated representative(s), emergency personnel, and interested members of the community.

PURPOSE

The purpose of RHMC Hazard Communication Program is to inform its employees of the Occupation Safety and Health Administration (OSHA) Regulation 29CFH 1926 Sub Part D Section 1926.59 which requires that employees be informed concerning hazards from chemicals that they may encounter at the workplace and appropriate protective measures they can take. This program describes the major subjects of the OSHA Regulation; however, the entire section is to be strictly observed and followed. The objective of the Hazard Communication Program is:

1. To safeguard our employees' health by providing a management guide for safe compliance.
2. To provide our employees, subcontractors, and licensed vendors with necessary information concerning health and physical hazards of the chemical materials in use at the workplace.

PROGRAM ELEMENTS

The major elements of the RHMC Hazard Communication Program include the following:

- Listing of all chemical products used at company work places or stored on company property
- Hazard identification of all chemicals, in use or stored, at company workplaces
- Labeling of all containers of all chemicals used
- Provide Safety Data Sheets for hazardous chemicals used by the company
- Identify operations or tasks in the employees work area that use hazardous chemicals
- Training of employees in the safe-handling and use of chemicals

CHEMICAL LISTS

RHMC maintains an inventory of all known chemicals used on the jobsite. A chemical inventory list is available from the Corporate Office.

A list of all chemicals, used or stored, at RHMC workplaces will be assembled and maintained and will be updated in a timely fashion.

LABELS AND OTHER FORMS OF WARNING

Each container of hazardous chemicals, regardless of size, shall be labeled, tagged, or otherwise marked to show the identity of the hazardous chemicals and the appropriate hazard warnings. Employees shall be trained on how to read and interpret warning labels.

All incoming labels shall be checked for identity, hazard warning, and name and address of manufacturer or supplier. Each supervisor shall be responsible for seeing that all portable containers used in their work area are labeled with identity and hazardous warning.

SAFETY DATA SHEETS (SDS)

The Globally Harmonized System (GHS) relies on Safety Data Sheets from suppliers for purposes of hazard determination. Employees will be trained in the use of Safety Data Sheets to include their location and availability, in order to avoid and/or lessen potential hazards.

- The Safety Director will be responsible for compiling the master SDS file. It will be kept at the Corporate Office, 524 Clark Avenue, Kirkwood, MO 63122.
- Copies of SDS' for all hazardous chemicals provided by the employer, to which employees may be exposed, will be kept at the workplace. SDS' will be available for review for all employees.
- The SDS' shall be requested for all purchase orders. A file of follow-up letters shall be maintained for all shipment received with SDS'.

TRAINING

Employees shall be trained according to a written Globally Harmonized System training plan that is part of RHMC's overall Hazard Communication Program. Training shall extend to non-routine tasks, as necessary, and to foreseeable hazards.

Orientation training shall be provided to all newly hired employees who will be routinely exposed to hazardous materials provided by the employer. When an employee is reassigned or transferred to a different work place where the employee may be exposed to a different set of hazardous chemicals provided by the employer, reorientation training will be provided.

The training shall include the following items according to individual requirements:

1. Explanation of the Globally Harmonized System
2. Employee rights and responsibilities
3. Introduction to the written GHS Program
4. Dissemination of Hazard information
5. Availability and interpretation of SDS'
6. Labeling and place carding procedures
7. Physical and health hazards of chemicals in the work place
    - Flammable Materials
    - Corrosive Materials
    - Toxic Materials
    - Explosives
    - Oxidizers
    - Carcinogens
    - Adhesives
    - Lubricants
    - Irritants
    - Sensitizers
    - Protective Procedures
    - Protective Equipment
    - Procedures for Non-Routine Tasks

After attending the training class, each employee will sign a form stating that they received training in accordance with the RHMC Hazard Communication Program. EVERY TRAINING SESSION FOR EMPLOYEES MUST BE RECORDED.

HAZARDOUS NON-ROUTINE TASKS

Prior to starting work on a hazardous, non-routine task, each employee will be given information about hazards involved. This information will include:

- Specific chemical hazards
- Protective/Safety measures the employee should take

CONTRACTS

All contracts signed by RHMC shall be reviewed by the Safety Director to determine what contractual requirement, if any, exists with regard to Hazard Communications. These requirements shall be communicated to the appropriated person in the organization and necessary action taken.

MULTI-EMPLOYER WORK SITES

While each contractor is responsible for its own employee training, RHMC will attempt to answer other contractor's employee's questions about work place hazards. At each multi-employer work site, RHMC will notify all other employers at the site as to the location of SDS information on materials used at the site and shall request the same information from all other employers. This will be accomplished by completing the following form letter (Sample included on the following page), sending to all principal contractors, and to the owner. A copy of this letter and all responses shall be maintained in the project files and Hazard Communication Manual at the site. If no response is returned within 2 weeks, a follow-up letter shall be transmitted until an appropriate response is made.

COMMUNITY RIGHT-TO-KNOW REQUIREMENTS

When required, RHMC will submit a list of hazardous materials that are present at company facilities to:

1. The local emergency planning committee
2. The state emergency response commission
3. The local fire department

The list shall be updated as the material in use at RHMC changes.

ADMINISTRATIVE RESPONSIBILITY

Administrative responsibilities for this program are hereby delegated to the Safety Director. The Safety Director will be responsible for the execution and continual audit of this program on a day-to-day basis and is hereby given the necessary authority to perform his responsibilities.

Rock Hill Mechanical Corporation

HAZARD COMMUNICATION FORM

Project Name: _____

To: _____

Date: _____

This form is to notify your company that Rock Hill Mechanical is working at the above referenced project, and as part of our Hazard Communication Program, we are informing you as to the location and availability of our SDS information for the material used by RHMC on this project. Please forward this information to all appropriate personnel in your organization and any subcontractors you may have.

RHMC Hazard Communication information is located:

_____

RHMC will be performing these special operation which will require precautionary measures:

_____
_____
_____
_____
_____
_____

_____

(RHMC Project Manager)

RHMC HAZARD COMMUNICATION TRAINING PROGRAM

INTRODUCTION

OSHA's Hazard Communication Standard of 1985 was initially designed to alert manufacturing employees about work place chemicals by providing better access to information on their health and physical hazards, emergency and first aid procedures, and safe handling precautions. In August 1987 OSHA expanded its standard to non-manufacturing employers as a result of evidence from studies indicating that some employees in every SIC Code were being exposed to hazardous chemicals.

The expanded OSHA Hazard Communication Standard requires:

- Non-manufacturing employers to establish a hazard communication program to inform their employees by means of Safety Data Sheets, labels on containers, and training programs about the hazards of chemicals they come in contact with on their jobs. This requirement must be in place by May 23, 1988.
- Chemical manufacturers, distributors, and importers to provide SDS' to all non-manufacturing employers or distributors after September 23, 1987.

OSHA's expanded standard preempts state laws covering hazard communication in states that do not have OSHA approval for state hazard communication laws in states operating their own OSHA program. In states where employers are obligated under the Emergency Planning and Community Right-to-Know Act of 1986, those employers included the Hazard's Communication Standard will be required to submit chemical hazard information to state and local governments and the surrounding communities.

OSHA revised the Communicating of Hazard Information standard (29 CFR 1910.1200) in March of 2012, by adopting the Globally Harmonized System (GHS).

The purpose of GHS is to promote common, consistent criteria for classifying chemicals according to their health, physical, and environmental hazards and to encourage the use of compatible hazard labels, safety data sheets for workers, and other hazard communication information based on the resulting classifications. By doing so, the GHS is intended to enhance public health and environmental protection as well as reduce barriers to trade.

EMPLOYEE INFORMATION AND TRAINING

1. All employees shall be informed that RHMC is required by law to have a chemical hazard communication program.
2. All employees shall be informed of the details of RHMC's chemical hazard communication program. The detailed information should include:
    a. The location of all hazardous chemicals used by the company.
    b. A list of all chemicals used or stored at RHMC that will be updated and maintained in a timely fashion to reflect the chemicals actually in use or stored. These lists will be maintained in a central file at RHMC, 524 Clark Avenue, Kirkwood, MO 63122 and will be available to employees upon request.
    c. Copies of SDS' for all hazardous chemicals provided by the employer, to which employees may be exposed, will be kept in a binder at the work place. SDS' will be available for review to all employees.

   d. Specific questions or tasks will be kept in the employees work areas that use hazardous chemicals.
3. All employees will receive the following training:
   a. How to detect the presence of hazardous chemicals
   b. Specific physical and health hazards of hazardous chemicals in their work area
   c. Protective measures including; specific work procedures implemented by RHMC and the use of personal protective equipment
   d. Understanding, interpreting, and using hazard information and data provided on chemical labels and SDS'

TRAINING ASSIGNMENT AND RESPONSIBILITY

The Safety Director or the Project Manager will train all new employees in the hazard communication program as specified above. This training will be part of the new employee's general orientation and will take place before the new employee begins work.

Additionally, the Safety Director or Project Manager will train existing employees whenever new hazardous chemicals are introduced into the work place, or exiting employees are reassigned to new positions where they may be working near new hazardous chemicals.

SAFETY DATA SHEETS

The Safety Data Sheet (SDS) for each hazardous chemical in your work place explains how to use, handle, and store the chemical in a safe manner. Because SDS' are written by manufacturers, each one may look different; however, they all contain the same basic information.

The SDS' have 16 sections, the following is an overview of the information included on each sheet by section.

SECTION 1 – CHEMICAL IDENTIFICATION

This first section helps you identify the chemical by listing its name, any trade names, and the chemical manufacturer's name and address. There is also usually an emergency phone number provided.

SECTION 2 – HAZARD IDENTIFICATION

This section identifies the hazards of the chemical. It provides the hazard class and category of the chemical. The signal word, hazard statement(s), symbol(s), and precautionary statement(s) from the chemicals label are given.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

The third section of an SDS reveals the ingredients of the hazardous chemical.

SECTION 4 – FIRST AID MEASURES

First aid measures are listed here, including what to do if someone is accidentally exposed to the chemical, broken down by the ways the chemical can enter your body.

SECTION 5 – FIRE FIGHTING MEASURES

This covers what fire fighters need to know in an emergency involving the chemical.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

This explains what to do if the hazardous chemical leaks or spills.

SECTION 7 – HANDLING AND STORAGE

Tells you how to safely handle and store the chemical.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Explanation of how much of the chemical it would take to harm you and what precautions you can take to protect yourself from exposure.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Lists the physical and chemical properties of the substance.

SECTION 10 – STABILITY AND REACTIVITY

This section describes the chemical's stability and reactivity properties. A chemical's "stability" is its tendency to resist change or decomposition due to internal reaction or the reaction to air, heat, light, pressure, or other external forces.

SECTION 11 – TOXICOLOGICAL INFORMATION

Features toxicological information, which tells if the chemical is poisonous. Information about the chemical's health effects, along with scientific data about those effects, is listed.

SECTION 12 – ECOLOGICAL INFORMATION

The effects of the chemical on the environment, both in water and on land, are explained here.

SECTION 13 – DISPOSAL CONSIDERATIONS

This explains how to dispose of the chemical properly. It describes the waste residues of the chemical and gives information on how to safely dispose of the chemical, any of its residues, and any contaminated packaging.

SECTION 14 – TRANSPORTATION INFORMATION

Lists the information needed to safely and legally transport the substance.

SECTION 15 – REGULATORY INFORMATION

This contains governmental information including safety, health, and environmental regulations that apply to the chemical.

SECTION 16 – OTHER INFORMATION

Any other pertinent information, including when the SDS was prepared or the date it was last revised is provided here.

LABELS AND OTHER FORMS OF WARNING

Under the Hazard Communication regulations, an employer is required to ensure that each container of hazardous materials is labeled or marked with information giving the identity of the hazardous chemical and appropriate warnings. There are 6 sections to a hazardous chemical label; Product information, Signal word, Hazard statement, Hazard pictograms, Precautionary statements, and Supplier

identification. Questions relating to a hazardous chemical not addressed in the label content should be referred to on the Safety Data Sheets for that hazardous chemical.

All hazard pictograms will be in the shape of a square set at a point. It will include a red frame, sufficiently wide to be clearly visible. Inside, it will have a black symbol on a white background. This symbol will represent one of the nine GHS hazard classes. The nine hazard classes break down into 3 categories; Physical Hazards, Health Hazards, and Environmental Hazards.

- Physical Hazard Pictograms – Exploding Bomb, Flame, Flame Over Circle, Gas Cylinder, and Corrosion
- Health Hazard Pictograms – Skull and Crossbones, Exclamation Mark, Corrosion, Health Hazard
- Environmental Pictogram

Hazardous chemical containers that are not labeled, or where the label is torn or not legible, the chemical should not be handled. Supervisory or management personnel should be advised immediately of these conditions.

When hazardous chemicals are moved from their primary container to the transfer container, that transfer container needs to be identified with a proper label or other form of warning. Exceptions to this rule are made only for very small containers filled by the person using the chemical which must be used or emptied by that person during the same shift. Such containers need not be labeled.

HAZARD DETERMINATION

It is the chemical manufacturer and importers responsibility to evaluate chemicals produced or imported by them to determine if they are hazardous. This determination of a hazardous chemical is communicated to non-manufacturing firms by way of Safety Data Sheets and appropriate container labeling. Under OSHA, employers are not required to evaluate chemicals unless they make a determination not to rely on the evaluation of the manufacturer or importer.

Some physical hazards pertain to chemicals and how they react under certain conditions. Physical hazards include chemicals that are combustible liquids, compressed gasses, explosives, flammable, organic peroxides, oxidizers, pyrophoric, and water reactive.

DEFINITIONS

Health Hazards – Pertain to how chemicals can hurt your body. In some instances, your body reacts quickly when exposed to a hazardous chemical, and in other instances the reaction can take place over a long period of exposure.

Corrosives – Chemicals or materials that can burn or damage on contact with the body, or in close proximity with the eyes. Corrosives can also damage the lungs if inhaled.

Flammable – Most common flammables are liquids that emit vapors that can ignite and burn, but can also be gasses or solids.

Reactive – Materials that can explode or react violently when mixed with certain other materials. The reaction can cause fire or toxic vapors/gasses.

Toxic – Materials that can poison the body and cause harmful effects under improper exposure are considered toxic. The effects can result from immediate or long-term exposure.

Acute Exposure – Single exposure to a chemical over a short period of time.

Chronic Exposure – Repeated exposure to a chemical over a long period of time.

Inhalation – A chemical can enter a body through inhalation by breathing the substance into the body. Vapors and dusts can be inhaled causing damage to the breathing passages and lungs.

Ingestion – The act of swallowing, an infrequent route for toxic chemicals to enter the body.

Absorption – The entry of a chemical substance through the skin.

Rock Hill Mechanical Corporation

ACCIDENT/INCIDENT REPORTING AND INVESTIGATION

PURPOSE AND SCOPE

The purpose of this procedure is to insure all accidents, including near misses, are reported in a proper and timely fashion. Such reporting is used to assist in making Rock Hill Mechanical a safe, healthy work environment. Accident investigations bring out the root causes of accidents and near miss incidents, and this information is vital to removing the root cause, repairing defective equipment, or learning a safer way to work. In addition, regulatory standards require that all recordable and lost time accidents be reported to OSHA. This procedure applies to all RHMC personnel as well as subcontractor employees performing work for RHMC.

RESPONSIBILITIES

Safety Director

- Implement and enforce this procedure
- Monitor compliance with this procedure
- Report all first aid, near miss, recordable, and lost time accidents to all appropriate parties in a timely manner, not to exceed 24 hours for the initial report
- Conduct in-depth investigation of all near miss and recordable accidents with the assistance of selected personnel as necessary
- Provide accident report forms for Foremen
- Arrange medical care for employees as needed

General Foreman/Foreman

- Report any incident that causes bodily harm or has the potential to cause bodily harm to an employee, or incidents involving property damage as soon as possible
- Complete, with the injured employee, the accident report form and forward the form to the Safety Director as soon as possible, not to exceed 24 hours

Employees

- Report all near misses, first aid cases, bodily injuries, and property damage to General Foreman/Foreman and the Safety Director as soon as feasible
    - All injuries must be reported by the end of the work day. Reporting the injury after the day that the incident happened could result in loss of Workman's Compensation Benefits.

ACCIDENT/INCIDENT PROCEDURES

Employee Injuries and Illnesses (Occupational)

When a work-related incident occurs, the employee involved must notify their foreman immediately. Failure to report an injury may result in loss of Workman's Compensation Benefits.

Accident/Incident Report or Near Miss Report

An Accident/Incident Report is completed and submitted by the responsible foreman after an employee reports an accident or near miss situation. The employee's foreman is responsible for obtaining the necessary information and completing this form.

Employee Injury and Illness Overview

Diagnosis and treatment of occupational injury or illness is conducted by an appropriate medical facility and is in compliance with workers' compensation laws and policies of the state the injury occurred in. Appropriate reporting and record keeping shall be completed as detailed in the procedure.

Restricted Work Assignments

Employees with a job-related injury or illness will be evaluated to return to work provided the attending physician approves their return in writing and that a regularly scheduled job exists that meets their current limitation. The affected employee, responsible foreman, and the Safety Director will make the evaluation and agree on work assignments.

NEAR MISS SITUATIONS

A near miss incident is one that did not result in equipment/property damage, accident, or injury. It may only be due to luck of circumstances that the employee was just out of harm's way when the incident occurred. Another time, an employee may not be so lucky. For this reason, the timely reporting of near miss incidents is imperative for preventing injuries, illnesses, and/or property loss.

Reporting

Any employee may report a near miss incident including one that they believe has not already been reported, or that they believe may have been reported but not given the needed priority, or may be overlooked if not reported. The reporting employee will report the incident to their foreman who will submit the completed Near Miss Reporting Form to the Safety Director as soon as possible. The reporting individual shall initiate interim resolutions to the near miss incident, as is appropriate based on the nature of the incident. Reporting of a near miss will not result in disciplinary action unless a blatant company policy violation resulted in the near miss.

Definitions

Near Miss – any work-related occurrence that did not result in an injury or illness but was considered by the reporting employee as having the potential to cause bodily injury, illness, or property damage. Note: Reports of unsafe acts, work practices or work conditions may also be reported as a near miss.

Significant Near Miss – a near miss incident that could have resulted in serious injury and/or has a reasonable probability of being repeated.

ACCIDENT REPORTING

All injuries, accidents, and potentially serious incidents must be reported to the Safety Director immediately after the occurrence. For numerous financial and legal reasons, time is of the essence. It is the responsibility of the Project Manager to ensure that these procedures are followed, and reports are made in a timely manner.

Injury Reporting – Serious Injuries

1. In the event of a serious injury, the first priority is to get immediate emergency medical care.
2. After the employee is on their way to the medical facility, obtain as much preliminary information as possible: nature of injury, witnesses, location of incident, how it happened, etc. This is not to be a full investigation, just general information.
3. Notify RHMC's office, (314) 966-0600, to report the incident and the following information to the Safety Administrator:
   - Employee Name and Job Title
   - Job Name and Number
   - Supervisors Name and Phone Number
   - Medical facility employee was taken to and method of transportation
   - Nature of Injury
4. The Safety Administrator will immediately contact the Safety Director with this information. The medical facility and/or the employee will be contacted to get an update on the employee's condition. They will decide who will be primarily responsible for follow-up, if required. Upper management will be notified once the accurate information has been verified.
5. The injured employee's supervisor must fill out an Incident Report of Injury to the Safety Administrator within 24 hours of the incident, but preferably the day of. This report must contain the following information at a minimum:
   - Description and Location of the incident
   - Date and Time of the incident
   - Identity of any individuals involved in or were witness to the incident
6. Once the Supervisor has had time to investigate, a more detailed report shall be submitted with all additional information. This should also be submitted within 24 hours of the accident.
7. All reports will be checked for completeness and accuracy by the Safety Director before they are sent to the President of RHMC.

Injury Reporting – Non-Serious Injuries

1. The employee should report any injury requiring medical treatment (other than serious emergencies) to the Project Manager.
2. The Project Manager should record all pertinent information – Employee's name, Address, Age, Type of injury, when it happened, and how it happened.
3. The Safety Administrator should be notified by the Project Manager that the incident occurred with the following information:
   - Employee Name and Job Title
   - Job Name and Number
   - Supervisors Name and Phone Number
   - Doctor or medical facility the employee was sent to and method of transportation
   - Nature of injury
4. The injured employee's supervisor must fill out an Incident Report of Injury to the Safety Administrator within 24 hours of the incident, but preferably the day of. This report must contain the following information at a minimum:
   - Description and Location of the incident

- Date and Time of the incident
- Identity of any individuals involved in or were witness to the incident

5. Once the Supervisor has had time to investigate, a more detailed report shall be submitted with all additional information. This should also be submitted within 24 hours of the accident.
6. The employee must have a release from the doctor to be able to return to work. When the employee does return to work, copies of all paperwork received from the doctor or medical facility must be immediately turned in to the Safety Administrator for processing.

Injuries Not Involving Lost Time

1. The Project Manager will complete an Accident Investigation Report.
2. Project Manager and/or designated job Safety Coordinator will conduct the investigation and determine the accident cause, the injury cause, and the corrective action needed to prevent reoccurrence.
3. A complete Accident Investigation Report will be sent to the Safety Administrator within 24 hours of the incident.
4. The report will be sent to the Safety Director for review. A copy will be dated and signed and sent back to the Project Manager, the original report will be retained by the Safety Director, who will then make recommendations as needed.

These procedures also apply to injuries that involved only first aid given on the job with no outside medical treatment.

Alleged Injuries

Injuries not reported on the day of the occurrence will be investigated thoroughly to determine whether or not they are job related. Any mention of injury on the report will read “ALLEGED”.

INJURY AND ACCIDENT INVESTIGATION PROCEDURE

The investigation should always be approached with the intent of trying to prevent reoccurrence, not to fix blame for the event.

- The Project Manager will be in charge of the investigation.
- The Safety Director will keep all the documents produced from the investigation.
- All levels of supervision above the injured person will be interviewed by the Project Manager.
- The investigation will be done at the accident scene immediately following the incident.
- The accident scene will be preserved until the investigation is complete.
- The Safety Director will notify OSHA in the event of a fatality or hospitalization of five or more employees.
- The Safety Director will contact the insurance carrier.
- The Safety Director will arrange for outside services if needed, such as; testing laboratories, photographers, etc.
- All tools or equipment involved in the incident will be inspected for defects, removed from use, and held on to by the Safety Director until he/she releases them.
- The Project Manager will provide equipment numbers of any involved equipment.
- Photographs with corresponding notes of the scene, tools, equipment, vehicles, etc. will be taken.

- The injured person(s) will be interviewed by the Project Manager and/or Safety Director.
- Not only witnesses, but anyone, who can contribute information regarding the scene or any other factors of the incident will also be interviewed.
- The Safety Director and Project Manager will jointly determine the cause of the accident, the cause of the injury, and the corrective action needed to prevent reoccurrence.
- The initial investigation will be completed within 24 hours of occurrence.
- The original Accident Investigation Reports will be kept by the Safety Director, but copies will be distributed to the President, Vice President, and Project Manager.
- Lost time injuries and potential serious incidents on out of town job sites will be investigated as outlined, except that the Safety Director will go to the job site only when the seriousness of the incident dictates.

INVESTIGATIONS

All accidents and incidents, regardless of if there are injuries or not, will be investigated when there is:

- Any injury
- A loss of equipment or property exceeding $500
- A near miss, with potential for either one of the above

Objective

Investigations should be conducted to determine both the cause of the accident/incident and the changes necessary to prevent a similar occurrence in the future, NOT to determine where blame should be placed. The investigation will also assist the company in determining the facts useful in legal proceedings and will serve to inform the employees of the hazards involved.

Responsibilities

The General Foreman/Foreman will be responsible for actively participating in the analysis of accidents and incidents. Employees shall be responsible for cooperating fully with the accident/incident analysis team.

Investigation Team

The Investigation Team should include, at a minimum, the Project Manager and the Safety Director. If necessary, the foreman will also be included.

Investigation

The investigation will be fact finding, not fault finding, and should be conducted as soon as possible after the accident/incident. RHMC's Accident Investigation Form will be used during this process.

If deemed necessary and feasible, the scene of the accident/incident should be flagged or roped-off until all analyses are complete (Site, Insurance, OSHA, Local Authorities, etc.). Do not remove or alter anything unless rescue operations so dictate. Security may be needed to prevent unauthorized entry or removal of equipment or material.

If equipment, tools, or materials are involved in the accident/incident, they should be tagged or permanently marked for positive identification. The person tagging the item should be identified. The items should then be placed in safekeeping.

All personnel involved and all witnesses to the accident/incident should be interviewed individually and in private. Written statements should be taken as soon as possible. Tape recorders may be used for purposes of note taking. A copy of the statement should be given to the witness.

Witnesses

At a minimum, the following information should be taken from each person and witness involved:

- Name
- Address
- Position/Trade
- Last 4 digits of their social security number
- Telephone number
- Where they were when the accident/incident took place
- What activity was being performed by the individuals involved prior to the accident/incident
- What activity they were performing at the time of the accident/incident
- What materials, equipment, or conditions were involved – Including all contributing factors
- What did they actually see take place
- Why the accident/incident happened – Including all unsafe conditions and/or acts
- If they were aware of any previously known and/or repeated problems or conditions associated with the accident/incident

Photographs and Drawings

Equipment required for the investigation shall include some or all of the following items; writing equipment such as pens and paper, measurement equipment such as tape measures or rulers, cameras, small tools, audio recorder, PPE, marking devices such as flags, equipment manuals, etc.

Cameras should include 35mm, or digital, however, digital photographs are editable and may not be admissible in court. Drawings will be marked up and/or sketches prepared to indicate the location of the accident/incident. All measurements such as time, distance, etc. must be accurate.

Photographs will be taken as soon as possible, since the conditions often change rapidly. The following information should be collected and noted with the photographs; description and location of the principal item(s), date and time the photo was taken, and name of the photographer. Photographs will be taken from as many angles as possible. In addition, video recording should be made of the accident/incident scene, as well as a reconstruction of the accident/incident, if possible.

Training

Personnel that may be involved in conducting the investigation of accidents/incidents are required to be trained in investigation techniques. At a minimum, this training will include:

- How to conduct an analysis
- How to document facts
- How to use photography for documentation

- How to secure the accident/incident scene
- Techniques for interviewing the witnesses

Personnel not involved with conducting investigations will be given an overview of what to be aware of in accident/incident reporting, preserving evidence, and how to help the investigation team.

Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through the initial training.

Rock Hill Mechanical Corporation

SAFETY VIOLATIONS

It is the policy of Rock Hill Mechanical Corporation to work with their employees and with all contractors, subcontractors, and owners to ensure safe working conditions for all employees. To accomplish this, we must constantly be aware of conditions in all work areas that can produce injuries. No employee will be required to work at a job that he or she knows is not safe.

It is RHMC's expectation that the employees cooperate in detecting hazards, and in turn, control and eliminate them as a condition of employment. The Project Manager and/or Supervisor is to be informed immediately of any situation beyond the employees' ability or authority to correct.

GENERAL VIOLATIONS

First Offense

Any RHMC employee observing a safety violation will immediately notify the offending employee(s) that they are in violation of RHMC's Safety Policy. The employee(s) immediate supervisor must also be notified of the violation and render assistance if necessary. The verbal warning will be logged with the Project Manager and/or Safety Director.

Second Offense

Upon a second safety violation, a written report or Safety Citation will be filed with the Project Manager and/or Supervisor. A copy of the report or citation will also be forwarded to the Safety Director, who will require a meeting with the employee and the Project Manager and/or Supervisor. In the event a Subcontractor's employee is involved, a written notice will be forwarded to the Subcontractor's Company Headquarters.

Third Offense

Three safety violations by a specific employee within a given year will result in his or her dismissal from the company. If the employee works for a Subcontractor of RHMC, a written request from RHMC to the Subcontractor will be sent to request the employee in violation will be removed from the job site. If there are any additional offenses from Subcontractor's employees the Subcontractors company will be removed from the list of qualified bidders and future consideration on other projects.

WILLFUL/SERIOUS VIOLATIONS

A 3-day suspension will be given to any employee who is found to have willfully violated a Rock Hill Mechanical Corporation Safety Policy.

Any employee performing a serious violation, that could cause serious injury or death, will be terminated from the jobsite immediately.

RHMC
Rock Hill Mechanical Corporation

WRITTEN SAFETY VIOLATION NOTIFICATION

Name:_____

Trade:_____

Project:_____

Date:_____

Type/Description of Violation:

_____

_____

_____

_____

_____

General Violation _____ **Serious Violation** _____

_____ **First Offense**

_____ **Second Offense**

_____ **Third Offense – Due to this offense you are hereby informed that your Employment with RHMC is terminated.**

Employee Signature:_____ **Date:**_____

Safety Director: _____ **Date:**_____

COMPANY VEHICLE SAFETY PROGRAM

The potential for a serious vehicle accident exists every time an employee operates a company vehicle. To this extent RHMC is committed to safe operation of all company vehicles and that all authorized RHMC employees understand and comply with RHMC's Vehicle Safety Program. Authorization to operate a company vehicle will be automatically rescinded if you are convicted of driving under the influence of drugs or alcohol in any vehicle, or if your license is suspended, revoked, or expires.

POLICY

Drive Safely

When operating a company vehicle, you are required to operate the vehicle in a safe, lawful, and courteous manner.

- No texting while operating a vehicle.
- You must wear a seat belt at all times.
- You must not operate a vehicle at any time when your ability to do so is impaired, distracted, affected, influenced by alcohol, illegal drugs, prescribed or over-the-counter medication, illness, fatigue, or injury.
- You are not to use a hand-held cell phone while driving a company vehicle unless you wear a corded earpiece or utilize a hands-free device. Keep your conversations brief and do not take your eyes off the road. If you have to dial a number, have an extended call, text, write notes, or make a personal call, wait until you are safely parked.
- A visual inspection of the vehicle should be performed at the beginning of each day.
- All company vehicles are to contain a fire extinguisher, first aid kit, current vehicle registration, current certificate of insurance, and accident forms.
- Job site vehicles are not to be driven on public streets, unless properly licensed.
- Do NOT drink and drive:
    - Do not jeopardize your life, or somebody else's, your job, or your license.
    - If you find yourself in a situation where you should not drive, there are many options; Uber, taxi, call a friend or supervisor, or stay where you are.
- Obey all speed limits.
- Stop fully at all stop signs.
- Yield to drivers who have the right of way.
- Don't overload a vehicle and don't load it in a way that blocks your rear or side vision.
- Never pass a school bus when the driver signals to stop.

Any employee whose driving contributes to any vehicle accident will be required to take a drug and alcohol test.

Our insurance carrier will run a Department of Motor Vehicles check of your driving record at least once a year. Only employees with a current valid driver's license and authorization by senior management may operate company vehicles.

Drive Defensively So You Can Respond Safely to Other Drivers and Conditions

- Give driving your full attention by keeping your eyes and mind on the road.

- Stay at least two seconds behind the driver in front; don't tailgate.
    - To measure seconds, start counting "One thousand one, one thousand two" as the driver in front of you passes a fixed object. You should not reach that object before you reach "One thousand two".
- On a two-lane road, pass on the left, only after signaling. Be sure the other driver sees you and that you have enough room to pass.
- Keep checking your rearview and side mirrors for approaching traffic; Be aware of your blind spots.
- Pull over and stop if you have to read a map, make a phone call, etc.
- Stay constantly alert to other drivers, road construction, potholes, debris, etc.
- Don't drive while using the phone, pull over to a safe location.

Always Expect Other Drivers to Do the Unexpected

- Be especially cautious and leave yourself room to maneuver in heavy traffic and around road construction where drivers are more likely to:
    - Pass on the right or on the shoulder
    - Try to dart in and out of lanes
    - Stop or swerve suddenly

Slow Down in the Rain

- Reduce speed and stay four seconds behind the driver in front of you.
- Use windshield wipers and headlights.
- Use defroster if the inside windows steam up.
- Be aware that roads are most slippery in light rain or when rain first starts.
    - The mixture of rain with oil and dirt on the road make it slippery
- Slow down for large puddles, which can reduce braking ability.
    - Drive through slowly, tapping the brake
    - Test brakes once you're through, after checking that no one is close behind
- Avoid hydroplaning (Tires driving on the water, not the road) in puddles.
    - If you start to lose control, take your foot off the gas, don't brake suddenly.
- Be aware of passing trucks; their spray could temporarily limit your ability to see.
- Be prepared to respond quickly if other drivers lose control.

Use Caution in Ice and Snow

- Clear snow off windshield, windows, hood, roof, and lights before starting out.
- Wear sunglasses during the day to reduce glare.
- Use windshield wipers and defroster.
- Reduce speed and stay four seconds behind the driver in front of you.
- Brake gradually.
- Watch out for icy patches.
    - Bridges tend to ice up faster than other road surfaces. Shady spots stay icy longer.
- If you skid, take your foot off the gas and steer gently into the skid. Try to get the tires rolling in the direction you're headed, the turn gradually to the direction you want to go.
    - Keep your foot off the brakes, unless you have Anti-Lock Brakes.

- Watch out for other drivers; many people panic and drive poorly in snow or ice.

Prepare for Bad Weather

- Clean off headlights regularly to improve visibility.
  - Check periodically to make sure no bulbs are burned out.
- Replace windshield wiper blades; they're not effective when they are worn.
- Check tire condition and inflation.
  - Worn tires can't grip the road and may blow out; replace them.
  - Tire pressure falls with the temperature. Check tires before driving, and inflate them to manufacturer's recommended level.
- In cold weather, add the following to your vehicle emergency kit:
  - Spill-proof container of sand or cat litter
  - Ice scraper, snow brush, and small folding shovel
  - Blanket (To keep warm while waiting for help after a breakdown)

Motor Vehicle Accidents are Major Causes of Injury and Death On and Off the Job

- Motor vehicle accidents are the most common cause of work-related deaths and cause millions of disabling injuries each year.
- Factors that increase the risk of accident, injury, and death include:
  - Fatigue
  - Drinking and driving
  - Not wearing a seat belt
  - Driving at night
  - Using a cell phone

Seat Belts

- Hold you in place so you don't crash into the dashboard, steering wheel, etc.
  - A crash at 30 mph will send a 150-pound person who is not wearing a seat belt into the steering wheel or dashboard with a force of more than two tons.
- Keep you from flying out of the car; You're much more likely to be killed if you're thrown out of the vehicle onto the road, into a tree, etc.
- Allow your shoulder and hip bones, which are the strongest areas of the body, to take most of the shock of the impact.
- Make it more likely that you'll remain conscious and able to help yourself and others.

ACCIDENTS

If you are involved in an accident:

- Obtain all the information to be able to answer all questions on the accident report form before you leave the scene. Exchange insurance and license information with the other drivers, but do not volunteer information. Never admit fault.
- Call the police if there are injuries or if the other driver is not insured.
- Call the Safety Director and your supervisor at once to report the accident.
- Take photographs of all damage and the area around the accident. Include in the pictures the other vehicle and its license plate, and your vehicle and license plate.
- Complete the accident report form in detail (somebody unfamiliar with the accident should be able to fully understand what happened) and immediately send it and digital pictures to the Safety

Director, who will forward it on to senior management. This must be received no later than the next business day (NO EXCEPTIONS).

MAINTENENCE/CARE

Driving a company vehicle is a privilege. As with all company-owned property, you are to take reasonable care of the company vehicle that you drive, and ensure it is maintained in safe driving condition. This includes checking the oil and coolant levels weekly and, at your expense, regularly washing the vehicle and keeping it clean inside and out.

- Drivers are responsible for having the oil and filters changed every 5,000 miles, and transmissions are to be serviced and inspected every 30,000 miles. Air filters and fuel filters are to be changed only when dirty or blocked.
- Make sure the vehicle number, the mileage, and your name are on all invoices and all work orders you sign. Promptly return all maintenance and repair invoices.
- Regularly rotate tires and replace them when they are worn.
- Check tire pressure when it's cold and keep tires at recommended levels.
- Keep lights, mirrors, and windows clean.
- Replace windshield wiper blades periodically, at least once a year.

TRUCK DRIVER GUIDELINES

- Construction or delivery vehicles should be inspected at the start of each day.
- During your routine inspection, check your vehicle's tire pressure, wipers, turn signals, all lights, backup alarm, mirrors, and parking brake.
- You should compensate and be aware of extra weight added to a vehicle when determining a safe following distance.
- Wet, icy, and sandy roads significantly increase the amount of time it takes to stop a vehicle in motion.
- A warning flag should be attached to objects that extend more than 2 feet in front or 4 feet in back of your vehicle.
- When you have a difficult time seeing behind you while backing up your vehicle, you should first get out of the vehicle and look at the backing area, then get someone outside the vehicle to direct you.
- Pipe racks should be securely bolted or welded in place.
- When tying down pipe or other materials to the racks, use only nylon straps with ratchets.
- Use as many tie-downs as it takes to safely secure the load.
- If your vehicle breaks down, you should immediately move the vehicle out of traffic if possible and set out flare or reflective warning signs.
- Never operate a vehicle while under the influence of alcohol, illegal drugs, and/or certain prescription drugs.
- Before taking any over-the-counter or prescription drugs, learn about the potential side effects that could make you drowsy or reduce your ability to concentrate or use good judgement.

RHMC SERVICE TECHNICIAN VEHICLE POLICY

Operation of a company vehicle is both a privilege and a responsibility, not a right. Drivers are responsible for operating the company vehicle according to state and federal laws along with our vehicle policy.

Employee driving records will be checked at least every 12 months to make sure the employee has an acceptable record to operate a company vehicle.

Drivers are required to notify management **immediately** if their driving status changes.

The following are considered major violations and can require that the employee be relieved of his/her company vehicle driving privileges:

1. Any major violation:
   - DWI in the past (3) three years
   - Failure to stop/report an accident
   - Reckless driving/speeding
   - Driving while impaired
   - Making a false accident report
   - Homicide, manslaughter or assault arising from the use of a vehicle
   - Driving while license is suspended/revoked
   - Careless driving
   - Attempting to elude a police officer
   - Leaving the scene of an accident
   - Misuse of maintenance/gas card
   - Manual texting while driving
2. Any employee permitting fellow employees, dependents or any other person not listed on the drivers list to operate vehicles under their control or assigned to them.
3. Failure to consistently drive in a safe manner as determined by management
4. Failure to pass a drug test
5. Refusal to take a drug test
6. Failure to notify management within 24 hours of any moving violation and/or accident

SCOPE OF USE

1. Assigned Driver – no person other than the employee assigned to the vehicle shall operate the vehicle unless that person is an employee of Rock Hill Mechanical, is listed on the approved drivers list and has the permission from the person to who the vehicle is assigned or from a supervisor.
2. Drivers must be physically and mentally able to drive safely.
3. Vehicle are not to be operated unless in a safe operating condition.
4. Possession, transportation or consumption of alcohol or illegal drugs by anyone in the vehicle is not allowed.
5. Driver and all passengers must wear available personal restraints.
6. The use of radar detectors is forbidden in all vehicles owned or used by RHMC.

7. Report any accident immediately to the police and your manager.
8. Personal use of company vehicle is prohibited. Company-owned vehicles are to be used for company business only. Personal trailers, including boat and recreational vehicles are not to be pulled. Company vehicles may be driven home and used as transportation to and from work.
9. Employees who drive or take home a vehicle are responsible for all fines and parking expenses. The driver must make sure that the truck/van and tool boxes remain locked and equipment in the bed is reasonably stored or secured as to prevent theft.
10. Drivers may be asked to relinquish their driving privileges and gas card of their company vehicle and drive their own personal vehicle while working on construction projects as supplemental labor that has no van usage required. This will be determined on a job-by-job basis by the project manager and upon request of the employee.

MAINTENANCE AND UPKEEP

Drivers are responsible for ensuring the vehicle is well maintained. The assigned driver is responsible for taking the vehicle to Enterprise Fleet Management approved/accepted service station to have scheduled fluid changes, brake jobs, tire changes and other repairs. Turn in all repair receipts and maintenance records. The employee is responsible for reporting any damage, faulty equipment or other needed repairs to his/her supervisor. The employee is also responsible for making sure the equipment is safe to operate on the road. Any burnt out bulbs, fuses for lights, turn signals, headlights and horn should be replaced immediately.

The employee is responsible for keeping their vehicle as clean and orderly as the job conditions permit.

VEHICLE INSPECTIONS

Company vehicles must have the following standard items:

1. Current insurance verification
2. Safety belt ready for use
3. Fire extinguisher
4. First aid kit
5. Usable spare tire, jack, and lug wrench
6. Reflector kit
7. Binder with the following information; Emergency phone numbers, Accident Investigation form, and Operator's manual.

AT-FAULT ACCIDENTS

If you are involved in an at-fault accident in a company vehicle, you will be responsible for paying the cost of damages or the first $500 of any cost of that accident (whichever is less).

All accidents will be reviewed, and a determination made as to either preventable or non-preventable. A preventable accident is defined as an accident in which the driver failed to do everything reasonably possible to avoid it.

DRUG TESTING

Any employee who will drive a company vehicle will be drug-tested at hire, randomly and for cause.

Rock Hill Mechanical Corporation

Distracted Driver Agreement

Safety is an important goal of the company and your support of this goal includes avoiding activities that may be considered distractions while operating any vehicle for business purposes. This may include, but is not limited to: eating, over-reaching for stored materials, reading paperwork, or using electronic equipment. Our company encourages drivers to use good judgement and not be distracted while operating motor vehicles.

Your primary responsibility when driving a motor vehicle for our organization is driving the vehicle safely.

Standards for employees operating company vehicles.

- Mobile communication devices are not to be used while the vehicle is in motion. This includes phones, PDAs, tablets, or any device that can transmit and receive calls, texts messages, emails, or access the internet. The use of headsets, two-way radios, or equipment with push-button communication ability is also restricted and should be used only while the vehicle is pulled over and safely parked. Any calls received while driving should be sent to voicemail to be retrieved once the vehicle is pulled over or parked.
- Notify clients, co-workers, and other regular callers the times when you may be unavailable to respond because you will be driving. Changing your outgoing voicemail greeting to reflect your unavailability because of driving is best practice.
- Utilize passengers to make and return calls and respond to messages while driving as long as this doesn't interfere with the driver's ability.
- There will be no usage of other electronic equipment such as laptops, cameras, GPS, pagers, and tablets while the motor vehicle is in motion. GPS information will be entered while the vehicle is safely parked.
- During emergency situations an exception can be made to contact police or seek medical assistance by dialing 911. If emergency calls must be made, try to keep them brief and attempt to pull over to the side of the road.

I have read and will comply with this distracted driving agreement.

Employee's signature and date: _____

EMERGENCY RESPONSE ACTION PLAN

PURPOSE AND SCOPE

The Rock Hill Mechanical Corporation Emergency Response Action Plan is required by OSHA's standard 29 CFR 1910.38. This plan will detail emergency procedures to be followed to handle emergencies involving the employees and property of RHMC. All employees and subcontractors are required to follow this program.

The Emergency Action Plan Program contains the following elements:

- Job site/Facility specific information. Job site management completes this information to explain how the workers shall carry out the requirements of this program at their location. Identifies information such as responsibilities, site-specific/facility equipment, and procedure/training details. These can be updated without having to re-write the whole plan.
- Core program. Provides the standard method for complying with RHMC and regulatory requirements. It also explains the who, what, when, where, and how of implementing the Emergency Action Plan.
- To define requirements and responsibilities for establishing and implementing an effective Emergency Action Plan to ensure the safety of RHMC employees and job site/facility visitors during an emergency.

RESPONSIBILITIES

Project Manager

- Implementing and enforcing this procedure.
- Ensure all employees are trained in the evacuation procedures.
- Providing guidance in following a site/facility specific emergency response plan.
- Monitoring compliance with the procedure.
- Act as a contact point for employees needing more information about the ERAP or their duties under the plan.

General Foreman/Foreman

- Understanding the requirements of this procedure.
- Safe evacuation of any physically impaired employees.

Employees

- Understanding the requirements of this procedure.

CORE PROGRAM

The facility Emergency Action Plan program includes the following:

- Designation of a person who is responsible for administering the program

- Procedures for accounting of employees after evacuation
- Procedures for reporting an emergency and notifying the employees
- Emergency escape procedures and escape route assignments

Exclusion - Facilities with less than 10 employees must have an Emergency Action Plan meeting all the requirements of the Standard, but it does not have to be written. It can be orally communicated to the employees.

BASIC GUIDELINES

The following is a list of basic procedures that will be used during different emergency events. Some of the procedures may have to be modified in order to work with facility specific emergency action plans. Changes must be approved by the corporate safety department.

In order to call an outside agency for assistance, call 911, for an ambulance, fire, or police department.

Emergency Escape Routes

Emergency escape routes must be posted throughout each facility. Employees must follow these evacuation tips to safety:

- Always evacuate through an exit closest to your location in the event of a fire or other emergency requiring evacuation.
- Report to your assigned meeting place and see your supervisor for accountability.
- Never re-enter the building in the case of a fire.
- If your assigned meeting place is not a safe distance from the hazard, move farther away to a safe location.
- Do not return to your work area until you have been given the “all clear” by the police or fire department.
- Never use an elevator to escape from a fire. Smoke and heat rise, so the elevator could be filled with smoke. Also, many elevators are heat activated, and they may take you right to the fire.

Area Evacuation

When in a work site, evacuation routes should be established prior to an emergency. There should be assigned meeting places for area evacuations and their location should be preplanned. When RHMC has 10 or fewer employees on a job site, direct voice communication is an acceptable procedure for sounding the alarm provided all of the employees can hear it.

Develop a site meeting place. The Project Manager will account for all employees during an evacuation.

Medical Emergencies

Obtain outside medical help for all medical emergencies.

If qualified, employees may perform medical duties as long as they can perform their duties safely without severe personal risk. These employees should be trained in first aid and cardiopulmonary resuscitation (CPR). The overall responsibility for medical duties and rescue is that of outside emergency response agencies, such as the fire department.

Fire Procedures

Follow these procedures in the event of a fire:

- Notify the fire department by dialing the emergency number
- Activate the fire alarm system to alert everyone to a fire
- Initiate an evacuation immediately
- If time permits, turn off equipment
- Report to your assigned meeting place

Safety tips when there is a fire:

- If doors and knobs are hot, do not open the door, close it immediately
- If heat or pressure is sensed through the door, close it immediately
- If you encounter smoke when exiting, kneel down on the floor and crawl to your escape
- Extinguish a fire only if you are trained, and it is safe to do so
- Never put your safety at risk

Bomb Threat

In the event of a bomb threat:

- Evacuate building of the affected area
- Do not reenter the building until given an “all clear” by the police or fire department

Flooding

Follow these procedures for flooding in the facility:

- Supervisors must ensure that electrical power has been de-energized in the flooded area

Tornadoes

In the event of a tornado warning, notification will be given to building occupants. In this event, do the following:

- Turn off your equipment and immediately proceed to the designated tornado shelter area
    - Main Office - Proceed to the to the far northeast corner of the warehouse
    - Service Office - Proceed to the Pipefitter Shop Foreman’s office
    - SM Shop - Proceed to the to the far northeast corner of the warehouse
    - PF Shop - Proceed to the Pipefitter Shop Foreman’s office
- At the shelter area, lie flat and put your arms over your head
- Remain in the shelter area until instructed to return to your work area

SITE/FACILITY SPECIFIC PLAN

The job site/facility specific written Emergency Action Plan must include the following:

1. Emergency evacuation/escape procedures, escape routes, and assembly areas
2. Procedures to account for all employees after an evacuation
3. Procedures for reporting fires or other emergencies

4. Established contacts with local authorities
5. The job titles of persons who can be contacted for further information or explanation of duties
6. Procedures for floods, tornadoes, blizzards, earthquakes, and bomb threats
7. Provide an emergency notification system to notify all employees in case of an emergency
8. Keep all emergency exits unobstructed, accessible, and marked by a readily visible sign
9. Mark doors, passageways, and stairways not intended to be an exit “Not an Exit”
10. Provide and maintain emergency lighting and illuminated exit signs
11. Establish and implement procedures for re-entering the job site

TRAINING

Train employees on the Emergency Action Plan during new employee orientation, and if/when the Plan is revised or updated. Designate and train employees to assist in the safe and orderly evacuation of personnel.

Site specific Emergency Response Action Plan training should be conducted when:

- The plan is developed, or the employee is assigned to the job site for the first time
- The employee’s responsibility under the plan changes
- The plan is changed

Rock Hill Mechanical Corporation

WORKING ALONE SAFETY PLAN

PURPOSE

The purpose of this plan is for Rock Hill Mechanical Corporation to provide a safe work environment for its employees. In doing so, RHMC will take all reasonable and practical measures to eliminate or minimize injury or incident risks associated with the nature of the work performed when employees work alone.

OBJECTIVES

To minimize risk to employees who may work alone, and assistance is not readily available, RHMC will:

- Conduct written hazard assessments to identify existing or potential working alone hazards.
- Take measures to eliminate or control the hazards of working alone at RHMC worksites.
- Ensure that affected employees are informed of the hazards and methods used to control or eliminate them.
- Provide an effective system for communication between any employee who works alone and person capable of assisting the employee.
- Ensure all incidents (working alone or otherwise) are reported, investigated, and documented.
- Review the Working Alone Plan at least annually or more frequently if there is a change in work arrangements which could adversely affect an employee's well-being or a report that the system is not working effectively.

RESPONSIBILITIES

Safety Director

- Conduct a hazard assessment to identify existing or potential hazards related to the nature of the work or work environment, given the circumstances of the work when working alone.
- Responsible for the review, implementation, and maintenance of the local worksite Working Alone Plan.
- Communicate this policy and its procedures to employees who work alone.
- Annually review the effectiveness of the hazard controls and procedures and make improvements as required.

Project Manager

- Responsible for the implementation and maintenance of the Working Alone Plan for their project and ensuring all assets are made available for compliance with the procedure.
- Take all reasonable and practical steps to minimize or eliminate identified working alone risks.
- Review the hazard assessment results and provide recommendations to management to minimize or eliminate identified working alone risks.
- Annually review the effectiveness of the policy and guidelines and make changes as required by consulting with management staff and employee representatives.
- Respond to employee concerns related to working alone and communicate these to management.
- Report all incidents of work site incidents immediately.

- Participate in work site hazard assessments and the implementing of procedures to eliminate or control hazards of working alone.

SAFE WORK PROCEDURES

This procedure applies if an employee is working alone at a work site where assistance is not readily available if there is an emergency or the employee is ill or injured.

Worksite Assessment

A hazard assessment for working alone will anticipate work and travel time, weather, communication, type of work, employee medical conditions, and training. The hazard assessment shall address hazards and identify control measures in order to minimize risk associated with working alone.

The hazard assessment will be conducted on a project by project or site basis, as circumstances vary between locations and conditions. To assess this hazard, RHMC will review records and past incidents to identify measures or actions needed to correct any hazards. The assessment will include:

- Participation by employees through methods such as one-on-one interviews, kick-off safety meetings, etc.
- The assessment will utilize information from employees about their experiences working alone, their current concerns, and their suggestions for improvement.
- Consideration for the time interval between checks and the procedure to follow, in case the employee cannot be contacted, including provisions for emergency rescue.

PLAN

Rock Hill Mechanical Corporation must develop and implement a written procedure for checking the well-being of a worker assigned to work alone or in isolation under conditions which present a risk of disabling injury, if the worker might not be able to secure assistance in the event of injury or other misfortune.

Procedures to be Followed in the Event That a Worker Working Alone Does not Respond

Considerations such as length of time missing, weather conditions, physical fitness, etc. must be factored into the site specific working alone program. The program must specify procedures for emergency response including provisions for contacting appropriate local officials. The program shall identify specific criteria to determine when an employee search is necessary. The minimum requirements include:

- If the working alone employee fails to respond at the scheduled contact time repeated contact efforts will be made for one hour.
- If the employee working alone is not contacted within one hour of the scheduled contact time a designated individual will be dispatched for a search to the working location.

Communication

Workers must carry a cellular phone or electronic monitoring device at all times while working alone. The use of a radio, cellular/satellite phone, electronic monitoring device, or another form of direct, reliable correspondence shall be used to establish an effective means of communication between the lone employee and designated check person.

Limitations on or Prohibitions of Specified Activities

- No heavy equipment will be operated if a worker is alone.
- No hot work will occur if a worker is alone.
- No working at heights will occur if a worker is alone and requires a personal fall arrest system.
- Other limitations will be placed based on the site specific hazard assessment.

Minimum Training or Experience

All employees will be trained (if working alone is a hazard at that location) in:

- Any revision to the written local Working Alone Plan and safe work practices.
- Being informed of working alone hazards at the worksite and the methods used to control or eliminate them.
- The methods for identification, hazard reduction, and prevention when working alone and dealing with situations or individuals that presents a potential risk.
- All training shall be documented.

Provisions of PPE

- Cold weather clothing shall be worn, when appropriate, if a worker is alone.
- Additional PPE for workers working alone will be identified in the site specific hazard and PPE assessment process.
- Heat Stress Plan shall be followed.

Rock Hill Mechanical Corporation

FIRST AID SAFETY PROGRAM

POLICY

To ensure that prompt and effective medical assistance is provided to the employees of Rock Hill Mechanical Corporation in case of workplace injury or illness, the following first aid and medical services procedure is provided.

It is the responsibility of each supervisor to assure compliance of the First Aid Procedure.

PURPOSE

This First Aid & Medical Services Procedure is designed to establish specific common guidelines to follow in assuring that prompt medical attention is provided to employees suffering from either a work-related or non-work-related injury or illness. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart D Section 1926.50, however, the entire section is to be observed and followed.

Each facility and jobsite must ensure that first aid supplies/resources are available to all employees. This includes identifying and posting the location of a designated medical treatment facility and/or emergency care center in a conspicuous location.

DEFINITIONS

Established Medical Treatment Facility – the occupational, medical treatment provider, and/or emergency care center that identifies as being capable of, and established by a location to initially treat employee injuries and illnesses.

First Aid – means the following types of treatment:

- Using non-prescription medications at non-prescription strength
- Cleaning, flushing, or soaking wounds on the skin surface
- Using wound coverings, such as bandages, gauze pads, etc.
- Using hot or cold therapy
- Using any totally non-rigid means of support, such as elastic bandages, wraps, etc.
- Using temporary immobilization devices while transporting an employee, such as 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

Illness – can be classified as a skin disease/disorder, respiratory condition, poisoning, or other illness resulting from an event in the work environment. Examples include, but are not limited to:

- Contact dermatitis
- Eczema
- Silicosis
- Asbestosis
- Toxic inhalation
- Poisonings by lead, mercury, or other metals
- Poisonings by carbon monoxide, hydrogen sulfide, or other gases
- Poisonings by organic solvents or by other chemicals
- Heatstroke, sunstroke, heat exhaustion, or other heat-related factors
- Freezing, frostbite, or other cold-related factors
- Effects of Non-ionizing radiation (welder's flash or lasers)
- Blood borne Pathogenic diseases
- Microbial Exposure
- Ionizing Radiation

Injury – any wound or damage to the body resulting from an event in the work environment. Examples include:

- Cut/laceration
- Puncture
- Abrasion
- Contusion/bruise
- Fracture
- Chipped tooth
- Amputation
- Insect bite
- Electrocution
- Thermal, chemical, electrical, or radiation burn
- Sprain/strain injuries to muscles, joints, and connective tissues in result of a slip, trip, fall, or other similar accident

Medical Treatment – the managing and caring for a patient for the purpose of combating disease or disorder. The following activities are NOT medical treatment:

- First Aid
- Visits to a doctor solely for observation or counseling
- Diagnostic procedures, including the administering prescription medications that are used solely for diagnostic procedures

Work-related Injury or Illness – an injury or illness resulting from an event or exposure in the work environment causing or contributing to the condition or significantly aggravating a pre-existing condition

Work Environment – work sites where one or more employees are present as a condition of their employment

REQUIREMENTS

Designated Medical Treatment Facility

Each fixed facility and fixed job site must identify and post the location of a designated medical treatment facility and/or emergency care center including name, address, telephone number, and hours of operation. This information should be posted in a conspicuous location at each fixed facility or fixed job site. The designated medical treatment facility or emergency care center should maintain similar hours of operation as the facility and be able to respond to a workplace emergency within a reasonable amount of time.

First Aid

If an employee becomes injured or ill anywhere, due to a work-related or non-work related problem, and needs immediate medical aid, it must be reported to his/her Supervisor and Safety Administrator or Safety Director. Failure to report minor injuries or to receive supervised medical treatment may result in serious infections or complications to the employee's health.

In the absence of a clinic or hospital near the workplace, OSHA regulations require that a person or persons be trained to render first aid and that first aid supplies be readily available. Although the term "readily available" has not been defined in the regulations, OSHA has indicated that 3-4 minutes is acceptable as the time frame within which to begin first aid.

Because of the potential for exposure to blood borne pathogens and significant liability concerns, there is no job in the company that requires an employee to render First Aid or cardiopulmonary resuscitation (CPR) in the course and scope of their employment.

Transportation of injured persons will be by ambulance unless a volunteer chooses to assist by driving the injured employee to a medical facility. If there is any question as to the best method of transportation, an ambulance should be utilized.

Employee First Aid/CPR

Employee training in basic First Aid and cardiopulmonary resuscitation (CPR) is encouraged because of its value and benefit to individuals, their families, and the community.

The company also supports any employee who, while on the job, chooses to act as a "Good Samaritan" to assist a fellow employee or another person with First Aid or CPR. It is Rock Hill Mechanical's intent that First Aid supplies and basic personal protective equipment against blood borne pathogens be accessible to employees at every work site during all shifts.

If an employee makes the decision to provide first aid to someone, universal precautions shall be followed and it should be assumed that all blood and bodily fluids are contaminated with blood borne pathogens. In addition, they should wear protective medical gloves found in the First Aid Kit and use any other personal protective equipment to help avoid exposure to blood in the eyes or on the face.

If blood or potentially contaminated material gets on the skin, it must be washed off immediately using water and a non-abrasive soap. If available, an antiseptic soap or rinse should be used. If blood ever gets in the eyes, lips, mouth, or nose the employee must go to a sink, water fountain, eye wash, or body wash station and flush the area with running water as quickly as he/she can.

The Supervisor must always be aware of the potential exposure to a blood borne pathogen after the employee has washed or flushed the exposed area. Decontamination of the exposed surfaces, tools, and equipment should be conducted. This must be done immediately, and no later than the end of the shift or work periods.

First Aid Stations/First Aid Kits

A First Aid Station or First Aid Kit is to be readily available to employees as described previously. For employees working off-premises, a first aid kit must be in a properly labeled weather-proof container, stocked with the basic supplies on the jobsite.

IMPORTANT: If an employee declines First Aid and/or medical treatment for a reported on-the-job injury after the Supervisor recommends it, that employee should NOT be allowed to continue to work. Supervisors should discuss each situation with the Safety Director or Project Manager before allowing that employee to return to duty.

The Safety Director, or someone he/she may designate, is responsible for checking and maintaining the First Aid Kits. Supervisors on jobsites are responsible for assuring suitable supplies are provided in the first aid kits on-site or in their vehicles.

Emergency Eye/Body Wash Stations

Where the eyes of any employee may be exposed to injurious chemical/corrosive materials, suitable eye flushing facilities shall be provided. Emergency eye stations can be either of temporary or permanent installation.

Blood Borne Pathogens (Universal) Precautions Training

When an employee comes into direct contact with 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.

This is why RHMC believe that each employee should 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 RHMC's safety and health program.

Therefore, employees should receive a basic awareness level training concerning "Universal Precautions" such that employees may follow Universal Precautions in the event of potential exposure to blood or other bodily fluids.

First Aid Exposure

If an employee decided to be a "Good Samaritan" and provides first aid on an injured victim involving blood or bodily fluids, personal protective equipment must be used and Universal Precautions followed treating all bodily fluids as infectious.

First Aid Stations must at least include the following supplies:

- Latex gloves
- One-way valve CPR mask

Rock Hill Mechanical Corporation

HEAT STRESS SAFETY PROGRAM

PURPOSE

Preventing heat-related illnesses by protecting employees from the effects of heat by outlining procedures which will provide protective measures, training, and emergency response by designated personnel.

POLICY

It is management's responsibility to provide a heat-related illness protective plan which will adequately ensure RHMC employees receive sufficient information and supervision to protect themselves from the effects of extreme heat and heat indexes.

GENERAL

At times, workers may be required to work in hot environments for long periods of time. When the human body is unable to maintain a normal temperature, heat illnesses can occur and may result in death. It is also important to consider that hot work environments may exist indoors.

- When the body heats up faster than it can cool itself, mild to severe illnesses may develop. It's important to recognize the symptoms of heat-related illnesses and understand how to prevent, control, and respond to their effects.
- Air temperature, humidity, and clothing can increase the risk of developing heat-related illnesses. Age, sex, weight, physical fitness, nutrition, alcohol or drug use, or pre-existing diseases can also increase risks.
- Individual susceptibility to heat-related illness can vary widely between workers. Workers become gradually acclimated when exposed to hot conditions for several weeks. Physical changes in blood vessels and in sweating occur to dissipate heat more effectively. When the heat index is high, special precautions are needed to protect un-acclimated workers while they adjust, particularly on the first few days of the job.

DEFINITIONS

Hazard Identification – recognizing heat hazards and the risk of heat illness due to high temperature, humidity, sun, and other thermal exposures, work demands, clothing/PPE, and personal risk factors.

Heat Rash – the most common problem in hot work environments, caused by sweating and looks like a red cluster of pimples or small blisters. May appear on the neck, upper chest, groin, under the breasts, or elbow creases.

Heat Cramps – muscle pains usually caused by the loss of body salts and fluid during sweating.

Heat Exhaustion –headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy sweating, and a body temperature greater than 100.4°F.

Heat Stroke – occurs when the body's temperature regulating system fails and body temperature rises to critical levels (greater than 100.4°F).

Heat Index – measure of how hot it feels when relative humidity is factored in with the actual air temperature.

GENERAL HEAT PROTECTIVE MEASURES

- Drink small amounts of water frequently, about 1 cup every 15-20 minutes. To maintain proper hydration, drink about 4 cups, but no more than 6 cups of water every hour.
- Take rest breaks in cool areas.
- Increase air movement with fans and/or coolers.
- Wear loose, lightweight clothing.
- Do not use salt tablets, this can raise blood pressure, cause stomach ulcers, and seriously affect workers with heart disease.

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 acclimated to heat. Likewise, workers who return to work after a leisurely vacation or extended illness may be affected by the heat in the work environment. Whenever such circumstances occur, the worker should be gradually reacclimated to the hot environment.

TRAINING

Acclimation

Humans are, to a large extent, capable of adjusting to the heat. Much of 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. However, it may take up to several weeks for the body to fully acclimate.

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, 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.

The following information/procedures will be included in training:

- Remind workers to frequently drink small amounts of water before they become thirsty to maintain good hydration. Simply telling them to drink plenty of fluids is not sufficient. During moderate activity, in moderately hot conditions, workers should drink about 1 cup every 15 to 20 minutes. Instruct workers that urine should be clear or lightly colored.
- Workers should eat regular meals and snacks as they provide enough salt and electrolytes to replace those lost through sweating as long as enough water is consumed. Electrolyte drinks (e.g. Gatorade) are usually not necessary.
- Set up a buddy system if possible, if not, check routinely (several times an hour) to make sure workers are making use of water and shade and not experiencing heat-related symptoms.
- Make workers aware that it is harmful to drink extreme amounts of water. Workers should generally not drink more than 12 quarts (48 cups) in a 24-hour period. If higher amounts of fluid replacement are needed due to prolonged work in high heat conditions, a more comprehensive heat illness prevention program may be warranted.

- Reduce the physical demands of the job. If heavy job tasks cannot be avoided, change work/rest cycles to increase the amount of rest time.
- Schedule frequent rest periods with water breaks in shaded or air-conditioned recovery areas. Note that air conditioning will NOT result in loss of heat tolerance and is recommended for rest breaks.
- **Heat Rash** is the most common problem in hot work environments. It is caused by sweating and looks like a red cluster of pimples or small blisters. Heat rash usually appears on the neck, upper chest, in the groin, under the breasts, and in elbow creases. If a worker shows signs of possible heat rash:
  - The best treatment is to provide a cooler, less humid work environment.
  - Keep the rash area dry. Applying powder may increase comfort.
  - Ointment and creams should not be used, anything that makes the skim warm or moist may make the rash worse.
- **Heat cramps** are muscle pains usually caused by physical labor in a hot work environment. They are caused by the loss of body salts and fluid during sweating. If a worker shows signs of possible heat cramps:
  - Workers should replace fluid loss by drinking water and having a snack, and/or carbohydrate-electrolyte replacement liquids (e.g., sports drinks) every 15 to 20 minutes.
  - Workers should avoid salt tablets.
  - Get medical help if the worker has heart problems, is on a low sodium diet, or if cramps do not subside within one hour.
- **Heat Exhaustion** is a serious heat-related health problem, symptoms include; Headache, nausea, dizziness, weakness, irritability, thirst, heavy sweating, elevated body temperature, and decreased urine output. If a worker shows signs of possible heat exhaustion:
  - Workers should be taken to a clinic or emergency room for medical evaluation/treatment.
  - If medical care is not available, call 911 immediately.
  - Make sure that someone stays with the worker until help arrives.
  - Workers should be removed from the hot area and given liquids to drink.
  - Remove unnecessary clothing including shoes and socks.
  - Cool the worker with cold compresses to the head, neck, and face, or have the worker wash his or her head, face, and neck with cold water.
  - Encourage frequent sips of cool water. If the worker is unable to drink, get emergency medical help immediately.
- **Heat Stroke** is the most serious heat-related health problem. It occurs when the body's temperature regulating system fails and body temperature rises to critical levels. **Heat stroke is a medical emergency that may rapidly result in death**. Symptoms of heat stroke include; Confusion, loss of consciousness, seizures, very high body temperature, and hot, dry skin or perfuse sweating. If a worker shows signs of possible heat stroke:
  - **Heat stroke is a life-threatening emergency! While first aid measures are being implemented, call 911 and get emergency medical help.**
  - **Make sure that someone stays with the worker until help arrives.**
  - Move the worker to a shaded, cool area and remove outer clothing.
  - Wet the worker with cool water and circulate the air to speed cooling.
  - Place cold, wet cloths or ice all over the body or soak the worker's clothing with cold water.

HEAT INDEX

The heat index can be used to help determine the risk of heat-related illness for outdoor workers, what actions are needed to protect workers, and when those actions are triggered. Depending on the heat index value, the risk for heat-related illness can range from low, to very high, to extreme. As the heat index value goes up, more preventive measures are needed to protect workers. Heat index values are divided into 5 risk levels. *See Appendix "A" for additional information.

- Low Risk – Heat Index less than 90°F; Use general heat protective measures
- Moderate Risk – Heat Index from 90°-94°F; Use general heat protective measures; Drink 1-2 cups of water every hour
- High Risk – Heat Index from 95°-100°F; Use general heat protective measures; Drink 2-4 cups of water every hour
- Very High Risk – Heat Index from 100°-105°F; Use general heat protective measures; Drink 4 cups of water every hour
- Extreme Risk – Heat Index greater than 105°F; Consult supervisor

Protective Measures for Each Risk Level (In accordance with OSHA Recommendations)

Actions for Lower (Caution) Risk Conditions: Heat Index is Less Than 91 degrees F

Most people can work safely when the heat index is <91°F with only basic measures for worker safety and health, as required by the OSH Act. As minimum measures, employers have a duty to:

- Provide adequate amounts of drinking water in convenient, visible locations close to the work area.
- Ensure that adequate medical services are available. Where medical services (e.g., emergency medical services, clinic, hospital) are not available within 3-4 minutes, have appropriately trained personnel and adequate medical supplies on site. The trained personnel should have a valid certificate in first aid training from the American Red Cross or equivalent training. (A first aid certificate is required at maritime and construction worksites.)

Actions for Moderate Risk Conditions: Heat Index is 91 degrees F to 103 degrees F

At the moderate risk level some precautions in addition to those already mentioned are needed to prevent heat-related illness. Review heat-related illness signs and precautions with workers. Remind workers to drink water. Provide workers opportunities to rest in cool, shaded areas. Be aware of conditions that could increase risk.

- Alert workers to the heat index anticipated for the day and identify each precaution in place at the work site to reduce the risk of heat-related illness.
- Provide adequate amounts of cool water and disposable cups in convenient, visible locations close to the work area.
- Remind workers to drink small amounts of water often (before they become thirsty). A good rule of thumb is to drink about 4 cups of water every hour when the heat index suggests a moderate risk level.
- Respond to heat-related illness and medical emergencies without delay. Workers who show symptoms of heat-related illness need immediate attention. Treating milder symptoms (headache, weakness) early by providing rest in a shaded area and cool water to drink can prevent a more

serious medical emergency. Call 911 immediately if a worker loses consciousness or appears confused or uncoordinated. These are signs of possible heat stroke. Heat stroke is fatal if not treated immediately.

- Review heat-related illness signs and symptoms and site-specific precautions during daily meetings or toolbox talks. Be sure everyone knows procedures for responding to possible heat-related illness.
  - What steps to follow if a worker exhibits signs and symptoms of heat-related illness
  - Who to call for medical help
  - Who will provide first aid until the ambulance arrives
- Schedule frequent rest breaks in cool, shaded areas.
  - Provide air conditioned or shaded areas close to the work area.
  - Set up temporary shade when working in open fields or areas without easy access to shade or air conditioning.
- Acclimatize new and returning workers. Gradually increase the workload or allow more frequent breaks to help new and returning workers build up a tolerance for hot conditions over time. If the heat index increases suddenly, allow all workers more frequent breaks for a few days while they become accustomed to the warmer conditions.
- Implement actions for the High Risk Conditions (103°F - 115°F) if heat index approaches 103°F OR work is strenuous, in direct sunlight, or involves the use of heavy or non-breathable clothing or impermeable chemical protective clothing.
- Set up a buddy system, if possible, to enable workers to look out for signs and symptoms of heat-related illness in each other. Often, a worker will not recognize his own signs and symptoms.
- Instruct supervisors to watch workers for signs of heat-related illness. Check routinely to make sure workers are making use of water and shade and not experiencing heat-related symptoms.

Actions for High Risk Conditions: Heat Index is 103 degrees F to 115 degrees F

As the heat index rises above 103°F, there is a high risk for heat-related illness, so additional measures to protect workers are needed. Increase rest periods and designate a knowledgeable person (well-informed on heat-related illness) at the worksite to determine appropriate work/rest schedules. Reduce work load and pace strenuous work tasks. Remind workers to drink plenty of water every 15 to 20 minutes.

- Alert workers to the heat index anticipated for the day and identify each precaution in place at the work site to reduce the risk of heat-related illness. Review heat-related illness signs and symptoms during daily meetings or toolbox talks. Be sure everyone knows procedures for responding to possible heat-related illness.
  - What steps to follow if a worker exhibits signs and symptoms of heat-related illness
  - Who to call for medical help
  - How to give clear directions to the worksite
  - Who will provide first aid until the ambulance arrives
- Provide plenty of cool drinking water and disposable cups in convenient, visible locations close to the work area.
- Actively encourage workers to drink small amounts of water often (before they become thirsty). They should drink about 4 cups of water every hour while the heat index is 103 to 115°F. Workers will need the greatest amount of water if they must work in direct sunshine, during peak exertion,

and during the hottest part of the day. Under most circumstances extended hourly fluid intake should not exceed 6 cups per hour or 12 quarts per day. To maintain worker hydration, it is particularly important to reduce work rates, reschedule work for a time when the heat index is lower, or enforce work/rest schedules when work must continue during periods of extreme risk for heat-related illness.

- Respond to heat-related illness and medical emergencies without delay.
- Workers who show symptoms of heat-related illness need immediate attention. Treating milder symptoms (headache, weakness) early by providing rest in a shaded area and cool water to drink can prevent a more serious medical emergency. Call 911 immediately if a worker loses consciousness or appears confused or uncoordinated. These are signs of possible heat stroke. Heat stroke is fatal if not treated immediately.
- Have a knowledgeable person onsite who is well-informed about heat-related illness and authorized to modify work activities and the work/rest schedule as needed.
- Establish and enforce work/rest schedules to control heat exposure and allow workers to recover. Consider the level of physical exertion and type of protective equipment being used.
    - Advise workers of the work/rest schedule and make sure supervisors enforce rest breaks.
    - Provide air conditioned or cool, shaded areas close to the work area for breaks and recovery periods.
    - Set up temporary shade when working in open fields or areas without easy access to shade or air conditioning.
- Adjust work activities to help reduce worker risk:
    - Schedule heavy tasks earlier in the day or at a time during the day when the heat index is lower. Consider adjusting the work shift to allow for earlier start times, or evening and night shifts.
    - Where possible, set up shade canopies over work areas in direct sunshine or move jobs that can be moved to naturally shaded areas.
    - Permit only those workers acclimatized to heat to perform the more strenuous tasks. Rotate physically demanding job tasks among acclimatized workers.
    - Decrease the physical demands and pace of jobs. If heavy job tasks cannot be avoided, change work/rest cycles to increase the amount of rest time.
    - Add extra personnel to physically demanding tasks so that the shared work load is less intense. This will lower the workers' risk of heat-related illness.
    - Rotate workers to job tasks that are less strenuous or in cooler/air-conditioned setting for part of the work shift.
- Acclimatize workers. Take steps that help all workers become acclimatized to the heat, particularly if the weather turns hot suddenly. Gradually increase workloads and allow more frequent breaks during the first week of work. Closely supervise new employees for the first 14 days, until they are fully acclimatized.
- Set up a buddy system to enable workers to look out for signs and symptoms of heat-related illness in each other. Often, a worker will not recognize his own signs and symptoms.
- Instruct supervisors to watch workers for signs of heat-related illness. Check routinely (several times per hour) to make sure workers are making use of water and shade and not experiencing heat-related symptoms. Extra vigilance is needed when the heat index reaches very high levels.

- Maintain effective communication with your crew at all times (by voice, observation, or electronic communications). Confirm that communication methods are functioning effectively.

Actions for Very High to Extreme Risk Conditions: Heat Index Greater Than 115°F

Very hot and humid conditions put an extra strain on workers and greatly increase the risk of developing heat-related illness. It can develop faster and be more serious and widespread among workers. Even previously acclimatized workers are at risk for heat-related illness without protective measures. The situation is even more serious when hot weather arrives suddenly (e.g., heat wave early in the season), because the body has not had enough time to adjust to the sudden, abnormally high temperature or other extreme conditions.

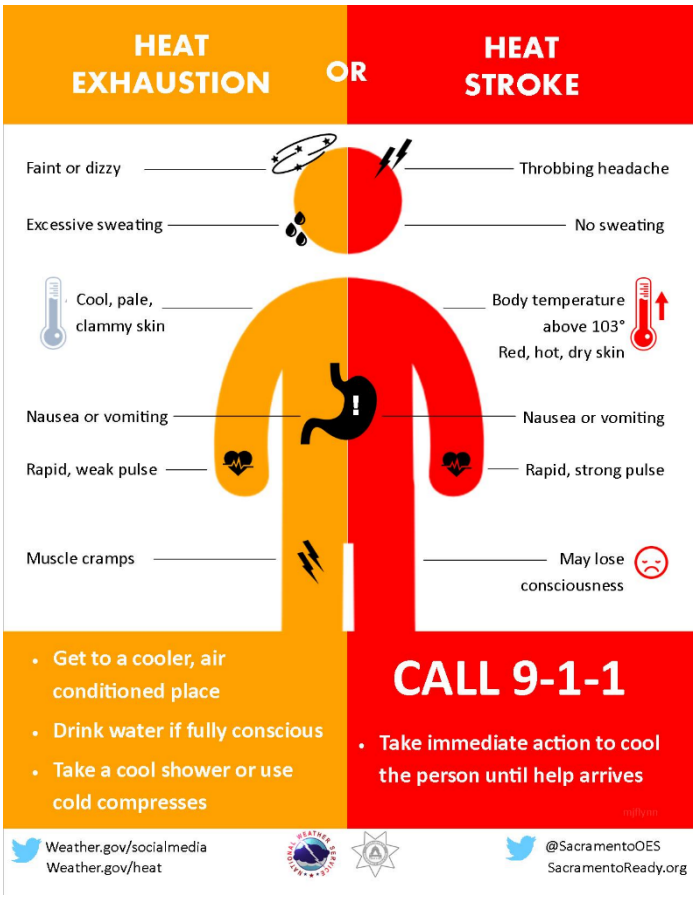
In addition to the precautions already identified, extra measures are needed to protect workers under this highest risk level. Re-schedule non-essential work activities and move essential work tasks to a time during the work shift when the heat index is lower. If this is not possible, establish a water drinking schedule, enforce work/rest schedules, and be extra vigilant in monitoring workers for heat-related illness symptoms, including by using physiological monitoring and systems to enable effective communications. This requires a knowledgeable person on site who can assess heat-related safety concerns.

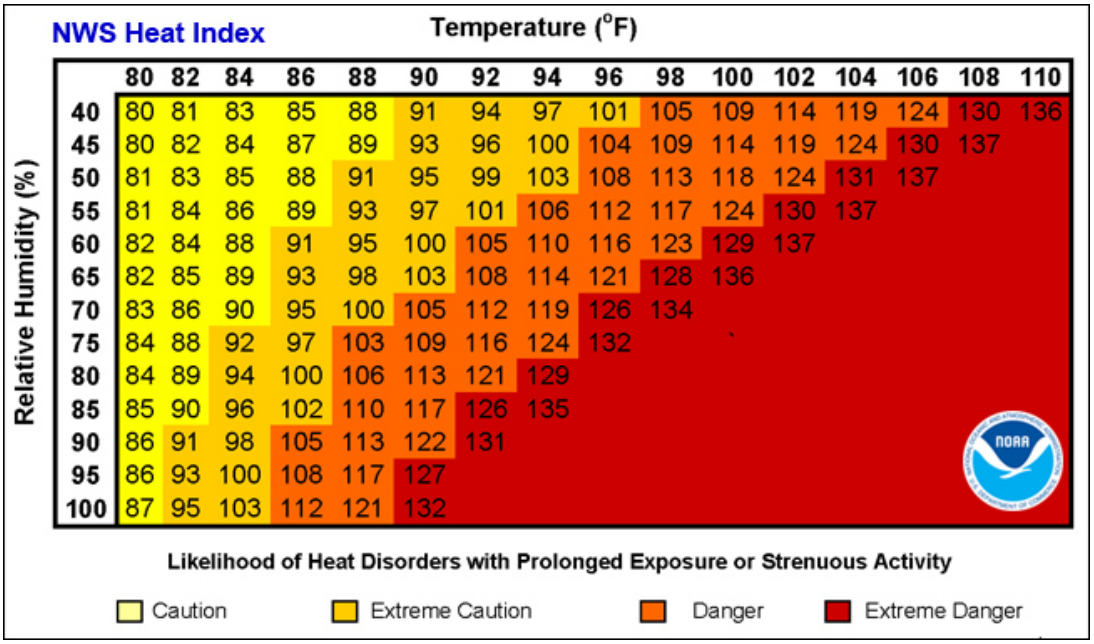
- Reschedule all non-essential outdoor work for days with reduced heat index.
- Move essential outdoor work to the coolest part of the work shift. As able, alter the work shift to allow for earlier start times, split shifts, or evening and night shifts. Prioritize and plan essential work tasks carefully – strenuous work tasks and those requiring the use of heavy or non-breathable clothing or impermeable chemical protective clothing should not be conducted when the heat index is at or above 115°F.
- Stop work if essential control methods are inadequate or unavailable when the risk of heat illness is very high.

First Aid Action for Heat Illness Symptoms

- Heat Rash – Keep affected area dry; Work in cooler/less humid areas
- Heat Cramps – Rest in shady, cool areas; Drink water; Wait at least an hour before returning to work; Seek medical attention if cramps do not go away
- Heat Exhaustion – Sit or lie down in a cool, shady area; Drink plenty of water; Cool with cold compress or ice pack; If symptoms continue or worsen after 1 hour, seek emergency medical assistance
- Heat Stroke – Call 911; Keep in cool, shady area; Loosen or remove clothing; Place ice pack under arm pits; Use cool water to cool down until medical assistance arrives

APPENDIX "A"


HEAT EXHAUSTION
OR
HEAT STROKE
Faint or dizzy
Excessive sweating
Cool, pale, clammy skin
Nausea or vomiting
Rapid, weak pulse
Muscle cramps
Throbbing headache
No sweating
Body temperature above 103°
Red, hot, dry skin
Nausea or vomiting
Rapid, strong pulse
May lose consciousness
• Get to a cooler, air conditioned place
• Drink water if fully conscious
• Take a cool shower or use cold compresses
CALL 9-1-1
• Take immediate action to cool the person until help arrives
Weather.gov/socialmedia
Weather.gov/heat
@SacramentoOES
SacramentoReady.org


NWS Heat Index
Temperature (°F)
Relative Humidity (%)
80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110
40 80 81 83 85 88 91 94 97 101 105 109 114 119 124 130 136
45 80 82 84 87 89 93 96 100 104 109 114 119 124 130 137
50 81 83 85 88 91 95 99 103 108 113 118 124 131 137
55 81 84 86 89 93 97 101 106 112 117 124 130 137
60 82 84 88 91 95 100 105 110 116 123 129 137
65 82 85 89 93 98 103 108 114 121 128 136
70 83 86 90 95 100 105 112 119 126 134
75 84 88 92 97 103 109 116 124 132
80 84 89 94 100 106 113 121 129
85 85 90 96 102 110 117 126 135
90 86 91 98 105 113 122 131
95 86 93 100 108 117 127
100 87 95 103 112 121 132
NOAA
Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity
Caution
Extreme Caution
Danger
Extreme Danger

COLD STRESS SAFETY PROGRAM

PURPOSE

Preventing cold stress related illnesses by protecting employees from the effects of cold weather by outlining procedures which will provide protective measures, training, monitoring, and emergency response by designated personnel.

POLICY

It is the management's responsibility to provide a cold stress related illness protective plan which will adequately ensure RHMC employees receive sufficient information and supervision to protect employees from the effects of cold weather and excessive wind chill illnesses.

GENERAL

Cold temperatures and increased wind speed (wind chill) cause heat to leave the body more quickly, putting workers at risk of cold stress.

It is important for employers to know the wind chill temperature so that they can gauge workers' exposure risk better and plan how to safely do the work. It is also important to monitor workers' physical condition during tasks, especially new workers who may not be used to working in the cold, or workers returning after spending time away from work.

Environmental cold can affect any worker exposed to cold air temperatures and puts workers at risk of cold stress. As wind speed increases, it causes the cold air temperature to feel even colder, increasing the risk of cold stress to exposed workers, especially those working outdoors.

In a cold environment, most of the body's energy is used to keep the internal core temperature warm. Over time, the body will begin to shift blood flow from the extremities (hands, feet, arms, and legs) and outer skin to the core (chest and abdomen). This shift allows the exposed skin and the extremities to cool rapidly and increases the risk of frostbite and hypothermia. Combine this scenario with exposure to a wet environment, and trench foot may also be a problem.

DEFINITIONS

Blizzard Warning – Issued for sustained or gusty winds of 35 mph or more, and falling or blowing snow creating visibilities at or below ¼ mile; these conditions should persist for at least 3 hours.

Wind Chill Advisory – Issued when wind chill temperatures are expected to be a significant inconvenience to life with prolonged exposure, and if caution is not exercised, could lead to hazardous exposure.

Wind Chill Warning – Issued when wind chill temperatures are expected to be hazardous to life within several minutes of exposure.

Winter Storm Warning – Issued when hazardous winter weather in the form of heavy snow, blizzard condition, heavy freezing rain, or heavy sleet is imminent or occurring. Winter Storm Warnings are usually issued 12 to 24 hours before the event is expected to begin.

Winter Storm Watch – Alerts the public to the possibility of a blizzard, heavy snow, heavy freezing rain, or heavy sleet. Winter Storm Watches are usually issued 12 to 48 hours before the beginning of a winter storm.

Winter Weather Advisories – Issued for accumulations of snow, freezing rain, freezing drizzle, and sleet which will cause significant inconveniences and, if caution is not exercised, could lead to life threatening situations.

Frostbite – Caused by the freezing of the skin and tissues. Can cause permanent damage to the body, and in severe cases can lead to amputation. Risk is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures. Reddened skin develops gray/white patches in the fingers, toes, nose, or ear lobes; tingling, aching, loss of feeling, firm/hard, and blisters may occur in the affected area.

Hypothermia – Occurs when the normal body temperature (98.6°F) drops to less than 95°F. Exposure to cold temperatures causes the body to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up the body's stored energy. The result is hypothermia, or abnormally low body temperature. Mostly occurs in very cold temperatures but can occur even at cool temperatures if a person becomes chilled from rain, sweat, or immersion in cold water. An important mild symptom is uncontrollable shivering, which should not be ignored. Although shivering indicated that the body is losing heat, it also helps the body rewarm itself. Moderate to severe symptoms are; loss of coordination, confusion, slurred speech, heart rate/breathing slow, unconsciousness, and possibly death. Body temperatures that are too low affect the brain, making the victim unable to think clearly or move well, this is especially dangerous because the person may not know what is happening and won't be able to do anything about it.

Immersion/Trench Foot – Non-freezing injury of the feet caused by prolonged exposure to wet and cold conditions. Can occur in temperatures as high as 60°F if feet are constantly wet. Injury occurs because wet feet lose heat 25-times faster than dry feet. Symptoms are reddening skin, tingling, pain, swelling, leg cramps, numbness, and blisters.

Wind Chill Temperatures – Describes the rate of heat loss from the human body, resulting from the combined effect of low air temperature and wind speed. Outdoor workers exposed to cold and windy conditions are at risk of cold stress.

TREATING COLD RELATED ILLNESSES

Hypothermia

- Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible.
- Move the person to a warm, dry area.
- Remove wet clothes and replace with dry clothes, cover the entire body with layers of blankets and vapor barrier, Do NOT cover the face.
- If medical help is more than 30 minutes away:
  - Give warm, sweetened drinks if alert.
  - Place warm bottles or hot packs in armpits, sides of chest, and groin. Call 911 for additional rewarming instructions.
- If a person is not breathing or has no pulse:
  - Call 911 for emergency medical assistance immediately.

- Treat the worker as per instruction for hypothermia but be very careful and do not try to give an unconscious person fluid.
- Check him/her for signs of breathing and for a pulse. Check for 60 seconds.
- If after 60 seconds the affected worker is not breathing and does not have a pulse, trained workers may start rescue breaths for 3 minutes.
- Recheck for breathing and pulse for 60 seconds.
- If the worker is still not breathing and has no pulse, continue rescue breathing.
- Only start chest compressions per the direction of 911 operator or emergency medical services.
- Reassess patient's physical status periodically.

Frostbite

- Follow the recommendations described above for hypothermia.
- Do not rub the affected area to warm it because this action can cause more damage.
- Do not apply snow/water. Do not break blisters.
- Loosely cover and protect the area from contact.
- Do not try to rewarm the frostbitten area before getting medical help; for example, do not place in warm water. If a frostbitten area is rewarmed and gets frozen again, more tissue damage will occur. It is safer for the frostbitten area to be rewarmed by medical professionals.
- Give warm, sweetened drinks, if the person is alert. Do not give the patient alcohol.

Trench Foot

- Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible.
- Remove the shoes/boots, and wet socks.
- Dry the feet.

MEASURES TO PREVENT COLD RELATED STRESS/ILLNESSES

The four environmental conditions that cause cold related stress are low temperatures, high/cool winds, dampness, and cold water. Wind chill, a combination of temperature and velocity, is a crucial factor to evaluate when working outside. For example, when the actual air temperature of the wind is 40°F and its velocity is 35 mph, the exposed skin receives conditions equivalent to the still-air temperature being 11°F. A dangerous situation of rapid heat loss may arise for any individual exposed to high winds and cold temperature.

The purpose of this program is to take definitive measures prior to the onset of cold related illnesses so that medical response will not be necessary. If the above conditions do present themselves, the supervisor, who will always have access to a mobile phone, will follow our standard emergency procedures.

Personal Protective Clothing

Personal Protective Clothing is the most important step in fighting the elements is providing adequate layers of insulation from them. Wear at least three layers of clothing:

- An outer layer of nylon or similar material to break the wind and allow some ventilation.

- A middle layer of wool or synthetic fabric to absorb sweat and retain insulation in a damp environment. Down is a useful lightweight insulator; however, it is ineffective once it becomes wet.
- An inner layer of cotton or synthetic weave to allow ventilation.

Engineering Controls

Engineering Controls help reduce the risk of cold-related injuries.

- Use an on-site source of heat such as; air jets, radiant heaters, or contact warm plates.
- Shield work areas from drafty or windy conditions.
- Provide a heated shelter for employees who experience prolonged exposure to equivalent wind-chill temperatures of 20°F or less.
- Keep walkways and travel ways sanded, salted, or cleared of snow and ice as soon as practicable.

Safe Work Practices

- Remain hydrated with water or warm, sweetened fluids. Avoid caffeine and alcohol.
- Establish a buddy system for working outdoors to ensure that no employee works alone in cold work environments. All employees should be under constant protective observation by a co-worker and/or supervisor.
- Know the symptoms of cold-related stresses; heavy shivering, uncomfortable coldness, severe fatigue, drowsiness, or euphoria.
- Ensuring that all employees are trained and knowledgeable in administering first aid treatment on cold induced injuries or illnesses.

Rock Hill Mechanical Corporation

NOISE EXPOSURE PROGRAM

PURPOSE

Rock Hill Mechanical Corporation has developed this Noise Exposure Program to establish the policies, responsibilities, and procedures pertaining to the prevention of noise-induced hearing loss among its employees that work in noise hazardous areas. This program is applicable to all activities where noise hazardous area exists. It applies to all RHMC employees working or visiting such areas.

This program shall be administered to employees that are exposed to sound levels greater than 85dBA on an 8 hour time-weighted average (TWA).

SCOPE

Noise exposure may result in permanent damage to the auditory system and there is no medical or surgical treatment for this type of hearing loss. Though the use of a hearing aid may provide some benefit, normal hearing will not be restored. Many people do not realize loud sounds can cause hearing loss. Furthermore, in its initial stages, the person may not notice a problem since noise induced hearing loss is invisible, painless, and occurs in high frequencies. It is dangerous to ignore the temporary characteristics of noise induced hearing loss: i.e. ringing or buzzing in the ear, excessive fatigue, etc. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart D Section 1926.52, however, the entire section is to be strictly observed and followed.

PROCEDURES

Noise surveys shall be conducted by the RHMC Safety Director when hazardous noise levels are suspected. Protective measures for impulse type noises are the same for steady state noises. All employees in the noise hazardous areas will wear ANSI approved hearing protection devices.

All employees who are included in the Noise Exposure Program will conform to the requirements and wear protective devices as designated by the Safety Director.

NOISE LEVEL DETERMINATION

Noise levels exceeding 85 decibels (dB) for steady noise, and 140 dB for impulse noise are considered to be hazardous. If variations in noise levels involve maxims at an interval of one (1) second or less, it is considered continuous. When daily noise levels are composed of two or more periods of noise exposure of different levels, their combined effect will be considered, rather than the individual effect of each. Exposures considered for various periods of time shall be computed according to the formula found in 1926.52(d)(2)(ii). When information indicates that employee exposure may equal or exceed the 8-hour TWA of 85 dB, a monitoring program of exposure shall be implemented to identify employees covered by this program.

PROTECTION MEASURES

Strong consideration will be given to the engineering control of noise, such controls should be assessed and implemented where the state-of-the-art technology exists, and economic costs are not prohibited. To establish priorities in terms of available manpower and resources, the most hazardous noise exposure should be given primary consideration.

Areas where noise cannot be controlled down or below safe exposure levels, will be designated and posted as noise hazardous areas. Where engineering controls are not feasible, administrative controls and/or the use of hearing protective devices will be implemented.

RHMC shall evaluate hearing protection for specific noise environments in which hearing protective devices shall be worn. Use of hearing protective devices is mandatory in noise hazard areas exceeding 85 decibels. Required hearing protection devices will be provided by RHMC at no cost to employees. RHMC will provide all initial and continued training on use, care, and fitting of said devices.

If an individual deliberately, or through carelessness, violates regulations regarding the wearing of hearing protective devices, provisions of discipline will be levied to the employee. The prevention of hearing loss from exposure to noise involves the coordinated application of; noise hazard identification and evaluation, posting noise hazardous areas, engineering control measures, and use of hearing protective devices.

TRAINING

Education is vital to the overall success of a noise exposure/hearing conservation program. An understanding by employees of the permanent nature of noise induced hearing loss and the employee's responsibilities under the program are all essential for program effectiveness.

Initial

Initial training shall include, but is not limited to; recognition of hazardous noise areas, control measures, reporting, and hearing protection device use and maintenance. Training will be conducted for all employees with the potential exposure to hazardous noise levels.

Regular

Regular training will be provided to employees on the hearing conservation program, hazards of noise exposure and hearing protective devices in the form of toolbox talks.

BLOODBORNE PATHOGEN EXPOSURE AWARENESS

PURPOSE

Rock Hill Mechanical Corporation has determined that its workers could be exposed to bloodborne pathogens while working on job sites. The purpose of this exposure awareness is to eliminate or minimize RHMC workers' exposure to bloodborne pathogens. This Plan describes the major components of OSHA Standard 29 CFH 1910 sub part Z section 1910.1030, however all sections of the subpart are to be strictly observed and followed.

This exposure awareness applies to all employees who work where exposure to bloodborne pathogens may be possible. Before starting work, RHMC workers need to be:

- Informed about the potential for exposure to blood and other potentially infectious materials
- Informed about the specific bloodborne pathogens that could be contracted from such exposures
- Instructed on how to protect themselves from bloodborne pathogens hazards in the workplace
- Understand what tasks and procedures could expose workers to blood or other potentially infectious materials such as, but not limited to:
    - Replacing drain piping in hospitals and nursing facilities
    - Replacing piping in waste water treatment facilities
    - Replacing drain piping in clinical laboratories
    - Punctures from sharp objects or needles in medical facilities
    - Responding to every day accidents in which workers are exposed to human and body fluids
    - Replacing sewer piping inside and outside
    - Working near or around biohazard rooms or containers

METHODS OF COMPLIANCE

All workers in this company who may be exposed to blood or other potentially infectious materials will be trained to use universal precautions in every situation where exposure could occur. The workers will be taught to treat all blood, bodily fluids, and other potentially infectious materials as if they are known to be infectious.

Work Practice Controls

All affected company workers will be trained to implement appropriate work practice controls as shown below. All training will take place before exposure occurs.

- Workers will be trained to use and will have access to hand washing facilities or antiseptic hand cleaner and cloth or paper towels or antiseptic towelettes.
- Workers will be trained to wash their hands immediately after removing their gloves and other personal protective equipment.
- Workers will be trained to thoroughly wash any part of their skin that comes in contact with blood or other potentially infectious materials.

- Workers will be trained to thoroughly wash mucous membranes with water as soon as possible after there has been contact with blood or other potentially infectious materials.
- Workers will be trained not to eat, drink, smoke, apply cosmetics or lip balm, or handle contact lenses in any work area where exposure could occur.
- Workers who administer first aid will be trained to place first aid materials that are contaminated with blood or other potentially infectious materials in leak proof bags.

Personal Protective Equipment

RHMC will issue each worker personal protective equipment designed to isolate them from contact with blood and other potentially infectious materials. The PPE that will be provided includes; eye protection, a surgical mask that covers the nose and mouth, a disposable impermeable coverall, and a pair of gauntlet style utility gloves.

Each first aid kit will contain personal protective equipment designed to isolate first aid responders from contact with blood and other potentially infectious materials. The equipment that will be provided includes; eye protection, a surgical mask that covers the nose and mouth, hypoallergenic surgical gloves, a pair of disposable coveralls, and a resuscitation mask with a one-way valve.

All PPE that is contaminated by blood or other potentially infectious materials will be disposed of in bags as soon as it is feasible to do so. The personal protective equipment will be replaced immediately. All company workers will be informed about the presence and location of the contaminated equipment disposal bag and how to identify it. Broken or damaged PPE will be discarded and replaced immediately. All affected workers will remove their PPE before leaving the work area.

Housekeeping

Work areas that are potentially contaminated with blood or other potentially infectious materials will be cleaned with disposable rags and disinfectant, or a 1:10 solution of bleach before work stops. Employees responsible for cleanup will continue to wear their PPE throughout the process. Contaminated rags will be disposed of properly in bags as soon as housekeeping tasks are completed. All employees will be informed about the presence and location of the contaminated rag disposal bag and how to identify it.

HEPATITIS B VACCINATIONS

RHMC employees who work where a bloodborne pathogen exposure could occur during routine work and all affected workers are urged to obtain the Hepatitis B vaccine.

POST-EXPOSURE EVALUATION

Affected workers and supervisors will be trained in the following post-exposure procedures:

1. Affected workers will immediately report any exposure to their supervisor.
2. The supervisor will carefully document the route or routes of exposure and the location and circumstances under which the exposure occurred.

3. The supervisor will determine whether the affected worker has received the Hepatitis B vaccine, if the worker has not received the vaccine, the supervisor will remind the worker about their option to receive it and the significance of receiving the first vaccine within 24 hours following the exposure.
4. The supervisor will take the exposed worker to the nearest medical facility immediately following the report.

WORKER INFORMATION AND TRAINING

All RHMC workers will receive training that will inform them about the presence of bloodborne pathogens in the workplace, the hazards associated with bloodborne pathogens, how and where bloodborne pathogen exposures can occur, and how they can effectively protect themselves from the hazards. Training will take place before affected workers are exposed to bloodborne pathogen hazards and annually thereafter. Additional training will take place whenever changes to procedures or work tasks affect the workers' occupational exposure. The training will include the following:

- The definition and description of bloodborne pathogens
- The proper use of universal precautions
- The proper use of work practice controls
- The proper selection, use, care, and maintenance of PPE
- The availability, efficiency, safety, method of administration, and benefits of the Hepatitis B vaccine and that it will be provided at no cost to the workers
- The proper disposal of contaminated materials such as PPE, first aid materials, and clean up materials
- The procedures to follow when an exposure occurs

RECORDKEEPING

Medical records for all affected workers are kept on file at RHMC. The records will be kept on file for 30 years following the worker's last day of work with the company.

Training records for all affected workers are kept on file at RHMC. The records will be kept on file for 3 years from the date on which the training occurred.

SPILL PREVENTION AND CONTAINMENT PLAN

PURPOSE

The purpose of this Spill Prevention and Containment Plan is to outline the procedures and training necessary to ensure adequate and efficient control, containment, and management of waste materials (e.g. construction debris) and equipment fluids (e.g. diesel fuel, oil, etc.) which may be accidently released during work operations including; loading, transportation, and handling. Furthermore, chemical substances will be stored in proper containers to minimize the potential for a spill. When possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water.

Rock Hill Mechanical Corporation uses limited amounts of hazardous and/or chemical material that could cause a spill of any magnitude. However, any spill, no matter the size, is to be treated appropriately and all necessary action taken to contain the spill and to properly dispose of any waste.

POLICY AND PROCEDURES

It is RHMC's policy to minimize both the chance of a spill and the consequences of a spill, by storing all chemicals and wastes in a designated and controlled holding area. The storage area shall be designated in consultation with the client/owner and designed to physically limit the spread of liquids to drains or other sensitive areas. In the case of flammable liquids, approved cabinets must be used. Access to chemical storage shall be limited to authorized individuals.

To further minimize the likelihood of a spill, each job site will be kept clean and orderly through good housekeeping. It is the supervisor's responsibility to maintain proper housekeeping and identify any potential spill scenarios.

Each job site shall be surveyed for possible hazardous and/or chemical spills (i.e. threading oil, fuel). Possible spills will generally be 1 gallon or less. Prior to using any hazardous materials, the employee using the material will refer to the appropriate SDS for specific responses and actions for containment of spills. For any job requiring a large amount of hazardous material, Rock Hill Mechanical will have appropriate resources for containment control.

TRAINING

All supervisors and project managers involved in the handling of wastes will receive initial training and refresher training in this Spill Prevention and Containment Plan. Training will cover all aspects of the Spill Prevention an Containment Plan as outlined below. Employees will also be instructed on the proper response procedures for spilled materials. Training will include; materials available for use, proper waste disposal, and communication procedures. Proper spill kits will contain the appropriate supplies for materials that may be spilled. Supplies will be easily accessible when required and considerations will be made for both the type and the quantity of the materials.

If an incident occurs which causes an unintentional release of wastes, chemicals, and/or equipment fluids, the procedures as noted below must be followed.

Wastes – Spill Control an Emergency Response

1. In the event of any accident or spill, first follow the written accident procedures, as applicable. The response must occur as soon as safely practical. The supervisor will estimate the quantity of material released and decide whether simple material handling or machinery, such as a front-end locator or fork lift, will be required to reload the material into a container.
2. Proper PPE shall be worn during hazardous clean up, i.e., rubber gloves and safety glasses. Pre-planning of the PPE shall be done.
3. Contain the spill. Containment may be done by the use of absorbent cloth rags (kept on the job site) or earth.
4. If the spill is in such an area, or large enough that it could reach entrances to sewers or drainage systems, begin containment by placing barriers at these entrances with absorbent materials (kept at the job site) in front of the barrier.
5. Apply absorbent material (kept at the job site) to the spill in quantities large enough to consume the entire spill.
6. Spill containment material shall be disposed of in accordance with federal, state, and local regulations.
7. In all cases, the supervisor will immediately notify the client/owner contact and then the project manager about the spill and the circumstances of the incident and provide a telephone number or location where a return call may be made to provide further instructions or assistance in evaluating the specific action that should be taken.
8. If necessary, the supervisor and client will work in coordination to promptly call local emergency services (911) and notify them of the incident including the size, nature, and location of the spill.
9. The supervisor will provide local on-site emergency personnel including local or state law enforcement officials and/or fire rescue personnel with information about the material and other information.

Safety Precautions

Supervisors should practice good personal hygiene during the handling of any waste. Appropriate PPE, including protective clothing, should be used when handling any waste material.

Waste Disposal

Prior to working on a job site, the project manager shall determine the means and procedures for handling and disposing of contract generated waste material. Project wastes, trash, and/or scrap materials will be taken into consideration before work begins. The project manager shall then document the plan and inform the supervisor of the requirements. The general guidelines for handling waste material are:

- Any waste material shall be stored in such a way to prevent its release or spreading
- To the best degree possible, wastes will be segregated to take advantage of opportunities for recycling
- Each job site must to be cleaned at the end of the day by sweeping and picking up of uncontained waste
- As necessary, a designated, and possibly secured waste storage area may be established

SPILL PREVENTION CONTROL & TRAINING

Training is provided for all employees on site. Refresher and updated equipment training with appropriate personnel, which includes a review of this SPC Plan and applicable laws and regulations, is also provided. Emphasis is placed on the need to prevent spills, how to prevent spills, required reporting notifications, and previous spill events. The training program includes emphasis on general environmental awareness.

Requirements

It is critical that all employees are familiar with the requirements of spill prevention and control. To accomplish this, the following procedures will be considered and implemented.

1. All personnel are required to be instructed on the SPC Plan and the impact if a spill occurs.
2. All employees are to be familiar with:
    i. Requirements for reporting all spills to their supervisor
    ii. SPC Plan
    iii. Materials available for control and cleanup of spills
3. To keep Spill Prevention a high-priority issue, short meetings should be held at regular intervals to review the plan and instruct any new employees on the requirements.
4. The date and those in attendance at each meeting should be recorded.
5. Appropriate personnel are instructed and rehearsed in the following spill prevention/control requirements:
    i. Unloading and dispensing procedures
    ii. Storage area and containers inspected once per month
    iii. Location and use of PPE and spill control materials
    iv. Containment procedures
    v. Fire and explosion response
    vi. Communication to proper authorities
6. Training received shall be documented and the records maintained for a minimum of 3 years.

Topics

Employee training program topics include:

- Review of Spill Prevention and Response regulations
- Review of Unloading and Dispensing Procedures

- Review and demonstration of basic clean up housekeeping
- Locations of absorbents and cleaning equipment
- Review of emergency protocols
- Review of any changes to the facility Plan since the last training session
- Familiarizing employees with past spill events (if any)

Records

The trainer(s) and/or Spill Plan Coordinator shall keep a record of every training session. Each training records will include, at a minimum:

- Topics covered during session
- Identification of trainer
- Identification of employees participating in training session
- Date, time, and duration of the training session
- Signature of participants
- Signature of trainer
- Training records must be maintained for a minimum of 3 years

Control Procedures

Spill control is provided through proper training of appropriate personnel. It is important that only trained personnel dispense and fill storage tanks and vessels. The use of an appropriately sized spill kit and emergency temporary dike and floor drain collars are also important measures in reducing the risk of a potential spill from reaching a storm water collection basin or otherwise impacting the property or environment.

The following procedures outline the responsibilities of personnel in the event of a spill:

1. Summon assistance as needed (RHMC Safety Director, Fire Department, Ambulance, etc.)
2. Extinguish ignition sources and suspend operations as necessary
3. Assist in stopping the release, then containing and cleaning up the spill.

Countermeasure Procedures

Any employee who discovers a spill of any kind will immediately take appropriate action to stop the flow, if possible, and report the spill to the appropriate supervisor who will assess the spill, take or direct action to stop the flow of spilled material, and assure no endangerment of individuals. Spilled material will be removed in a timely manner and disposed properly.

HOT WORK PERMIT POLICY

DEFINITION

Hot Work is any work using open flames, or sources of heat, that could ignite materials in the work area. For example; Welding, burning, brazing, propane soldering, oxyacetylene cutting, grinding ferrous metals, etc.

PROCEDURES

Before beginning hot work, contact the Project Manager, Safety Engineer, or Owners Representative to have a hot work permit issued.

Permits are issued for the specific job being done and for a specific time period. The time period is usually for the working shift, but may never exceed 24 hours.

Necessary Precautions to Take

- Cutting and welding equipment in good repair
- Sprinklers are in service
- Floors swept clean of combustibles
- Combustible floors wet down with damp sand or fire-resistant sheets
- Flammable liquids removed, other combustibles protected, if not removed
- All wall and floor openings covered

Sprinkler systems must remain in service in the hot work area, unless specifically approved by the Project Manager, Safety Engineer, or Owners Representative.

Fire Watch

A person will be assigned to fire watch, which will be provided during, at least 1 hour after work is completed, and during break/lunch. The designated fire watch employee is supplied with suitable extinguishers, which they have been trained to use, along with being trained in sounding any alarms that may be of need.

Final Check

The final check shall be done by the welder and the person assigned to fire watch. Work and all adjacent areas to which sparks, and heat may have spread (such as floors above and below) are inspected after the work is complete. After signing off, the final check shall be returned to person who issued the hot work permit within 30 minutes of verification that there is not chance for smoldering fires.

ARC FLASH ELECTRICAL SAFETY PROGRAM

POLICY

The policy of Rock Hill Mechanical is to perform work in the safest manner possible. RHMC will provide the safest possible working conditions for its employees by insuring that RHMC employees are properly trained and are provided all the necessary PPE to safely perform their work.

DEFINITION

Arc Flash – When electric currents pass through the air between ungrounded conductors, or between ungrounded conductors and grounded conductors. The temperatures can reach up to 35,000° F, exposure to these extreme temperatures burns the skin directly and causes ignition of clothing, which adds to the burn injury. The majority of hospital admissions due to electrical accidents are from arc flash burns, not from electrical shocks. Arc flashes can kill up to distances of 10 feet.

PURPOSE

The purpose of this program is to ensure that RHMC employees follow these objectives in order to provide a safe work place and adhere to the appropriate protective measures:

- Every electrical conductor or circuit part is considered energized until proven otherwise
- No barehand contact is to be made with exposed energized electrical conductors or circuit parts above 50 volts to the ground, unless the barehand method is properly used
- Deenergizing an electrical conductor or circuit part and making it safe to work on is in itself a potentially hazardous risk
- The employer develops the program and training, and the employees apply them
- Use procedures as tools to identify the hazards and develop plans to eliminate/control hazards
- Train employees to qualify them for working in an environment where there is the presence of electrical energy
- Identify/categorize tasks to be performed on or near exposed energized electrical conductors and circuit parts
- Use a logical approach to determine potential hazards of a task
- Identify and use precautions appropriate to the working environment

PRINCIPLES

The major principles of the Arc Flash Program include the following:

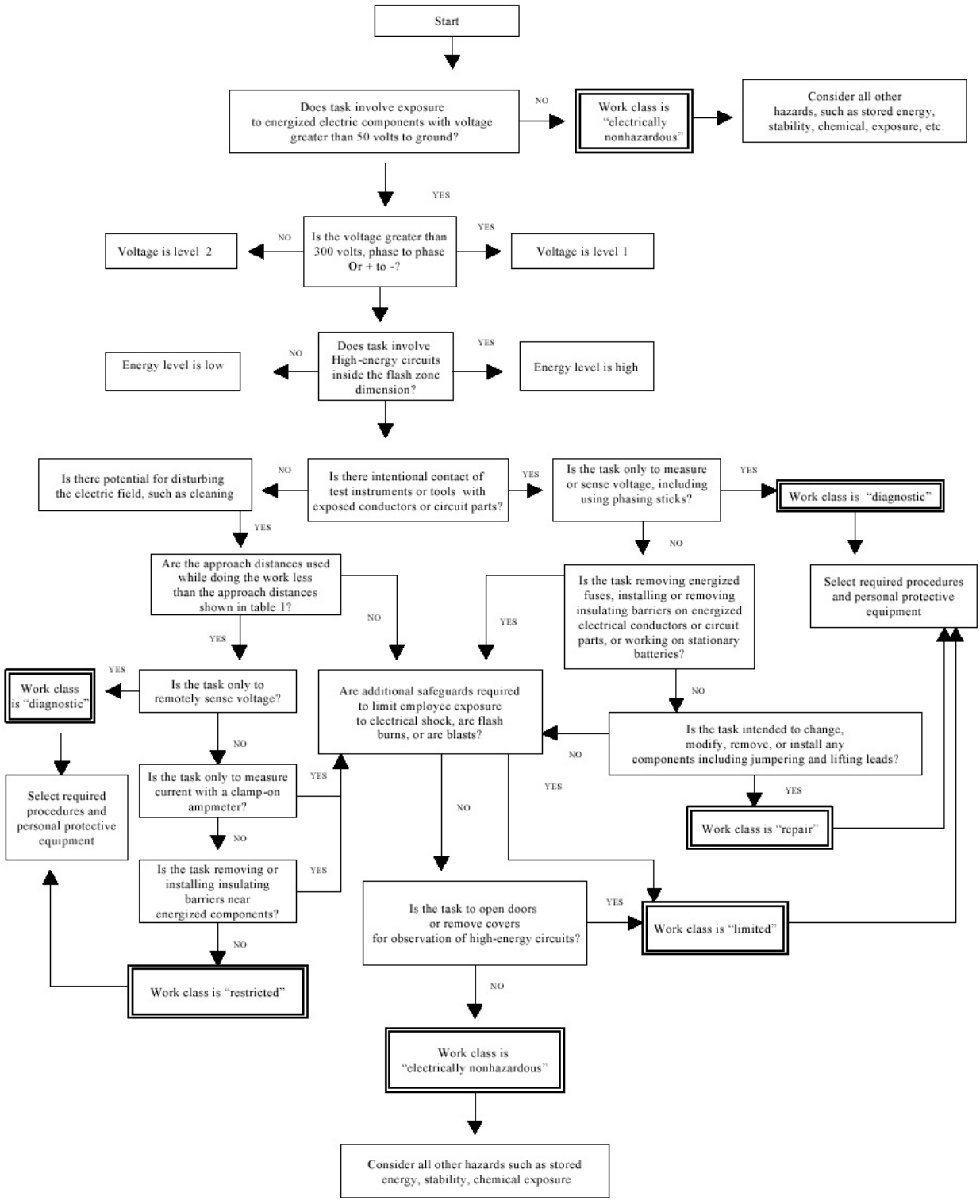
- Inspect/Evaluate the electrical equipment
- Maintain the electrical equipment's insulation and enclosure integrity
- Plan every job and document first time procedures
- Deenergize, if possible
- Anticipate unexpected events

- Identify and minimize hazards
- Protect employees from shock, burn, blast, and other hazards
- Use the right tools for the job

PROCEDURE

Before performing any task that has potential to be an arc flash hazard, RHMC employees must identify the following:

1. Purpose of task
2. Qualifications and number of employees to be involved
3. Follow the Hazard/Risk Evaluation procedure
4. Limits of approach
5. Safe work practices to be utilized
6. Necessary PPE
7. Insulating materials and tools involved
8. Special precautionary techniques
9. Electrical diagrams
10. Equipment details
11. Sketches/pictures of unique features
12. Reference data


Start
Does task involve exposure to energized electric components with voltage greater than 50 volts to ground?
NO
Work class is "electrically nonhazardous"
Consider all other hazards, such as stored energy, stability, chemical, exposure, etc.
YES
Is the voltage greater than 300 volts, phase to phase Or + to -?
NO
Voltage is level 2
YES
Voltage is level 1
Does task involve High-energy circuits inside the flash zone dimension?
NO
Energy level is low
YES
Energy level is high
Is there potential for disturbing the electric field, such as cleaning
NO
Is there intentional contact of test instruments or tools with exposed conductors or circuit parts?
YES
Is the task only to measure or sense voltage, including using phasing sticks?
YES
Work class is "diagnostic"
YES
NO
Are the approach distances used while doing the work less than the approach distances shown in table 1?
NO
YES
Is the task removing energized fuses, installing or removing insulating barriers on energized electrical conductors or circuit parts, or working on stationary batteries?
YES
Select required procedures and personal protective equipment
Work class is "diagnostic"
YES
Is the task only to remotely sense voltage?
Are additional safeguards required to limit employee exposure to electrical shock, arc flash burns, or arc blasts?
NO
Is the task intended to change, modify, remove, or install any components including jumpering and lifting leads?
NO
YES
Work class is "repair"
Select required procedures and personal protective equipment
NO
Is the task only to measure current with a clamp-on ampmeter?
YES
NO
Is the task removing or installing insulating barriers near energized components?
YES
NO
Is the task to open doors or remove covers for observation of high-energy circuits?
YES
Work class is "limited"
NO
Work class is "restricted"
Work class is "electrically nonhazardous"
Consider all other hazards such as stored energy, stability, chemical exposure

Rock Hill Mechanical Corporation

AERIAL LIFT SAFETY PROGRAM

PURPOSE

The purpose of this procedure is to outline the safe operating procedures for rented aerial platforms, articulating boom platforms, extensible boom platforms, man lifts, or a combination of such devices used to elevate personnel to work locations above ground and to prevent serious accidents from occurring while operating these devices.

This procedure applies to aerial lifts utilized by employees and sub-contractors at RHMC. This program describes the major sections of OSHA Regulation 29CFH 1926 Subpart L Section 1926.453, however, the entire section is to be strictly observed and followed.

DEFINITIONS

Aerial Platform – A manually propelled, or mounted device that has an adjustable position platform, supported from ground level by a structure or vehicle.

Base – The relevant contact points of the aerial platform that form the stability fulcrum (e.g., wheels, casters, outriggers, stabilizers, etc.)

Chassis – The integral part of the aerial platform that provides mobility and support for the elevating assembly.

Competent Person – An individual who, because of training and experience, is capable of identifying hazardous or dangerous conditions in powered platform installations and of training associates to identify such conditions.

Configuration – All positions in which an aerial platform or any part thereof can be placed within its intended operating limits.

Elevating Assembly – The mechanisms used to position the platform relative to the aerial platform chassis.

Guardrail System – A vertical barrier intended to prevent associates from falling to lower levels.

Hazardous Location – Any location that contains, or has the potential to contain, an explosive or flammable atmosphere as defined in ANSI/NFPA 505.

Instability – The quality or state of being unstable, likely to tip over.

Insulated Platform – A platform designed and tested to meet the specific electrical insulation ratings consistent with the manufacturer's identification plate.

Interlock – A control or mechanism, that under specific conditions, automatically allows or prevents the operation of another control or mechanism.

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

Modification/Modified – To make a change(s), temporary or permanent, to an aerial platform that affects the operation, stability, safety, safety factors, rated load or safety of the aerial platform in any way.

Operator – A qualified person who controls the movement of the aerial platform.

Outriggers – Devices that increase the stability of the aerial platform and can lift and level the aerial platform.

Platform – The portion of the aerial platform intended to be occupied by associates with their necessary tools and materials.

Platform Height – The vertical distance measured from the floor of the platform to the surface upon which the machine is supported.

Qualified Person – An associate, who because of knowledge, experience, and training, is certified and familiar with the operation to be performed and the hazards involved.

Rated Work Load – The designed carrying capacity of the aerial platform as specified by the manufacturer.

Stability – The quality state of being stable, firmly anchored, not likely to tip over.

Stabilizers – Devices that increase the stability of the aerial platform but are not capable of lifting or leveling the aerial platform.

RESPONSIBILITIES

Project Manager

- Implementing and enforcing this procedure.

Foreman

- Monitoring compliance with this procedure.
- Ensuring aerial lifts owned or rented by the facility meet the requirements of ANSI/SIA A92.5-1992, and are in good working order.
- Ensuring that operating and maintenance manuals are present on all owned and rented aerial lifts utilized at the job site/facility.
- Ensuring all employees are trained and certified in the operation of aerial lifts being utilized prior to their operating such equipment.
- Ensure aerial lifts are inspected in accordance with this safety program.

Employees

- Inspecting, operating, and using aerial lifts in accordance with the requirements of this safety program.

PROCEDURE

General

Only trained and authorized personnel shall operate an aerial platform/lift, extensible boom platform, aerial ladders, articulating boom platforms, vertical towers, or any combination of such devices.

- Personnel shall be trained on this procedure and on the operating manual of the specific device which is to be operated or work performed from.

Note: Operating and maintenance manuals shall be obtained from the supplier of a rented aerial platform upon delivery.

A copy of the operating manual shall be kept with each aerial platform. These documents are considered an integral part of the aerial platform and are vital to communicate necessary safety information to users and operators. Rented and/or sub-contractor supplied lifts shall not be permitted on the job site without these documents.

NO aerial platform or lift shall be modified or altered. The disabling of interlocks or other safety devices is strictly prohibited.

Pre-Start Inspection

Before use each day, the operator shall visually inspect the aerial platform and conduct a functional test in accordance with the manufacturer's recommendations. (As dictated in the Operators Manual maintained with the lift.) This inspection shall include as a minimum:

- Operating and emergency controls
- Safety devices
- Personal protective devices including fall protection
- Air, hydraulic, and fuel system leaks
- Cables and wiring harnesses
- Loose and missing parts
- Tires and wheels
- Placards, warnings, and control markings
- Outriggers, stabilizers, and other structures
- Guardrail system
- Items specified by the manufacturer

Aerial platforms that are not in proper operating condition shall be removed from service until repaired. A warning tag stating "DO NOT USE" shall be attached to the control panel of the aerial platform.

Before Operation

Determine that the purpose for which the aerial platform is to be used is within the scope of the intended applications defined by the manufacturer. Provide approved fall protection devices and other safety gear for all associates who will be working on the platform, if required. Check on the area in which the aerial platform is to be used for possible hazards such as, but not limited to:

- Drop-offs or holes
- Bumps or floor obstructions
- Debris
- Overhead obstructions and high voltage conductors
- Hazardous locations
- Inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations
- Wind and weather conditions
- Other possible unsafe conditions
- Presence of unauthorized persons

During Operation

The aerial platform shall be operated in accordance with this procedure. The operator shall ensure the following before each elevation of the platform:

- That the aerial platform is operated on a surface within the limits specified by the manufacturer.
- That the outriggers, stabilizers, extendable axles, or other stabilizing methods are used as required by the manufacturer.
- That guardrails are installed, and access gates are opened and closed per manufacturer's instructions.
- Fall protection, consisting of a lanyard and body harness shall be utilized by all personnel operating within the platform of an articulating or extensible boom lift.
- That the load and its distribution on the platform, and any platform extension, are in accordance with the manufacturer's rated capacity for that specific configuration.
- That there is adequate clearance from overhead obstructions.
- If the aerial platform is not equipped with a backup alarm (or it cannot be heard above surrounding noise level) a spotter will be used to ensure the safety of the movement.
- That the minimum safe approach distances (MSAD) to energized power lines and any part of the equipment are maintained.
    - 20 feet minimum for lines operating at 50kv or below
    - 10 feet plus 1 foot for every 10kv above 50kv for lines operating above 50kv
- That all safety precautions defined in this procedure and the Operating and Maintenance Manual for the model of aerial platform being used are followed during the operation
- That all personnel maintain a firm footing, with both feet, on the platform floor while working thereon.
- The use of planks, ladders, or any other device on the aerial platform for achieving additional height or reach is prohibited.

EXITING BASKET ABOVE GROUND

If an employee needs to exit a man lift basket while it is extended above the ground the following procedure will be used:

1. Tie off to a 5,000 pound anchorage on the structure you are accessing.
2. Unhook from the aerial lift basket.
3. Use secure footing to exit the basket being careful not to stand on control panel.
4. When re-entering the basket reverse the process described above.

This procedure should be used anytime workers feet are not on the bottom of the basket.

REPORTING PROBLEMS OR MALFUNCTIONS

The operator shall immediately report any problems or malfunctions that become evident during operation of the aerial platform to their foreman. Any problems or malfunctions that affect the safety or operation of the aerial platform shall be repaired prior to continued use.

ENTANGLEMENT

Care shall be taken to prevent rope, electric cords, hoses, etc., from becoming entangled in the aerial platform.

CAPACITY LIMITATION

Aerial platform rated capacities shall not be exceeded when loads are transferred to the platform at any height.

FUELING

Liquid fueled equipment shall have the engine shut down while fuel tanks are being filled. Fueling shall be done in a well-ventilated area free of flame, sparks, or other hazards that may cause fire or explosion.

When replacing propane fuel tanks, the following practices shall be adhered to:

- Every effort shall be made to change fuel tanks outside facility buildings.
  - If pre-operations inspections indicate a lack of fuel necessary to complete the desired task, the operator shall move the vehicle to the exterior and change the fuel tank.
- When changing a fuel tank, the vehicle shall remain running while the tank is turned off. The vehicle shall be allowed to stall to ensure maximum evacuation of propane from the fuel lines prior to the tank being disconnected.
- Care shall be taken to avoid contact with cold valve areas when changing tanks. Leather gloves shall be worn if necessary.
- The fuel line and seal shall be visually inspected prior to attaching the new fuel tank.
- Empty and full fuel tanks shall be stored in their designated locations.
- If a significant quantity of propane is inadvertently released during tank changing, the operator shall ensure proper ventilation is accomplished and the area is checked with a combustible gas indicator for flammable accumulations. Particular attention shall be paid to low areas, including sumps, pits, etc.

BATTERY CHARGING

Batteries shall be charged in a well-ventilated area free of flame, sparks, or other hazards that may cause fire or explosion.

PLATFORM POSITIONING

The aerial platform shall not be positioned against another object to steady the platform.

TRAVEL

Under all travel conditions, the operator shall limit travel speed according to conditions of ground surface, congestion, visibility, slope, locations of personnel, and other factors causing hazards of collision or injury to personnel.

THE AERIAL PLATFORM SHALL NOT BE USED AS A CRANE!

SHUTDOWN OF AERIAL PLATFORM

The operator shall cease operation of the aerial platform in case of any suspected malfunctions, any hazard, or potentially unsafe condition that may be encountered. The aerial platform and/or the work area shall then be inspected and any malfunction or problem shall be corrected before further operation of the platform.

TRAINING

All operating personnel who are to perform the functions of inspecting and operating the aerial platforms shall be trained on this procedure and on the same model of aerial platform being used, or one having operating characteristics and controls consistent with the one to being used during actual job site operation.

Before actually operating the aerial platform or performing inspection or maintenance on an aerial platform, the operator training shall include, but is not limited to, the following:

- The intended purpose and function of each of the controls.
- The manufacturer's recommended inspection points and their minimum acceptable standards.
- The manufacturer's operating instructions, maintenance requirements, and safety rules.
- Familiarity with all decals, warnings, and instructions displayed on the aerial platform.
- The hazards associated with aerial lift operation.
- Safe aerial lift set-up, including energized line clearances.
- Fall protection requirements specific to aerial lift operation.
- Actions to be taken should a system failure occur during lift operation.

The operator trainee shall operate the aerial platform in an area free of obstructions under the direction of the qualified person for a sufficient amount of time to determine that the trainee displays proficiency in knowledge and actual operation of the aerial platform.

Written records of aerial platform training shall include the trainee's name, date of training, trainer's name and affiliation, and the original written test taken. These records shall be maintained for 3 years.

Re-training shall take place whenever a new model aerial platform is utilized, or when an employee demonstrates he or she is less than proficient in the operation, inspections, and/or maintenance of aerial platforms.

Rock Hill Mechanical Corporation

RIGGING/MATERIAL HANDLING PROGRAM

PURPOSE

RHMC recognizes the potential for serious injury or death while rigging and lifting materials with the use of hoisting and crane equipment. To reduce the potential, this program was developed to communicate the proper techniques of rigging. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart H Section 1926.251, however, the entire section is to be strictly observed and followed.

RIGGING

The term rigging refers to both of the following:

- The hardware and equipment used to safely attach a load, equipment, or material to a lifting device
- The process of safely attaching a load, equipment, or material to a hook by means of adequately rated and properly applied slings, and related hardware and equipment

GENERAL RIGGING SAFETY REQUIREMENTS

The following requirements apply to all rigging operations:

- Only rigging equipment that is in good condition may be used.
- Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe.
- Defective equipment shall not be used and removed from service immediately.
- Rigging equipment shall not be loaded beyond its recommended safe working load capacity. Identification markings, indicating rated capacities, shall be readable and permanently affixed to each piece equipment in use.
- All employees shall be kept clear of suspended loads or loads about to be lifted.
- All rigging equipment shall be stored and maintained in accordance with the manufacturer's recommendations.
- Rigging equipment not in use shall be removed from the immediate work area so as not to present a hazard to employees.
- All rigging shall be performed by a competent person that has been trained and authorized to do so by RHMC.

The responsible party for suppling rigging equipment during a lifting operation shall ensure that a designated person determines whether conditions found during inspection constitutes a hazard and whether a more detailed inspection is required. Defective equipment shall be removed from service and destroyed to prevent inadvertent reuse. All rigging equipment shall be maintained, inspected, tested, inventoried, and stored properly.

Examples of conditions that may require rigging equipment and hardware to be removed from service:

- Synthetic slings with –
  - Abnormal wear
  - Torn stitching
  - Visible red thread from the interior of sling fabric
  - Broken or cut fabrics
  - Discoloration or deterioration
  - Evidence of heat damage

- Wire-rope slings with –
  - Kinking, crushing, bird-caging, or other distortions
  - Evidence of heat damage
  - Cracks, deformation, or worn end attachments
  - Broken wires in excess of regulatory requirements
  - Hooks opened more than 15% at the throat
  - Hoods twisted sideways more than 10° from the plane of the unbent hook
- Shackles, eye bolts, turnbuckles, or other components that are damaged or deformed.
- Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut, and retaining pin may be used.

The manufacturer's requirements shall also be consulted, and the most conservative requirements shall prevail.

PROPER RIGGING PRACTICES

The following shall be performed during all rigging operations:

- Determine the weight of the load, equipment, and/or material prior to rigging. Weights shall not exceed the capacity of the rigging equipment.
- Determine the proper size and material for slings and components.
- Slings shall never be rigged to create an angle less than 30°.
- Make sure that ordinary eye bolts are threaded in at least 1.5 times the bolt diameter.
- Use safety hoist rings (i.e. swivel eyes) as a preferred substitute for eye bolts when possible.
- Hooks and shackles shall be used in a manner that does not create side or back loading on the device.
- Pad sharp edges to protect slings. Machinery foundation or angle-iron edges may not feel sharp to the touch but could cut into rigging equipment when under several tons of load. Wood, rubber, or other pliable materials may be suitable for padding.
- Do not use slings, eye bolts, shackles, or hooks that have been cut, welded, or brazed.
- Determine the center of gravity, and balance the load before moving it. Keep the attachment points of rigging accessories as far above and as far away from the center of gravity as possible.
- Initially lift the load only a few inches to test the rigging and balance.
- Tag lines shall be used for guidance, unless their use creates a greater hazard.
- Protect rigging hardware as required. Items left in the sun may have surface temperatures that exceed the safe limits of synthetic lifting devices.
- Any rigging equipment not being used, or is below capacity for the operation, shall be removed from the work area to prevent trip hazards or from being inadvertently used.

TRAINING

All employees assigned to the duties of rigging must be trained in such, as well as general safety procedures. Upon completion of training, all authorized RHMC employees must present their certified rigging and signaling cards before beginning a rigging and/or hoisting procedures.

Rock Hill Mechanical Corporation

CRANE SAFETY PROGRAM

INTRODUCTION

Since Rock Hill Mechanical does not employ crane operators, this section is designed for RHMC employees who work with a contractor which supplies the crane and crane operator. It is each employee's responsibility to work in a safe and efficient manner while providing skilled and professional results. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart CC ,Section 1926.1400, however, all sections of this subpart are to be strictly observed and followed.

PURPOSE

The purpose of this program is to:

- Make all affected RHMC workers aware of the potential hazards of crane operations.
- Ensure that all RHMC employees are provided with the knowledge they need to protect themselves from the potential hazards associated with crane operations.
- Establish safe work practices and procedures for all RHMC workers.

GENERAL REQUIREMENTS

Fatalities and serious injuries can occur if cranes are not inspected and used properly. Many fatalities can occur when the crane boom, load line, or load contacts power lines and shorts electricity to ground. Other incidents happen when workers are struck by the load, are caught inside the swing radius, or fail to assemble/disassemble the crane properly.

- Crane operators qualified by training or experience shall be allowed to operate equipment and machinery by one of the following methods:
  - Certification by an accredited crane operator testing organization
  - Qualification by an audited employer program
  - Qualification by the U.S. military
  - Licensing by a government entity
- Only qualified and experienced employees should be used as spotters and crane signalers.
- A pre-lift meeting shall take place before any lift begins.
- Cranes are to be operated only by qualified and trained personnel.
- A designated competent person must inspect the crane and all crane controls before use.
- Be sure the crane is on a firm/stable surface and level.
- During assembly/disassembly, do not unlock or remove pins unless sections are blocked and secure.
- Fully extend outriggers and barricade accessible areas inside the crane's swing radius.
- Watch for overhead electric power lines and maintain at least a 10-foot safe working clearance from the lines.
- Inspect all rigging prior to use; do not wrap hoist lines around the load.
- Be sure to use the correct load chart for the crane's current configuration and setup, the weight, and the lift path.
- Do not exceed the Working Load Limit (WLL) or load chart capacity while making lifts.

- Raise a load a few inches, hold, and verify capacity/balance, and test brake system before delivering load
- Do not move loads over workers.
- Be sure to follow signals and manufacturer instructions while operating cranes.

GROUND CONDITIONS

The designated competent person will ensure that appropriate ground preparations have been provided before crane operations begin.

POWER LINES

The work zone shall be identified by demarcating boundaries such as flag and range limiting devices, or defining the work zone as 360 degrees around the equipment up to the maximum working radius. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line. If any part of the equipment will get closer than 20 feet from a power line pushing up to 1,000 kilovolts during assembly, disassembly, or equipment operations the line will be de-energized and visibly grounded at the worksite.

When working near power lines pushing over 1,000 kilovolts, the minimum clearance distance will be established by the utility owner/operator or a registered professional engineer who is a qualified person with respect to electrical power transmission and distribution. The designated qualified person will verify and obtain documentation regarding the established safe distance.

When traveling under or near power lines with no load, the boom, mast, and boom mast support system will be lowered sufficiently to meet the specified safe distance clearance requirements.

SIGNALING

- A qualified signal person will be used in each of the following situations:
  - When the point of operation is not in full view of the operator
  - When the view in the direction of travel is obstructed when the equipment is traveling
  - When site-specific safety concerns are an issue because either the operator or the person handling the load determines that it is necessary
- Signals to the operator will be given by standard hand signals, unless, the signals cannot be seen by the operator.
- All directions given to the operator by the signal person will be given from the operator's direction perspective.
- When standard hand signals can't be used safely, radios will be used for communication.
- When radios are used, the operator and the signal person chosen for the project will be able to effectively communicate in the same language.
- The devices used to transmit signals will be tested on site before beginning operations to ensure that the signal transmission is effective, clear, and reliable.
- Signal transmission will be performed through a dedicated channel, except where the crane is being operated on, or adjacent to, railroad tracks, and the actions of the equipment operator need to be coordinated with the movement of other equipment or trains on the same or adjacent tracks.

- All operators will use a hands-free system to receive signals and communicate with the signal person.
- Before beginning operations, the operator and signal person will contact each other and agree on the voice signals to be used. Once voice signals are agreed upon, further meetings are not needed unless; a worker is added or substituted, there is confusion about the voice signals, or a voice signal is to be changed.
- Each voice signal will contain the following 3 elements, in the following order:
    1. Function (such as hoist, boom, etc.) direction
    2. Distance and/or speed
    3. Function stop command
- If the ability to transmit signals is interrupted during operations, the operator will safely stop all operations until the ability to transmit is re-established and proper signals can be given and understood.
- If the operator becomes aware of a safety problem and needs to communicate with the signal person, the operator will safely stop all operations. Operations will not resume until both parties agree that the problem has been resolved.
- Only the designated signal person may give signals to the operator, except in the case of an emergency.

Signal Person Qualifications

- The designated competent person will obtain documentation from a third-party qualified evaluator showing that the signal person meets the qualification requirements before that signal person gives any signals to operators.
- The competent person will ensure that the signaler qualification is always available at the job site. The documentation will specify each type of signaling the signal person is qualified to perform.
- Workers do not meet the qualification requirements are not permitted to work as signal persons. This includes those who have the qualification credentials, but whose actions indicate they are not performing the signaling as required.

Signal Person Responsibilities

- Always be in clear view of the crane operator
- Have a clear view of the load at all times
- Keep people outside the load travel path
- Ensure the load does not pass above people
- Keep the crane away from power lines
- Watch for other potential hazards during the lift
- Maintain communication with the operator during all crane movements
- When using radio commands:
    - Give all directions from operator's direction perspective
    - Use a secure frequency
    - Use specific names, not just titles
    - Command names should be the same as hand signal names
    - Never break communication with the operator

- Never un-key the mic while load is moving
- If communication breaks, the operator should stop immediately

WORK AREA CONTROL

The designated competent person will take measures to protect RHMC workers from reasonably foreseeable risks of being struck by and/or pinched or crushed by the equipment's rotating superstructure. All affected RHMC workers will be trained to recognize struck-by and pinch/crush hazard areas posed by the rotating superstructure.

The competent person will ensure that control lines, warning lines, railings, or similar barriers are erected to mark the boundaries of the hazardous areas, unless it is infeasible to do so. Where it is infeasible to erect barricades, the hazard area will be marked by a combination of warning signs and high visibility markings on the equipment. The competent person will ensure that all RHMC workers are trained on what these markings signify. Before any worker goes to a location in the hazard area that is out of view of the operator, the worker will ensure that the operator is informed they will be in that area.

USE OF LIFTING EQUIPMENT

Hoists, chain falls, chain come along, cranes, and trolleys are just a few pieces of lifting equipment used in rigging. No personnel will operate any of this equipment without proper training and instruction. In all cases, it is a condition of this program that all manufacturers' requirements and limitations will be strictly followed. Rated lifting capacities will not be exceeded. Operators will not exceed the safe operating speeds. Excessive swing speed will not be allowed and is grounds for removal from a project. Prior to use and during used the equipment will be inspected for the following:

- Safety latches are functional, all hooks will have latches eliminating hook throat opening
- Equipment operates smoothly
- Equipment doesn't show signs of damage
- Ensure there is not a twist in the load line, for multiple part hoists
- Hooks are in operable condition
- Load line doesn't show damage
- Manufacturer's labels and lift ratings are on the equipment

If there is any damage or if the equipment is not functioning properly, it will be removed from service immediately. All safety devices must be in proper working order before operation begins. Rigging will be inspected at the start of each shift and during lifts. Inspections will include:

- Checking for abnormal wear
- Rigging has tags attached that state rated capacity for the sling
- No foreign matter on rigging
- Must be suited and used only for intended purpose
- Shackles will be inspected, must have rated load attached
- Rigging materials will not be left on site when not in use, they will be stored away from UV light and general weather exposure

SETTING UP LIFTING EQUIPMENT

Setting up the lift equipment will only begin once the rigging inspection is complete. When setting up the lift equipment, special attention will be given to:

- The weight of the load, this information can be retrieved from design plans, shipping papers, calculated data, or the operator's weight calculations.
- The equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the manufacturer's specifications for adequate support and degree of level of the equipment are met. Inform the equipment operator of the location of hazards beneath the equipment set up area, such as voids, tanks, or utilities.
- Set up of the equipment in an area that will keep the operator and crew safe from exposure to toxic gasses, explosion, or oxygen deficient atmospheres.
- Equipment will have its own designated ABC 20 lb. fire extinguisher.
- Know the rated capacities of slings and rigging hardware.
- Select the sling that is best suited for the load. It is critical to select the proper sling construction to fit the material to be loaded. Keep in mind there are different configurations for fiber ropes, wire ropes, chains, and webs. Select the type of sling that is appropriate for the lifting situation.
- The operator will not leave the cab unattended while a load is suspended from the crane.
- Attention will be given to overhead power lines. The crane will not be allowed to boom or get the load line within 20 feet of power lines. Lines will need to be de-energized for any encroachment within the 20-foot zone. Spotters will maintain exclusive watch on the 20-foot zone and will contact the signalman if the crane is approaching it.
- The crane will not be set up over large sewers or vaults.
- Bending wire rope affects its rated strength. When a rope travels over a sheave or is bent around an object, the rated strength of the rope will reduce. The integrity of the rope depends on the bend diameter compared to the rope diameter.
- Allow for reductions when using choker hitches. A full 360-degree contact is not provided with a single choker hitch when the rope tightens as the load is lifted. Single choker hitches are not suggested for loose bundle loads. Sling angles of less than 45° horizontally are not recommended.
- Attach tag lines prior to the lift. In the event a load will be handled for landing, a nonconductive line should be used for handling control and to protect against electrical shock. Tag line should be one continuous length.
- Lift the load a few inches to check the rigging. This will allow rigging and hardware to settle and permit another inspection of the connections.
- Start and stop slowly. The sudden stopping of a load (dynamic loading) produces hook loads higher than the actual load weight. Rapid hoist acceleration (shock loading) also increases the load weight. Both factors reduce the rated capacity of the crane.
- Use the proper hand signals. There should be no confusion when it comes to communications between the operator and the signal person. The operator and signal person should not assume they agree on proper hand signals; they should have a pre-lift discussion on signals to be certain. A copy of hand signals will be located on site at the crane location or in the office at all times when a crane is being used.

Cranes will not have any modifications to safety equipment. Two block limit switches will be operable, boom angle indicators will be operable, if the crane is fitted with a load limiting computer the computer will not be overridden.

SAFE LIMITS

The operation of a crane will not exceed the following physical limits for the operator:

- During a 12-hour shift, one 30-minute lunch will be taken and two 15-minute breaks
- In an ongoing project, shifts will not exceed 12 hours
- For a single lift, operating hours will not exceed 16 hours
- Operators will not operate equipment if they are impaired chemically, physically, or emotionally
- If the operator's condition is in question, the site supervisor will make the judgement if the operator is fit for duty

Rock Hill Mechanical Corporation

HELICOPTER LIFT SAFETY PROGRAM

JOB SITE PREPERATION

The FAA and EPA require job sites to be watered down if a helicopter will create dust. Loose material should be picked up from the roof, helicopter landing area, and staging area where loads are located. This includes plastic sheeting, tarps, plywood, roof insulation, boards, rolls of tar paper, bundles of roof decking, rolls of membrane roof, empty buckets, or small pieces of sheet metal. If loose material must be left in place, then it should be secured, tied down, or weighted down with heavy objects.

Loads to be lifted should be placed well away from electric wires, tresses, and light standards, in no case closer than 10 feet. About 4 feet would be the minimum distance from the vertical wall of an existing building. Be sure to leave enough space around loads for your personnel to attach rigging. If units are to be lifted uncrated, that should be done before the helicopter arrives, including removing attached hardware from the skids under the unit. Any accessories such as hoods, vents, doors, or motors to be lifted with the unit should be securely attached to the unit.

The helicopter will arrive on the job site with a large supply of rigging, which will usually include:

- (1) 4-leg wire rope lifting sling with (4) 1-ton hooks and latches on the end of each 25-foot leg
- (8) 2-inch-wide, 20-foot-long nylon straps with eyes on each end
- Spreader frame
- (12) ½ inch shackles, (12) ⅝ inch shackles, and (4) ¾ inch shackles

It is easier to be able to attach hooks directly to the loads via built-in eyebolts or lifting lugs. Shackles or straps are used if necessary, but cribbing may be required to keep from pinching straps. In using the straps, we must be careful of sharp edges which might cut the straps.

RESPONSIBILITIES

Federal Aviation Regulations require that all people not involved with the lift operation be out from beneath the helicopter while it is carrying a load, this includes inside and outside the building. On multi-story buildings, the top two floors must be vacated in the area beneath the lift operation. Be aware that the helicopter uses very volatile aviation fuel. No smoking is allowed within 100 feet of the aircraft or its ground support equipment.

All personnel must wear hard hats with chin straps, goggles, hearing protection, and gloves..
Personnel on the roof shall stay 15 feet away from the curb opening until the helicopter has the unit hanging 2 feet over the curb. This will eliminate the possibility of falling into the curb.

SAFETY REQUIREMENTS

Helicopter Lifts 1926.551 (1910.183)

- Helicopter Regulations – Helicopter cranes shall be expected to comply with any applicable regulations of the Federal Aviation Administration.
- Briefing – Prior to each day's operation, a briefing shall be conducted. This briefing shall set forth the plan of operation for the pilot and ground personnel.
- Housekeeping – Good housekeeping shall be maintained in all helicopter loading and unloading areas.

- Load Safety – The size and weight of loads, and the way loads are connected to the helicopter shall be checked.
- Operator Responsibility – The helicopter operator shall be responsible for size, weight, and way loads are connected to the helicopter. If, for any reason, the helicopter operator believes the lift cannot be made safely, the lift shall not be made.
- Personnel – Sufficient ground personnel shall be provided when required for safe helicopter loading and unloading operations.
- Signal Systems – Signal systems between the aircrew and ground personnel shall be understood and checked in advance of hoisting the load. This applies to either radio or hand signal systems.
- Communications – There shall be constant reliable communication between the pilot, and a designated signalman shall be distinctly recognizable from other ground personnel.
- Personal Protective Equipment – Employees receiving the load shall consist of complete eye protection and hard hats secured by chin straps. No loose clothing should be worn.
- Loose Gear and Objects – Every practical precaution shall be taken to provide for the protection of the employees from flying objects in the rotor downwash. All loose gear within 100 feet of the place of lifting the load, depositing the load, and all other areas susceptible to rotor downwash shall be secured or removed.
- Visibility – When visibility is reduced by dust or other conditions, ground personnel shall exercise special caution to keep clear of main and stabilizing rotors. Precautions shall also be taken by the employer to eliminate as far as practical reduced visibility.
- Approach Distance – No unauthorized person shall be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.
- Approaching Helicopter – Whenever approaching or leaving a helicopter with blades rotating, all employees shall remain in full view of the pilot and keep in a crouched position. Employees shall avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work there.
- Weight Limitation – The weight of an external load shall not exceed the manufacturer's rating.
- Slings and Tag Lines – Load shall be properly slung. Tag lines shall be of a length that will not permit their being drawn up into rotors. Pressed sleeve, swedged eyes, or equivalent means shall be used for all freely suspended loads to prevent hand splices from spinning open or cable clamps from loosening.
- Cargo Hooks – All electrically operated cargo hooks shall have the electrical activating device designed and installed as to prevent inadvertent operation. In addition, these cargo hooks shall be equipped with an emergency mechanical control for releasing the load. The hooks shall be tested prior to each day's operation to determine that the release functions properly, both electrically and mechanically.
- Static Charge – Static charge on the suspended load shall be dissipated with a grounding device before ground personnel touch the suspended load, or protective rubber gloves shall be worn by all ground personnel touching the suspended load.
- Hooking and Unhooking Loads – When employees are required to perform work under a hovering craft, a safe means of access shall be provided for employees to reach the hoist line hook and engage or disengage cargo slings. Employees shall not perform work under a hovering craft, except when necessary to hook or unhook loads.

- In the event of a helicopter malfunction, or unit is too heavy, unit will be set down in the direction of flight and rigging “punched” off the helicopter. Helicopter will land forward or in helicopter staging area.
- Helicopter may land at any time for more gas, or for any other problem, helicopter may stay running. Stay away from tail rotor. If you must go after rigging, get the attention of ground signalman to clear you to retrieve rigging.

PILOT LIFT BRIEF (GROUND BRIEF)

Introductions

Ask if any of the crew has worked under a helicopter before – Discuss shackle or strap usage and proper rigging.

Describe Entire Lift Evolution

1. Start helicopter, check hook releases, and bring helicopter/rigging to the unit to be picked.
2. Ground handlers; stand by each unit to be picked.
3. Watch rigging, don’t let it hit you, watch the “swing”. Let rigging touch the ground or unit to discharge static.
4. Proper orientation of spreader frame, long side with long side of unit, no crossed cables.
5. Proper hook up, do not engage hook safety catch, hold rigging above unit when hooked.
6. Route of flight with helicopter (Pick direction), don’t let unit fly over you.
7. Make sure plywood and other crating stays on the ground, can hold unit 4 feet off the ground to pull plywood out from under unit, do not climb under unit.
8. In the event of a helicopter malfunction, or unit is too heavy, unit will be set down in direction of flight and rigging “punched” off the helicopter. Helicopter will land forward or in helicopter staging area.
9. If units are staged close together you can guide unit straight up to avoid contact with other units, avoid getting “pinched” between units, leave yourself a way to get out.
10. Watch unit leave, do not allow unit to pass over you. Proceed to next unit to be picked, if not pre-rigged, rig with shackles, straps, chokers, etc.
11. After 2nd pick, expect rigging to come back. If on your hook, remove it, hook up the unit, and use that rigging for future picks.
12. If unit does not fit on roof or is the wrong unit, unit will come back to the ground and be set away from other units. Once on the ground, disconnect slack rigging and hold hook away from unit and let helicopter pull rigging/hook out of your hand.
13. Helicopter may land at any time for more gas, or for any other problem. Helicopter may stay running. Stay away from tail rotor. If you must go after rigging, get the attention of ground signalman to clear you to retrieve rigging.
14. For problems with hooks, rigging, shackles, or questions about evolution, etc. you should contact ground signalman.
15. Who’s in charge on ground? Order of picks is very important.
16. Miscellaneous; Rain, dust, debris, rotor wash, mud, trip hazards, crowd control, vehicles, etc.

JOB DETAIL CHECK LIST

Complete all information and return this form to our office.

Is the roof completed? Yes □ No □

Type of roof: _____

Building vacated? _____

(Entire building, Top 2 Floors, Area)

Number of men you will supply: _____

Minimum of 8 required.

Safety Glasses □ Hard Hats □ Chin Straps □

Necessary permits received? _____

(City, Street blocking)

Equipment uncrated and spaced? _____

(3'-4' Apart)

Roof & Staging area cleaned up? _____

(Loose material, insulation, plywood, etc.)

Tall obstructions? _____

(List height and distance from)

Police/Security obtained? _____

(If contractor - Who is responsible?)

Any light poles? _____

(Distance from staging and set sites)

Any power lines? _____

(Distance from staging and set sites)

Dusty jobsite? Yes □ No □

Water truck coming? Yes □ No □

(EPA & FAA Requirements)

EQUIPMENT TO BE LIFTED

DESCRIPTION OF LIFTS TO BE MADE					
QUANTITY	BRAND	MODEL NUMBER	DIMENSIONS	WEIGHT	ATTACHMENT POINTS

Number the units and corresponding curbs to avoid setting them in the wrong place or in the wrong direction.

Job Site Address:

_____

_____

_____

Phone Number: _____

Company Job Site Foreman:

Name: _____

Phone Number: _____

Bldg Owner/Manager:

Name: _____

Phone Number: _____

GC Name: _____

Address:

_____

_____

_____

Phone Number: _____

CONFINED SPACE ENTRY PROGRAM

PURPOSE

The purpose of this program is to ensure the protection of all Rock Hill Mechanical employees from the hazards associated with confined space entry. This document contains requirements for practices and procedures to protect employees from those hazards of entry and work within non-permit and permit required confined spaces. This program describes the major subjects of OSHA Regulation 29 CFH Subpart AA, Section1926.1200, however, all section of the subpart are to be strictly observed and followed.

This program shall be considered as a general guideline. Because each worksite contains specific hazards, a Site Specific Confined Space Plan is often required. In cases of specificity, the site-specific plan will supersede all others.

DEFINITIONS

Confined Space

- A space that is large enough and configured in a way that an employee can fully enter and perform assigned work
- A space that has limited or restricted means for entry or exit
- A space that is not designed for continuous human occupancy

Permit-Required Confined Space

- A space that contains, or has the potential to contain, a hazardous atmosphere
- A space that contains a material that has the potential for engulfing an entrant
- A space that has an internal configuration so that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
- A space that contains any other serious safety or health hazard, which may include:
    - Engulfment and/or entrapment
    - Hazardous atmosphere
    - Other serious safety or health hazards

Hazardous Atmosphere – An atmosphere that may expose an entrant to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes:

- Atmospheric oxygen concentration less than 19.5% or greater than 23.5%
- Flammable gas, vapor, or mist at a concentration more than 10% of the lower flammable limit (LFL)
- Airborne combustible dust at a concentration that meets or exceeds its LFL
- Atmospheric concentration of a toxic substance that exceeds its dose or permissible exposure limit (PEL)
- Any other atmospheric concentration that is immediately dangerous to life and health

Non-Permit-Required Confined Space – A space that does not have the potential for containing atmospheric conditions capable of causing injury or death.

IDENTIFICATION RESPONSIBILITIES

Based on the aforementioned definitions, the facility or equipment owner or the controlling contractor is responsible for determining which areas are considered non-permit and permit-required confined spaces. Rock Hill Mechanical will provide a competent person to determine whether a confined space needs to be "permit-required". Signs reading "DANGER-PERMIT-REQUIRED CONFINED SPACE. DO NOT ENTER," or similar, must be placed at the entrance of the confined space. Before allowing entry into any permit-required confined space, the following steps must be followed:

1. An atmospheric test should be performed in the confined space to ensure the required ambient conditions; less than 10% LFL, greater than 19.5% and less than 23.5% oxygen, and less than the PEL of a contaminant exist.
2. The space should be free of other hazards by locking and tagging out equipment as necessary.
3. External rescue services or company rescue group needs to be identified.
4. The permit must be completely filled out, reviewed by the entrants for potential hazards, and posted near the permit-required confined space's entrance.
5. Authorized employees, attendant(s), and entry supervisor(s) should be properly trained regarding all issues in the training section.
6. Communications must be in place and operable to summon a rescue in case of emergency.
7. Ventilation systems must be used as required.

Per OSHA regulations of 29 CFR 1926 Subpart AA, confined space entry requires the use of a competent person entrant, attendant, and entry supervisor; with exceptions being granted for certain circumstances. Any permit-required confined space will require a minimum manning of two persons. To safely conduct a confined space operation, one entrant, and one attendant or entry supervisor is needed. Restrictions are discussed later.

TRAINING

General Training

Each RHMC employee who is involved or has the potential to be involved in confined-space entries must be trained before entering any space, as well as:

- Before first assigned duty in a confined space
- Whenever there is a change in the employee's duties or assignment
- Whenever a new hazard has been created or confined spaces have changed
- Whenever it is determined that there have been, or must be changes in or deviations from, procedures

Training is provided by Rock Hill Mechanical's Safety Director or a qualified outside agency. It is also important that employees fully understand the roles and training requirements of attendants, entrants, and entry supervisors. Upon completion, RHMC will document the training. Documentation will include each employee's name, dates of training, signature of employee, and name of the trainer. Documentation of training will be retained in accordance of local, state, and federal requirements.

Entry Supervisors

In order to fulfill the duties as Entry Supervisor, the assigned employees must be trained in and understand the following requirements:

- Know, understand, and ensure the completion of the training requirements of the authorized entrants and attendants as outlined in their requirements and responsibilities.
- Ensure the entry permit is completely and properly filled out and verify that the air monitoring has been done correctly.
- Coordinate entry operations with other employers, contactors, or subcontractors who may have employees working in the same confined space so that employees of one do not endanger the employees of another.
- Terminate the permit when conditions change either inside or outside the space or when the permit expires.
- Verify that either external or internal rescue services are available.
- Determine when responsibility for a permit space is transferred, and ensure operations remain consistent with the terms on the entry permit.
- Require all unauthorized entrants to leave the permit area.
- Know the signs and symptoms of exposure for the hazardous atmospheres encountered in each confined space.
- Identify method of communication to summon rescue in case of an emergency.

The entry supervisor may assume the role and responsibilities of the attendant as long as the following criteria is met:

- The individual understands the responsibilities of the position
- The individual has been properly trained in the duties of the position
- The individual is not distracted by responsibilities of another position
- The individual is not responsible for the duties of an entrant

Entrants

In order to fulfill the duties as an Entrant, the assigned employees must be trained in and understand the following requirements:

- Be properly trained on all anticipated hazards of permit-required confined spaces.
- Know how to use all equipment properly.
- Know the signs and symptoms of exposure to hazardous atmospheres and how to perform self-rescue.
- Know the evacuation signal, and understand that the attendant can initiate immediate evacuations requiring all entrants to exit.
- Remain in constant communication with the attendant.
- Alert the attendant when there are any warning signs or symptoms of exposure to a dangerous situation and/or when a condition that is not noted on the permit is detected.

Attendants

In order to fulfill the duties as an Attendant, the assigned employees must be trained in and understand the following requirements:

- Know the hazards that may be encountered during entry, including signs and symptoms of exposures and exposure consequences.
- Remain outside the space at all times and be in constant contact with the entrants. Under no circumstances is an attendant allowed to leave the entrance area of the confined space or perform duties that will interfere with the primary responsibility of communicating with those inside the confined space.
- An attendant is only allowed to monitor one confined space at a time.
- Continuously maintain a proper count and be able to identify all the entrants.
- Monitor activities inside and outside the confined space to ensure the safety of the entrants.
- Set barriers around confined space to ensure pedestrians, vehicles, and other external hazards are prohibited from entering the work area.
- Summon rescue or other emergency personnel when needed.
- Perform non-entry rescues when possible.
- Warn all unauthorized entrants of emergencies.

The attendant may assume the role and responsibilities of the entry supervisor as long as the following criteria is met:

  - The individual understands the responsibilities of the position
  - The individual has been properly trained in the duties of the position
  - The individual is not distracted by responsibilities of another position
  - The individual is not responsible for the duties of an entrant

CONFINED SPACE PERMIT SYSTEM

Prior to a permit-required confined space entry, the permit must be filled out completely and signed by the entry supervisor. The signed permit must be posted before entrant personnel enters the space. RHMC will supply a permit to use, unless the equipment or facility owner requests the use of their exclusive permit. The following is a list of requirements for permit-required confined spaces:

- The completed permit must be posted at the entry point of the confined space so entrants can review it and confirm that the pre-entry steps have been taken.
- The permit is only valid for the duration of the work performed.
- The entry supervisor must terminate the permit when:
  - Work is complete
  - Conditions arise that were not accounted for on the original permit

After the completion of the entry, the permit will be retained for a period of one year to facilitate review of the program. Any problems encountered during the entry must be noted on the permit and used for review.

ATMOSPHERIC MONITORING

Before an employee enters any confined space, atmospheric testing will be conducted to assess the ambient conditions inside the space. The testing will be performed by a qualified person who is capable of operating the atmospheric testing equipment and interpreting the results. The equipment must be capable of detecting a minimum of three hazardous atmospheric variables: Flammability (LEL/UEL), Oxygen content, Carbon Monoxide levels.

The devices must be equipped with audio alarms, visual alarms, or both. Before use, or according to the manufacturer's scheduled specifications, the atmospheric equipment must be calibrated with the specified calibration gases in order to properly identify possible hazardous atmospheres. Acceptable atmospheric limits are:

- Oxygen content: between 19.5% and 23.5%
- Flammability: less than 10% of the LEL for any substance
- Carbon Monoxide: less than the PEL

If the atmospheric monitoring equipment detects levels beyond these ranges, employees will not be permitted to enter the space. If levels rise above or fall below the required ranges while employees are in the confined space, the entry will be terminated, and the attendant will instruct all employees to evacuate the space.

Before re-entry into the space, the space will be ventilated and rechecked with the atmospheric equipment. Ventilation equipment will be used when entering any space without respiratory protection. Employees are entitled to request additional monitoring at any time.

PERSONAL PROTECTIVE EQUIPMENT

Protecting employees from the dangers associated with working in a confined space is the priority of RHMC. When engineered, or administrative practices are infeasible in eliminating hazards, the use of personal protective equipment is necessary. A PPE safety analysis shall be completed for such work to determine the appropriate protection needed.

Work and/or rescue equipment will be immediately available at all times while confined space work is being performed. Work and/or rescue equipment will be selected with the potential hazards and possible contingencies associated with the confined space in mind. As necessary, PPE will be worn to protect entrants from the hazards associated with the confined space. PPE may include eye protection, hearing protection, hand protection, hard hats, chemically treated protective garments, and respiratory protection, including self-contained breathing apparatus (SCBA) if necessary.

If the confined space has a height of more than 5 feet with an entry point overhead, such entrant will be required to wear a body harness attached to a mechanical retrieval system, such as a tripod. If the confined space is less than 5 feet in height but has a potentially hazardous atmosphere, each entrant will wear a body harness attached to a lifeline that will be monitored by the attendant. This system will allow the attendant to perform a non-entry rescue, if necessary, by pulling the entrant out by the

lifeline. If the confined space entry requires more than one entrant using an airline system, the attendant will be responsible for ensuring the air hoses and lifelines do not become entangled.

GENERAL SAFETY ISSUES

Under no circumstances will compressed gas cylinders such as those containing oxygen or acetylene be allowed inside the confined space. The only pressurized cylinder that will be permitted is SCBA for respiratory protection. If welding or cutting activities are conducted in the confined space, the following must be adhered to:

1. Houses and torches will be inspected before use. If any piece of equipment is found to be defective, it will be tagged and removed from service immediately.
2. A fire watch will be posted during and after the confined space entry is complete.
3. All torches and hoses will be removed after work has ceased.

Other general safety considerations include, but are not limited to:

- Lock Out/Tag Out procedures will be followed on all applicable equipment.
- When natural lighting is not sufficient, additional lighting will be provided. It must not exceed 12 volts in damp conditions and will be equipped with a ground fault circuit interrupter. In hazardous atmospheres, explosion-proof lighting will be required.
- Communication will be established and used throughout the entire confined space entry.
- Properly rated fire extinguishers will be present, fully charged, and functional.

RESCUE AND EMERGENCY SERVICES

Prior to the start of a confined space entry, a rescue plan will be developed and available on location for review by those involved. The plan will identify the scope of work, potential hazards, and methods of rescue. When required, rescue services must be either:

- Provided by the host facility
- Provided by an outside service which is given an opportunity to examine the entry site, practice rescue, and decline as appropriate

When selecting local emergency agencies (fire department, etc.) as a rescue service, the agency must confirm that specialized rescue services can be provided.

Whenever possible, a non-entry rescue may be performed by a trained attendant. The local fire department will be notified before the procedure begins in case a non-entry rescue cannot be performed. If an emergency occurs, an attendant will call the fire department for rescue. For the safety of our employees, RHMC avoids work in confined spaces where immediate dangers to life and health conditions are present; in most cases of routine service, on-site rescue services are not necessary.

ALTERNATIVE CONFINED SPACE ENTRY PLAN

Under feasible circumstances, RHMC may reclassify a confined space to allow for a streamlined approach to entering the space. This alternative entry plan will be implemented only when:

1. A job hazard analysis (JHA) has been created.

2. The only hazard posed by the permit space is an actual or potential hazardous atmosphere that can be alleviated by ventilation.
3. Continuous forced air ventilation alone is sufficient to maintain a safe atmosphere.
4. Atmospheric monitoring is done to support the claims in items 1 and 2.
5. All data from items 1 and 2 are recorded and made available for all entrants to review.

If one of these items cannot be achieved, permit-required confined-space entry procedures must be followed. The person(s) performing initial atmospheric monitoring tests must follow the standard permit-required confined space procedures.

If the items can be achieved and the space is reclassified, the following procedures will be implemented:

- Any condition making it unsafe to remove an entrance cover will be eliminated before removal.
- After entrance covers are removed, guardrails, barricade tape, etc., will be erected to prevent accidental falls through the opening.
- Atmospheric monitoring to determine oxygen levels, toxic air contaminants, and flammable gases or vapors will be completed before entry operations. Atmospheric monitoring will also be conducted periodically during the entry to ensure these levels have not become more hazardous.
- Continuous forced-air ventilation will be used as follows:
  - The system must be capable of eliminating the atmospheric hazard while entrants are inside the space.
  - The system must be directed to or away from (depending on the airflow direction) the immediate area of the entrants and remain operational during the entire entry procedure.
  - The air supply for the system must come from a clean source and not increase hazards.
  - If a hazardous atmospheric condition is detected while entrants are in the confined space, the following steps will be taken:
    - Each entrant will leave the space immediately
    - The space will be evaluated to determine how the hazardous atmosphere developed
    - Measures will be taken to protect the entrants from the hazardous atmosphere

NON-PERMIT-REQUIRED CONFINED SPACES

Rock Hill Mechanical may have the opportunity to reclassify a permit-required confined space as a non-permit-required confined space, provided the following conditions are met:

- A job hazard analysis has been created.
- The permit space poses no actual or potential atmospheric hazards, and all hazards within the space can be eliminated from outside the space. If it is necessary to enter the space to eliminate the hazards, then permit-required confined space procedures must be followed.
- The space must remain free of atmospheric hazards at all times.
- All information must be documented, certifying the date, location of the space, and signature of the person making the determination. This form must be made available to all entrants.
- If hazards arise while employees are working in the space, employees must immediately evacuate and reclassify the space as a permit-required confined space.

The use of forced-air ventilation systems does not constitute the elimination of atmospheric hazards during non-permit-required confined space entries.

CONFINED SPACE ENTRY PROCEDURE CHECKLIST

Complete the following steps before, during, and after a confined space entry.

1. Notify the supervisor and/or safety manager that a confined space operation is going to be performed.
2. Verify that 4-gas meter is calibrated and is working properly.
3. Complete the top portion of the Confined Space Permit.
4. Ensure all rescue equipment and services are in place prior to entry.
5. The entrant and attendant shall complete the Hazards of Confined Space and Special Requirements section of the permit. Additional safety precautions shall be taken at this time.
6. Monitor the entrance of the confined space with the 4-gas meter prior to entry. Monitoring results shall be recorded on the permit. If needed, ventilation operations shall be used until the atmosphere readings at the entrance are safe.
7. The entrant and attendant shall sign the authorization at the bottom of the permit to ensure all actions and conditions necessary for safe entry have been performed.
8. Entrant shall wear the 4-gas meter during entry after pre-atmosphere testing is completed. The entrant shall wear a body harness and lanyard suitable for retrieval. Entrant shall be attached to retrieval system. Entrant shall wear any additional PPE and have an adequate communication system, required by the confined space.
9. Entrant shall enter confined space only after previous 8 steps are completed.
10. Once the entrant is within the confined space, additional atmosphere testing shall be conducted. The entrant shall gather the % Oxygen, % LEL, CO, and H2S readings. The attendant shall record the second readings.
11. The attendant shall maintain constant communications with the entrant until the entrant has exited the space.
12. The attendant shall contact the supervisor and/or safety manager once the entrant has exited the space.
13. The confined space permit shall be closed once the operation is completed. No entry shall be made on an expired permit.
14. The permit shall be handed in to the supervisor or safety manger and filed with the confined space records.

Rock Hill Mechanical Corporation

FALL PROTECTION SAFETY PROGRAM

POLICY

Rock Hill Mechanical Corporation is dedicated to the protection of our employees from on the job accidents and injuries. In order to provide this protection, RHMC is to ensure all employees receive the proper training and are equipped with the necessary body harnesses, lanyards, lifelines, and anchorage devices for a personal Fall Arrest System.

PURPOSE

To supplement our standard safety policy by providing safety standards designed to cover Fall Protection and to ensure that each employee is trained and made aware of the safety provisions which are to be implemented prior to exposing themselves to all fall hazards. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart M Section 1926.500, however, all sections of this subpart are to be observed and followed.

The plan is designed to enable employees to recognize fall hazards and follow the procedures to prevent falls to lower levels or through holes and openings in working surfaces. Each employee will be trained in these procedures and strictly adhere to them, except when doing so would expose the employee to a greater hazard. Should an employee recognize such a hazard they are to notify their foreman and their concerns are to be addressed before proceeding.

PROGRAM OVERVIEW

Fall Protection is the system designed to protect workers exposed to:

- Slips, trips, and falls which occur at the same level
- Slips, trips, and falls which occur on stairs or ramps
- Slips, trips, and falls that occur from elevations such as ladders, scaffolds, floor openings, etc.

A Fall Protection Program recognizes the potential hazards and responds by:

- Taking steps to reduce or eliminate the hazard
- Providing employee training and enforcing safety rules
- Providing personal protective equipment when and where it is required

DEFINITIONS

Anchorage – A secure point of attachment for lifelines, lanyards, or deceleration devices

Anchorage Connector – A component or subsystem with means specifically intended for coupling the personal fall arrest system components to the anchorage.

Arresting Force – The force generated by arresting a fallen worker that is transmitted through the fall arresting system components to the anchorage.

Body Harness – Straps that may be secured about the person in a manner that distributes the fall-arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a personal arrest system.

Connecting Device – A device that is used to couple (connect) parts of a personal fall arrest system or positioning device system together.

Controlled Access Zone – A work area designated and clearly marked in which certain types of work may take place without the use of conventional fall protection systems (guardrails, personal arrest systems, or safety nets) to protect the employees working in the zone.

D-Ring – Attachment point on a body harness for deceleration devices or lanyards. Must be capable of sustaining a minimum tensile strength of 5,000 pounds.

Deceleration Device – Any mechanism – such as rope, grab, rip stitch lanyard, automatic self-retracting lifelines – which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.

Deceleration Distance – 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 full body harness attachment point at the moment of activation of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

Extension Ladder – Two ladder sections consisting of two side rails with steps mounted in between the rails which operate in brackets or guides allowing for adjustable lengths.

Free Fall – The act of falling, before the personal protection system begins to arrest the fall.

Free Fall Distance – The vertical distance an employee falls before the fall arresting system begins to arrest the fall.

Guardrail System – A barrier erected to prevent employees from falling to lower levels.

Hole – A void or gap 2 inches or more in the least dimension in a floor, roof, or other working surface.

Lanyard – A flexible line of rope, wire, or strap that generally has a connector at each end for connecting the body harness to a deceleration device, lifeline, or anchorage.

Leading Edge – The edge of a floor, roof, or formwork for a floor or other working surface, which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed.

Lifeline – A component consisting of a flexible line for connection to an anchorage at one end to hang vertically, or for connection to anchorages at both ends to stretch horizontally and that serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Low-Slope Roof – A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Opening – A gap or void 30 inches or more in height and 18 inches or more in width in a wall or partition, through which employees can fall to a lower level.

Personal Fall Arrest System (PFAS) – A system including, but not limited to, an anchorage, connectors, and a body harness used to arrest an employee in a fall from a working level.

Personal Fall Restraint System (PFRS) – A body harness system rigged so that an employee cannot free fall. Anchorage must be able to support 3,000 pounds or more.

Self-Retracting Lifeline/Lanyard – A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal employee movement and which, after onset of a fall, automatically locks the drum and arrests the fall.

Shock Absorber – A component of a system which allows dissipation of energy by extending the deceleration distance.

Snap Hook – A connector consisting 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.

Steep Roof – A roof having a slope greater than 4 in 12 (vertical to horizontal).

Stepladder – A portable, self-supporting "A" frame ladder that has two front side rails and two rear side rails with steps mounted between the front rails and bracing between the rear side rails.

Suspension Trauma – The development of symptoms such as light headedness, palpitations, nausea, headache, swelling, weakness, and possible death, due to being suspended for an indefinite period of time in a fall arrest system.

Swing Fall Hazard – Potentially dangerous "pendulum-like" fall that can result when a worker moves horizontally away from a fixed anchor point and falls. The arc of the swing produces as much energy as a vertical free fall and the hazard of swinging into an obstruction becomes a major factor.

Toe Board – A low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

Unprotected Sides and Edges – Any side or edge, except at entrances to points of access, of a working surface (e.g. floor, roof, ramp) where there is no wall or guardrail system, at least 39 inches high.

Working Surface – Any surface, whether horizontal or vertical, on which an employee walks or works, including but not limited to; floors, roofs, ramps, bridges, runways, formwork, or concrete reinforcing steel. Does not include ladders, vehicles, or trailers on which employees must be located to perform their work duties.

Warning Line System – 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 a guardrail, body harness, or safety net system to protect employees in the area.

FALL PROTECTION TYPES

Standard Guardrails, Safety Cables, or Covers

These are the easiest and most cost-effective methods of providing fall protection and have a very high success rate. Standard guardrails, safety cables, floor hole and sky light covers are our preferred means of fall protection on job sites. The following rules will be followed when using them:

1. Railings shall be constructed of select lumber, or in an equally substantial manner from other materials, and shall consist of a top rail not less than 42 inches or more than 45 inches in height measured from the upper surface of the top rail to the floor, platform, runway, or ramp level and a mid rail. The mid rail should be halfway between the top rail and the floor, platform, runway or ramp. All railing shall be able to withstand 200 pounds of pressure at any point.

2. Wooden posts shall be not less than 2 inches by 4 inches nominal in cross section, spaced at 8 feet intervals or closer.
3. Wooden top railings shall be smooth and made of 2”x4” or larger material. Double 1”x4” members may be used for this purpose, provided that one member is fastened in a flat position on top of the posts and the other fastened in an edge-up position to the inside of the posts and the side of the top member. Mid rails shall be 2”x4” or greater.
4. The rails shall be placed on the inside of the post.
5. All railings will be set up and able to handle expected tasks.
6. Floor openings greater than 12”x12” at any depth that may cause a trip hazard or greater, shall be protected. Floor, roof, and skylight openings shall be guarded by standard railing and toe boards or covers. Covering shall be capable of safely supporting the greater of the weight of a 200-pound person or the weight of worker(s) and material(s) placed thereon. Coverings shall be secured in place to prevent accidental removal or displacement, and shall be painted, or stenciled with legible letters set no less than one inch high, stating: “Hole—Do not remove”.
7. Ladder ways, floor openings, or platforms shall be guarded by standard railings with standard toe boards on all open sides, except at the entrance to the opening. The passage through the opening shall be guarded by either a warning protection so that a person cannot walk directly into the opening, or by a removable chain at railing height.
8. Wall openings, from which there is a drop of more than 6 feet and the bottom of the opening is less than 3 feet above the working surface, shall be guarded with standard rails with ability to support 200 pounds in any direction.
9. An extension platform outside a wall opening onto which materials can be hoisted for handling, shall leave side rails or equivalent guards of standard specification, or a Personal Fall Arrest System.
10. All elevator shafts in which cages are not installed and which are not enclosed with solid partitions and doors, shall be guarded on all open sides by standard railings and toe boards.
11. A fall harness and lanyard are required when using an aerial device. Personal Fall Arrest Systems are not required on elevated platforms unless standard guardrails are not in place.

Personal Fall Arrest Systems

Personal Fall Arrest Systems consist of a full body harness and a lanyard attached to suitable anchorage. The following rules, in addition to the manufacturer’s requirements and OSHA regulations, will be observed:

1. Prior to the use of a Personal Fall Arrest System, all employees should be trained on how to inspect the Fall Arrest System, how and when to wear a PFAS, and how to perform a rescue after a fall in a PFAS.
2. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers, except when they are used in conjunction with hot work where the lanyard may be exposed to damage from heat or flames. All systems shall be ANSI approved.
3. Anchorages used for attachment of PFAS equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as part of a complete PFAS which maintains a safety factor of at least 2; and under the supervision of a Qualified Person.

4. Where practical, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist, limiting the fall distance to a maximum of 6 feet.
5. Harnesses, lanyards, and other components shall be used only for employee protection as part of a PFAS and not to hoist materials.
6. Personal Fall Arrest Systems will be rigged so that an employee can neither free fall more than 6 feet, or contact any lower level.

Positioning Device Systems

Positioning Device Systems are designed to allow employees to work with both hands free at elevated locations. Their use shall conform to the following provisions:

1. Prior to the use of a Positioning Device System, all employees should be trained on how to inspect the PDS, how and when to wear a PDS, and how to perform a rescue after a fall in a PDS.
2. PDS's shall be rigged so that an employee cannot free fall more than 2 feet.
3. PDS's shall be inspected prior to each use for wear, damage, and other deterioration, and defective components shall be removed from service.
4. Harnesses and components shall be used only for employee protection and not to hoist materials.
5. The use of non-locking snap hooks is prohibited.
6. Anchorage points for PDS's shall be capable of supporting 2 times the intended load under a Qualified Person's supervision or 3,000 pounds, whichever is greater.

Personal Fall Restraint Systems

Personal Fall Restraint Systems are designed to prevent the wearer from reaching the edge or danger area and thus prevent them from falling.

1. Prior to the use of a PFRS, all employees should be trained on how to inspect the PFRS, how and when to wear a PFRS, and how to perform a rescue after a fall in a PFRS.
2. Anchorage points used for fall restraints shall be capable of supporting 4 times the intended load under qualified supervision or 3,000 pounds, whichever is greater.
3. Restraint protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.

Warning Line System

1. A warning line shall consist of a rope, wire, or chain and shall have flags at a minimum of 6-foot intervals with high visibility materials.
2. The rope, wire, or chain shall have a minimum tensile strength of 500 pounds after being attached to stanchions.
3. Stanchions shall be capable of resisting, without topping over, a force of at least 16 pounds applied horizontally.
4. The rope, wire, or chain shall be no lower than 34 inches and no higher than 39 inches from the walking surface and 15 feet from the roof edge.
5. No employee is allowed to be between the warning line and the roof edge unless they use a fall protection system.
6. Controlled access zones will be properly marked and use a complete fall arrest system.
7. Warning lines must be erected around all sides of the roof work area.

Safety Nets

Where the elevation is 25 feet or more above the ground, water surface, or continuous floor level below, and when the use of Personal Fall Arrest Systems, Person Fall Restraint Systems, Positioning Device Systems, or more conventional types of protection are clearly impractical, the exterior and/or interior perimeter of the structure shall be provided with an approved safety net. It shall extend at least 8 feet horizontally from such perimeter and be positioned at a distance not to exceed 10 feet vertically below where such hazards exist, or equivalent protection provided. Safety nets shall extend outward from the outermost projection of the work surface as follows:

Vertical distance from working level to horizontal plane of net:	Minimum required horizontal distance of outer edge of net from the edge of working surface:
Up to 5 feet	8 feet
More than 5 feet up to 10 feet	10 feet
More than 10 feet but not to exceed 30 feet	13 feet

Nets shall be hung with sufficient clearance to prevent user's contact with the surfaces or structures below. Such clearances shall be determined by impact load testing.

RESPONSIBILITIES

Project Manger

- Responsible to plan in advance the methods, material, and equipment needed for compliance.
- Authorize necessary action to correct unsafe acts and/or substandard safety conditions reported or observed.
- Establish training programs to acquaint the worker with fall preventative measures and fall protection procedures.

Foreman

- Instruct employees in safe work practices and methods at the time the employee is given work assignments and providing verification of understanding by each employee.
- Seeing that employees have and use the proper fall protective equipment and tools for the job.
- Continuously checking that no unsafe practices or conditions are allowed to exist on any job.

SAFE PRACTICES

Fall Arrest Systems

- The use of body harnesses and lanyards will reduce the possible fall hazards to workers.
- Employees exposed to falls of 6 feet or greater shall strictly adhere to this plan.
- Anchorage points shall be designed to support at least 5,000 pounds per employees using standard lanyards.

- Lanyards must be connected to deceleration devices and have no cuts or abrasions, and have a minimum capacity of 5,000 pounds.
- Body belts are prohibited.
- Body harnesses must be the proper size for each employee and be inspected prior to use.
- When the working area on a roof is more than 15 feet from an unprotected edge, full body harnesses are not required as long as a warning line is provided.
- When working on a roof with a parapet wall that is at least 42 inches in height, full body harnesses are not required.
- Using a scissor lift does not require the use of a full body harness.
- Using a boom lift does require the use of a full body harness and to be tied off to the basket.
- Should a fall occur, all components of the fall arrest system are to be removed from service.

Self-Retracting Lifeline/Personal Fall Restraint Systems

- All employees utilizing a self-retracting lifeline must be trained by a competent person in the proper use of the system.
- All equipment must be visually inspected by a qualified person before each use and according to the manufacturer's instructions.
- Self-Retracting Lifelines and Personal Fall Restraint Systems must be capable of supporting 3,000 pounds per employee.
- Equipment must be used in accordance with manufacturer's requirements. Repairs must be performed only by the manufacturer, or person or entities authorized, in writing, by the manufacturer.
- Any equipment utilized in the Self-Retracting Lifeline System exhibiting deformities, unusual wear, or deterioration must be immediately taken from service.
- Any components of a Self-Retracting Lifeline System subjected to a fall must be removed from service following a rescue.
- Inspection of all restraint systems shall be completed and documented by a Competent Person at least annually or per manufacturer's requirements.
- Equipment must meet ANSI labeling standards and be clearly marked, or have proof available on site.

Rock Hill Mechanical Corporation

LADDER SAFETY PROGRAM

PURPOSE

The purpose of this program is to provide guidelines for the proper selection and use of ladders by Rock Hill Mechanical Corporation employees. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart X Section 1926.1053, however, the entire section is to be strictly observed and followed.

SAFE WORK PRACTICE

Ladders present one of the major hazards in construction work, and their improper use is the cause of many serious accidents. An analysis of accidents involving ladders revealed that the 5 principal causes of such accidents are:

1. Ascending or descending improperly
2. Failure to secure the ladder at top and/or bottom
3. Structural failure of the ladder itself
4. Carrying objects in hands while ascending or descending ladders
5. Employees leaning out from the ladder (over-reaching)

LADDER SELECTION

Great care should be taken in the selection of the proper size and design of the ladder for the intended use. All ladders should have uniformly spaced rungs and meet or exceed OSHA/ANSI specifications.

Straight Ladders

- Ladders must be selected to be of sufficient length, to end not less than 36 inches above any platform or landing which they serve.
- All portable straight ladders must be equipped with approved safety shoes.
- All metal ladders are electrical conductors, their use around electrical circuits of any type or places where they may come in contact with such circuits, is not allowed.

Step Ladders

- Step ladders, sometimes referred to as “A-Frame” ladders, must have positive locking spreaders that will be fully spread and locked when the ladder is in use.
- Step ladders will not be used as straight ladders. They should be of sufficient height to preclude the necessity of employees using the top two steps of the ladder.
- Employees will not be allowed to work from the top two steps of a step ladder.
- Step ladders shall be firm and well-constructed. Special care shall be taken when setting any ladder on grating. Often the feet of a step ladder can slip through the grating, causing the ladder to fall.
- Step ladders shall be tied off, or another worker shall hold the ladder, when the user is 6 feet or more above the floor.

LADDER USAGE

The feet of the ladder shall be placed approximately one-quarter of its supported length away from the vertical of its top support (1 to 4 ratio). Extension ladders should be positioned based on the ¼ rule. (Example – If the ladder is 12 feet, the base of the ladder should be 3 feet from the structure). Most ladders provide a pictorial guide to assist in proper ladder positioning. If the ladder is set too far from the structure, there is a greater chance the ladder will slide down the structure. If the ladder is set too close to the structure, there is a greater change of a fall backwards away from the structure.

Only light, temporary work should be performed from ladders, so as not to exceed the ladders' load capacity. Employees should be cautioned frequently about the danger of trying to reach too far from a single setting.

Any effort that tends to shift the balance of the employee should be discouraged, since in most ladder applications, the weight of the employee in unevenly distributed. This includes using the proper torso for activities such as pulling, pushing, prying, etc.

Ladders shall not be placed in front of doors that open toward the ladder, unless the door is locked or otherwise guarded.

The ladder's feet shall be placed on a firm base and the area in the vicinity of the bottom of the ladder shall be secured to prevent displacement. Use ladder shoes, stakes, or other means to secure the ladder.

Ladders leading to landings, walkways, platforms, etc. must extend 36 inches above this point and must be securely fastened to prevent moving. Long ladders must be braced at intermediate points as necessary to prevent springing.

When ascending or descending ladders, employees are to face the ladder and use both hands to hold onto the side rails. If material must be moved from one level to another, a rope, block and tackle, or other means must be used. Materials are not to be hand carried on ladders.

Ladders must never be used in horizontal position, as runways or scaffold, but only for its intended purpose.

LADDER INSPECTION

Ladders must be inspected prior to each use and monthly for deterioration and damage. Close visual inspection is recommended in preference to load testing. Jumping on a ladder that is supported horizontally subjects the ladder to more severe loads than it is intended to carry and may result in damage that can lead to sudden failure while in use.

Metal ladders require more frequent inspection. All parts should be checked for wear, corrosion, and structural failure.

No employee will be allowed to use, for any reason, a ladder that has broken, loose, or cracked rungs, side rails, or braces. Any ladder found in this condition will be tagged as "DO NOT USE" and be removed from service immediately. All inspections shall be documented, and color coded for each month.

LADDER MAINTENANCE

Ladders should have the rungs cleaned to prevent accumulation of materials that might destroy their non-slipping properties.

When not in use, all types of ladders shall be stored under suitable cover to be protected from the weather. Ladders stored horizontally should be supported at both ends and at intermediate points to prevent sagging of the middle section, which tends to loosen the rungs and warp the rails.

LADDER USAGE SAFETY CRITERIA

- Get training before using ladders
- Follow manufacturer's instructions
- Inspect ladders before use
- Use proper ladder positioning
- Properly secure ladders
- Take time and do the job right
- Use the correct ladder for the job
- Use the ¼ rule
- The ladder must extend 3 feet above the exiting surface
- Tie the ladder off to a stationary point on the roof to prevent movement
- Always face the ladder when climbing up or down
- Keep both hands free to hold on to the ladder when climbing
- Always ensure you have 3 points of contact with the ladder (combination of hands and feet)
- Keep your body centered with the rails when climbing
- If you need tools, materials, etc. they should be handed to you or pulled up on a rope once you are in position to work
- When standing or working on a ladder, if you have to go above the top 1/3 of the ladder, you should get a higher ladder
- Never climb on the top rung of any ladder

LOCK OUT/TAG OUT PROGRAM

PURPOSE

The purpose of this Lock Out/Tag Out Program is to establish the requirements for hazardous energy-isolating devices whenever maintenance, servicing, or installation is done on equipment. It shall be used to ensure that the equipment is stopped operating, isolated from all potentially hazardous energy sources, and locked out before employees perform any work where the unexpected energization or start-up of the equipment or release of stored energy could cause injury. This program describes the major subjects of OSHA Regulation 29CFH 1910 Subpart J Section 1910.147, however, the entire section is to be strictly observed and followed.

SCOPE

RHMC employees will typically only encounter electrical and pneumatic energy sources, this program shall be used to protect against other potential sources too, including, but not limited to; steam, hydraulic, tension, gravity, thermal, kinetic, etc.

CLASSIFICATIONS

After diagnostics or troubleshooting of equipment malfunction/breakdown is completed, a determination of the type of lock out/tag out procedure shall be made.

Rock Hill Mechanical recognizes two types of lock out/tag out procedures; Simple and Complex. A Simple procedure consists of only one qualified person de-energizing one set of conductors or circuit part source for the sole purpose of protecting themselves and other employees from a potential energy source hazard. The simple procedure does not require a written plan for each operation. The qualified person is responsible for their own lock out/tag out.

The Complex procedure is required to be followed when one or more of the following exists:

- Multiple energy sources
- Multiple crews
- Multiple crafts/trades
- Multiple locations
- Multiple employers
- Multiple disconnecting means
- Particular sequences
- Job or tasks that continue for more than one work period/shift

A complex procedure shall consist of a written plan that identifies the person in charge of the procedure. The written plan needs to address all concerns of employees who may be exposed to the hazard and how these employees will be accounted for. The complex procedure may include several authorized persons using their personal locks. Each authorized person will be responsible for the set of employees their lock is protecting.

Each authorized person will place their lock prior to the work they are performing and remove their lock after their work is completed. It is the responsibility of the person in charge to ensure the safe and proper execution of complex procedure.

RESPONSIBILITIES

Employee

- Comply with restrictions and limitations imposed upon them during the use of lock out/tag out procedures
- Required to perform lock out/tag outs in accordance with the procedure
- Shall not attempt to start, energize, or use equipment that is locked and/or tagged out

Safety Director

Rock Hill Mechanical's Safety Director will be designated as the Program Coordinator. Specific responsibilities of the coordinator will be to:

- Provide hazardous energy control and lock out/tag out training to employees
- Implement and enforce the program
- Maintain an adequate supply of padlocks and tags for personnel authorized in the program
- Conduct an annual inspection of equipment and review of the program

Foremen

- Ensure all employees under their supervision comply with this procedure
- Verifying the machine or equipment is shut down
- Placing the lock(s) and/or tag(s) on control devices

BASIC LOCK OUT/TAG OUT PRINCIPLES

Equipment must be locked and tagged out to protect against inadvertent operation, when such operation could result in injury to personnel. Locks and tags are to be applied and removed only by the authorized employee who is performing the work on the equipment. Additional locks may be installed by individuals of the client owning the equipment, but it is the lock of the Rock Hill Mechanical employee performing the work that will be removed last.

In cases involving multiple locks on a single device, a Complex Lock Out/Tag Out Plan must be written which identifies the person in charge. The person in charge shall be held accountable for the safe execution of the complex plan.

When appropriate, equipment should be locked and tagged out when testing and diagnostic work has been completed. It is also important to understand that no one should attempt to operate locked out equipment. Disciplinary action may be constituted for any employee that violates these procedures, regardless of whether or not physical harm or equipment damage results.

Appropriate lockout padlock devices and warning tags shall be used for energy control purposes. No substitute padlock, other than those assigned to personnel, or combination locks are suitable for use under this program. Tags that are used must be of sufficient material and be durable to environmental conditions. Additional or replacement equipment is available from the program coordinator.

No equipment shall be locked out without the use of a tag. A tag, indicating the authorized person, the date of work being performed, the time the equipment will be inoperable, and the reason for the lock and tag, shall be accompanied with each locked out device. In instances where a lock mechanism is not applicable, an authorized employee shall use an alternative tag out procedure to control the energy

source and notify all affected employees of the operation. The authorized employee must be certain that the tag out process will provide adequate protection under OSHA standards.

TRAINING

Every authorized employee shall be trained in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available, and the methods and means necessary for the energy isolation and control. An authorized employee is responsible for locking and tagging equipment in order to perform maintenance, service, or installation. It is RHMC's policy that authorized employees be trained, then retrained as part of a refresher.

PROCEDURE

The following is a specific procedure to be followed for securing hazardous energy during work practices. When performing routine work or service at a client facility, it is the responsibility of the Rock Hill Mechanical employee to inform the client of the RHMC Lock Out/Tag Out Program.

Should a client request that the RHMC employee follow their program, it is the responsibility of the client to inform the RHMC employee of the procedures and document the operation. If the RHMC employee is unaware of the equipment to be used in the client's procedure, the client will train the RHMC employee and document the training.

The foreman is responsible for verifying shutting down the machine or equipment and placing the RHMC lock(s) and tag(s) on all control devices including electrical, mechanical, or other sources of energy that could be a hazard to those working on the machine or equipment; however, the Project Manager and/or Foreman must not disconnect any switches mark "disconnect by electrician only".

If the isolating device is not equipped to take multiple locks, the Project Manager and/or Foreman shall use multiple lock out devices when attaching the lock and tag to each isolating device.

If a piece of equipment or a machine is not equipped to accept a lock out, it shall be tagged at the main isolating device and its fuses or circuit breakers shall be pulled. (If frequent start/stop is necessary while repairs are made, the fuses or circuit breakers do not need to be removed.)

The danger tag must include the employee's name, phone number, and the date. Also, the attaching media must be able to withstand a pull of 50 pounds without breaking.

If a lock out hasp or device is provided, locks must be used.

Stored energy, such as that in springs, elevated machine members, rotating flywheels, hydraulic systems and air, gas, steam, or water pressure or acid, etc. must be dissipated as practical or restrained by methods such as repositioning, blocking, bleeding lines, blinding, or locking valves closed.

Locks, tags, chains, wedges, key blocks, adapters, self-locking fasteners, or other hardware will be provided for isolating, securing, or blocking of machines or equipment from energy sources. Each craft assigned to work on the machine or equipment must place their own lock and danger tag out on each energy isolating switch or control. Each lock shall be keyed differently.

After making sure that no personnel are exposed, and checking the disconnection of all energy sources, push button controls, or other normal operating controls, it shall be made certain that the equipment will not operate. After this test, the control or push button shall be returned to the neutral or off position.

Isolating Energy

1. The authorized employee performing the lock out/tag out procedure will notify all affected employees of the shutdown.
2. The authorized employee will identify all energy sources that pose a potential threat of energy release. If multiple energy sources are identified, a complex lock out/tag out plan must be completed.
3. If the equipment is operating, the authorized employee will shut the equipment down per manufacturer's procedures.
4. Verification of all energy sources will be made and noted. The authorized employee will operate the appropriate switches, valves, etc. so the equipment is isolated form the energy source.
5. The authorized employee will lock out the energy isolating device with an appropriate locking mechanism. A tag will be secured to the mechanism or area of isolation. The tag must contain appropriate information such as the name of the authorized employee, date and time of lock out, and reason for the isolation of energy.
6. The authorized employee must then release, restrain, or dissipate all stored energy.
7. After all stored energy is released, the authorized employee will test, in an appropriate manner, to verify the energy source has been isolated.
8. At this point the equipment is considered locked out and work may be performed.

Restoring Energy

1. Check the area to ensure that no affected employees are exposed to the restoration.
2. Remove all tools and equipment from area.
3. Ensure that all guards have been replaced and any safety interlocks reactivated, if so equipped.
4. Verify that the operating controls are in the "off" or neutral position.
5. Remove all lock and tag mechanisms, and activate the energy isolation devices to restore energy. If a group lock mechanism has been used, the lock of the RHMC authorized employee will be removed last. This ensures that all procedures in the program have been followed.

Service and/or Maintenance That Requires Start/Stop While Work is Being Performed

1. The Project Manager and/or Foreman shall be notified when it is necessary to start and stop a machine or piece of equipment during servicing and/or maintenance, or to energize circuits controlling such equipment for test purpose. The operations supervisor does not need to lock out the machine or equipment, but the Project Manager and/or Foreman must place an operations danger tag on each isolating device of the equipment. One servicing person on the job shall be designated by the supervisor to place his lock and tag on the main switch and/or isolating or control device(s).
2. Before starting the machine or equipment, the designated servicing person shall check the work area to make sure that all persons are clear of possible injury due to the restoration of energy. After this check is made, the designated person may remove the tag and start the machine or equipment. The operations tag must remain on the equipment during this procedure.

3. When the test is complete, the designated person shall relock and retag the machine or equipment and shall dissipate any stored energy that may have built up during the testing procedure. When this has been completed, the designated person must check to ensure that all power and stored energy is no longer a hazard.
4. If blocking was removed or if the equipment was repositioned during the test and presents a hazard, the blocking or safe position shall be restored before the designated person gives the okay to resume work. All blocking, etc. should be retagged.
5. When the work is complete, the designated person shall see that all guards are replaced and that the work area is cleaned up and may remove his locks and danger tags, blocking, etc. the designated person shall then notify the operations supervisor that the work is complete.
6. The operations supervisor, after checking to make sure that no one is exposed to hazards of the machine or equipment, shall remove the danger tag and operate the energy isolating device(s) to restore energy. Then, the workers shall be notified verbally, or by predetermined means, that it is safe to resume work.

SAFETY PRACTICES

Using danger tags without locks is permitted only if the machine or equipment is not equipped to take a lock. In this event, tags must be securely affixed at each energy-isolating switch or control using an attaching device that has a minimum breaking strength of 50 pounds. The danger tags must be signed and dated by the workers who place them on the switch(s) or control(s) and each craft must place his own tag on each switch(s) or control(s).

Failure to use locks and/or tags and failure to comply with the proper lock out/tag out procedures are a violation of RHMC rules and will be subject to disciplinary action.

Safety locks or danger tags may be removed only by the person who was assigned the lock(s) and/or tag(s) and who placed them on the equipment. To remove another person's safety lock or tag from a piece of equipment is a violation of RHMC rules and will be subject to disciplinary action.

If work on a piece of equipment has not been completed by the end of a shift, each craft working on that job shall remove their lock(s) and tag(s); however, the Project Manager and/or Foreman lock(s) and tag(s) remain in place and shall be notified that the work has not been completed.

If the work continues in the next shift, the Project Manger on that job shall place his own lock(s) and tag(s) on the energy isolating device(s) for the piece of equipment, along with the operations supervisor's lock(s) and tag(s).

When the work is completed, all guards have been reinstalled, the work area cleaned up and considered safe, and all locks and tags removed, the Project Manager shall inform the Foreman that the job is done, and the equipment is ready for operations.

If the Project Manager forgets to remove the lock(s) or tag(s), the Foreman in charge of the next shift shall use the following procedure:

1. Phone the RHMC Project Manager who forgot to remove the lock(s) or tag(s) to confirm if the job was completed and it is safe to remove the lock(s) or tag(s) and start the equipment.

2. If the Foreman cannot reach the Project Manager by phone, the Operations Supervisor who placed the original operation lock(s) and tag(s) may remove the lock(s) and tag(s) and start the equipment.
3. If neither the RHMC Project Manager or the Operating Supervisor can be reached by phone, or if the Operations Supervisor does not know if the job was completed, the Foreman and Operation Supervisor on duty shall make a joint inspection of the equipment to determine if the job was completed and if it is safe to remove the lock(s) and tag(s) and start the equipment.

PROGRAM REVIEW

This program will be reviewed annually by the Safety Director to verify the effectiveness of the procedures. The review may include a random audit and observation of authorized employees to demonstrate the procedures. Suggestions from supervisors and authorized employees as to improvements to the program will be considered at this time and implemented if appropriate.

Any changes to the program will constitute retraining of all authorized employees.

OUTSIDE CONTRACTORS

Outside personnel or contractors involved in the lockout of equipment or machinery that affects our employees must submit their energy control procedures, in writing, to the Safety Director. All affected employees must be trained in and familiar with the contractor's submitted procedure.

In order to protect our employees, the contractor's work area will be isolated, and access by our employees will be restricted. If this is impractical or cannot be accomplished, the Safety Director must assure the contractor's compliance with proper work procedures, energy isolation procedures, and contractor employee compliance.

Contractors failing to adhere to the provisions of the OSHA Hazardous Energy Control standard will be asked to terminate their work until their program is brought to compliance.

ABANDONED LOCKS

If a RHMC authorized employee or contractor of RHMC has abandoned their position, an RHMC supervisor will survey the worksite and equipment to authorize the removal of the lock and tag.

If an authorized RHMC employee or contractor encounters equipment that has been authorized for maintenance, service, or installation in which a lock and tag has been installed, said personnel will notify the equipment host or owner for lock and tag removal.

Rock Hill Mechanical Corporation

RESPIRATORY PROTECTION PROGRAM

PURPOSE

The purpose of this policy is to establish a program that ensures that workers are provided with the necessary information, training, and equipment to protect themselves from respiratory hazards in the workplace, and complies with applicable standards and regulations. Improper use of, or failure to wear respiratory protection when required, can have devastating effects on the life and/or health of workers. This program describes the major subjects of OSHA Regulation 29CFH 1910 Subpart I Section 1910.134; however, the entire section is to be strictly observed and followed.

POLICY

It is RHMC's responsibility to implement this program at no cost to the employees and it is the employee's responsibility to comply with all aspects of this program. Any voluntary use of respiratory protection equipment by employees shall be governed by the provision of this program, also at no expense to the employees.

RESPONSIBILITIES

Project Manager

- Oversee the implementation of this policy

Foreman

- Ensure that all personnel under their supervision are knowledgeable of the programs requirements
- Ensure that employees are trained and medically fit to use respiratory equipment safely
- Monitor the employees' diligence in following procedure and take appropriate action when deficiencies are observed

Employees

- Be aware of and practice the information learned in training
- Report equipment malfunctions
- Seal check their respirator before every use
- Report medical or physical changes that could affect respirator use

HAZARD ASSESSMENT

Respiratory hazard determination starts at the planning stage of a job. The responsible party is to identify all known hazards as required by the hazard communication standard. Evaluation of the hazards consists of exposure duration, potential for contact, and known or potential concentrations. When the hazard is a federally controlled substance, that hazard shall be assessed and monitored as dictated by that specific standard. A respiratory hazard may not have an established permissible exposure limit documented; however, all provisions of this program will be enforced to protect the health of the employees.

Acceptable methods for estimating respiratory hazards include:

- Personal exposure monitoring is the most reliable and accurate method to determine exposure
- Use of objective data – This is the use of data obtained from industry studies, trade associations or from tests conducted by chemical manufacturers. The objective data shall represent the highest contaminant exposures likely to occur under reasonable foreseeable conditions of processing, use, or handling. If objective data is used for assessment, the data must be documented as part of the written program.
- Mathematical Approach – The use of physical and chemical properties of air contaminates, combined with information on room dimensions, air exchange rates, contaminant release rates, and other pertinent data including exposure patterns and work practices to estimate maximum exposure levels in the work place.
- Where employee exposure cannot be identified or reasonably estimated, the atmosphere will be considered immediately dangerous to life and health (IDLH). Also, atmospheres that are oxygen deficient will be treated as IDLH conditions.
- Accidental release or emergency response must be a consideration when estimating hazard exposure.

HAZARD CONTROL

Engineering Controls

This should be the first consideration when evaluating hazard exposure.

- Substitution of a less or non-toxic substance to replace a more harmful one.
- Isolation or encapsulation of the process.
- Ventilation to remove contamination from the work area before exposure.

Administrative Controls

- Especially effective for repetitive stress and heat stress control, crew rotation could increase productivity in contaminated atmospheres.
- Adjust the length of the work shift.
- Change scheduled work to limit the number of employees exposed.

Personal Protective Devices

The use of personal protective devices for the control of respiratory hazards are to be used as a last resort, and only when other means of control are not practical or feasible. Respiratory protection may be required while implementing engineering controls, or in conjunction with other control methods. Engineering controls may only lessen the exposure, but required to be implemented along with personal protective devices.

RESPIRATOR SELECTION

Selecting the proper respirator can be very complex and is critical in having an effective respiratory program. The program administrator must solicit information from all available professional resources concerning exposure controls.

Factors that must be considered include:

- The nature of the hazardous operation or process

- The type of respiratory hazard
- The location of the hazardous area in relation to the nearest area having respirable air
- The period of time for which respiratory protection must be worn
- The activities of workers in the hazardous area
- The physical characteristics and functional capabilities and limitations of the various types of respirators
- Respirator-assigned protection factors listed in Attachment I, Table 1

Respirators to use under IDLH conditions:

The required respiratory protection for IDLH conditions caused by the presence of toxic materials, or a reduced percentage of oxygen, is a combination full face piece pressure demand supplied air respirator (SAR) with auxiliary self-contained air supply. For rescue applications, a full-face piece pressure demand SCBA certified by NIOSH for a minimum service life of 30 minutes is acceptable.

When respirators are worn under IDLH conditions, at least one standby person shall be present in a safe area. The standby person shall have the proper equipment available to assist the respirator wearer in case of difficulty. Communications shall be maintained between the standby person and the wearer. While working in the IDLH atmosphere, the wearer shall be equipped with a safety harness and safety lines to permit removal to a safe area, if necessary. Provisions for rescue other than safety harness and lines may be used, if equivalent.

BREATHING AIR QUALITY

Workers using supplied breathing air equipment shall be thoroughly trained in its use.

Breathing air is typically supplied from cylinders or via a compressor. Appropriate measures shall be taken to ensure that all compressed breathing air meets at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989 to include:

1. Oxygen content(v/v) of 19.5-23.5%
2. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less
3. Carbon monoxide (CO) content of 10 ppm or less
4. Carbon dioxide content of 1,000 ppm or less
5. Lack of noticeable color

Suppliers of breathing air cylinders shall provide the company with a certificate of analysis with each delivery certifying that the breathing air meets the requirements for Grade D breathing air; and that the moisture content in the cylinder does not exceed a dew point of -50°F at 1 atmosphere pressure. The certificate shall have the name of the breathing air supplier, the testing technician, and date of the test.

TRAINING

To protect employees from exposure to respiratory hazards using standards as minimum guidelines, all employees who will wear respiratory protection will be trained on this policy. Training will be provided prior to job assignment where respirator equipment is required, and annually thereafter. Additional training is required when there are deficiencies in the employee's knowledge/skills or when there is a change in the work place or respiratory equipment that renders previous training obsolete. The training will include the following:

- Responsibilities of employees and supervisors
- How, why, and for what jobs we use respirators
- Hazard assessment including limitations of respirators
- Hazard control
- Respirator selection
- Medical evaluation
- Respirator fit test
- Maintenance, care, and storage
- Medical surveillance
- Program evaluation

Reasons to Use Respiratory Protection

- The nature, extent, and effects of respiratory hazards
- Consequences of improper fit, usage, and maintenance on respirator effectiveness

Limitations and Capabilities of the Respirator

- Air purifying respirators that filter either particles, or absorbing vapors and gases
- Air supplying respirators that supply air from an uncontaminated source
- Limitations of respirators in IDLH atmospheres and for emergency use only

How Respirators are Inspected, Donned, Removed, Seal-Checked, and Worn

- What to do if respirators have defects
- Who to report problems to during use
- Proper technique for donning and removing the respirator, and how to store when not in use
- How to seal check using the positive and/or negative pressure method

Methods of Maintenance and Storage

- Visual inspection of parts for worn or defective items
- How to keep the issued respirator clean and sanitary
- Requirement to disinfect and sanitize before re-issue to other employees
- Proper storage in a cool, clean, and dry location

Medical Signs and Symptoms That May Limit or Prevent Effective Use of Respirators

- An awareness of physical conditions that may indicate warning signs
- An obligation to report signs and symptoms, and the opportunity for medical re-evaluation
- Changes in weight
- Physical changes in facial structure
- Changes in endurance, stability, or general health
- Medication for illness

All training shall be conducted in a way that is understandable to the employee, and be documented.

MEDICAL EVALUATION

All employees whose job classification may require use of respiratory protection shall be evaluated and certified by a physician or a licensed health care professional (PLHCP) as being “medically fit” to wear a

respirator. For new hires, the medical evaluation shall be made before any use of respiratory equipment. Thereafter, the evaluation shall occur, at a minimum, annually. The medical evaluation consists of, at a minimum, the administration of a health questionnaire meeting federal guidelines or provisions for a physical examination by a PLHCP that elicits the same information as the questionnaire. The PLHCP shall be provided with supplemental information by the employer on the description of the job classification, possible work conditions, and any additions PPE that may be required of the employee while using respiratory equipment. Also, a copy of this program will be given to the PLHCP for reference along with the OSHA standard.

The administration of the health questionnaire will be done during work hours and at no cost to the employee. The information on the questionnaire shall remain confidential between the PLHCP and the employee. The employee must have access to the PLHCP for discussion and asking questions concerning their medical evaluation. The company will only receive a recommendation of the employee's ability to wear respiratory equipment.

RESPIRATOR FIT TEST

Respirator fit testing is required of all employees prior to using a positive or negative tight-fitting respirator. The fit test will be specific for respirator manufacturer, model, and size. This test is to be repeated annually, or if there is a change in the respiratory equipment. Some substance specific standards may call for more frequent testing and dictate a specific protocol, which would take precedence over this program. A change in the employee's physical appearance can affect the seal of a respirator and may require re-testing. If the respirator is unacceptable to the employee due to comfort, irritation, or inability to get a seal, the employee will be offered a reasonable selection for an alternate choice of respirators.

The employee will be asked to wear the proposed respirator for a period of time to become familiar with the feel and fit. No obstacles can be between their face and the sealing surface of the respirator, including facial hair of 24 hours or more growth, side burns that extend into the sealing surface, or hair that is long enough to prevent proper function of the respirator. Jewelry, caps, hats, scarves, and certain safety gear must be evaluated as part of the fit test if the employee is permitted or required to wear them during work. OSHA did not restrict the use of contact lenses with respirators, but did mandate that the use of corrective lenses shall not interfere with the seal of the respirator. Any adaptive devices for vision correction with respiratory equipment will be supplied at no cost to the employee. The employee will be instructed on how to field check respiratory equipment. The positive and negative seal check methods of verifying a good seal shall be required before each and every entry into a respiratory hazard area. These seal checks are not to be considered a fit test.

Positive Seal Check

A positive seal check is accomplished by effectively sealing the exhalation valve and slowly exhaling. This should create a slight, positive pressure inside the face piece for a short period of time. The participant must be careful not to exhale too fast or small leaks can be nullified and/or large leaks artificially created.

Negative Seal Check

A negative seal check is accomplished by effectively sealing the inhalation ports of the respirator and inhaling slowly. The participant should be able to create a negative pressure inside the respirator and

hold it for a short period of time. Inhaling too fast may nullify small leaks and/or artificially create other leaks.

Fit Test

- Qualitive Fit Test – A pass/fail test that relies on the subject to detect a challenge agent and is predicted on an individual's sensory response
- Quantitative Fit Test – Uses an instrument to measure the challenge agent inside the respirator and gives a numerical value to the test data

If the quantitative testing is used, the employee should be informed of the exposure limitations. A limit of 10 times the permissible exposure level for an 8-hour duration is the maximum exposure for either a half mask, or full-face piece negative pressure respirator.

For OSHA guidelines, refer to Attachment V, Table 2 for Acceptable Fit Test Methods.

Irritant Smoke Protocol

Irritant smoke protocol for qualitive fit testing is very effective, since it is the only challenge agent that does not rely on a voluntary response. This type of test requires that the tester be well trained in the correct and safe use of the irritant smoke tubes. The smoke tubes can be a health hazards if not used properly and in a well-ventilated room. Specific step by step procedures are referenced in Attachment III.

MAINTENANCE AND CARE

Storage

Respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. They shall be packed or stored to prevent deformation of the face piece. Reference instructions for other recommendations.

Inspection

Respirators are inspected on a regular basis and employees are instructed on how to inspect their respirator. All respirators used on a routine basis shall be inspected before each use and during cleaning. All emergency respirators shall also be inspected at least on a monthly basis.

Respirator inspection shall include the tightness of connection and the condition of various parts including, but not limited to, the face piece, head straps, valves, gaskets, connecting tubes, cartridges, canisters, and filters. Also, check all elastic parts for deterioration and pliability. Inspection of self-contained breathing apparatus shall be done only by trained technicians competent with that specific brand, make, and model of respiratory equipment. The technician conducting the inspection shall certify the inspection by attaching a signed and dated tag or label to the equipment.

MEDICAL SURVEILLANCE

Employees should be aware of medical conditions that would prevent or limit their use of respiratory equipment. Employees will be required to complete a medical questionnaire initially, and then further evaluation at the frequency determined by the medical evaluator.

Attachment I

Table 1 – Assigned Protection Factors

Type of Respirator	Respiratory Inlet Covering	
	Half Mask[1]	Full Facepiece
Air Purifying	10	100
Atmosphere Supplying SCBA (Demand)[2]	10	100
Airline (Demand)	10	100

Type of Respirator	Respiratory Inlet Covering			
	Half Mask	Full Face	Helmet/Hood	Loose-Fitting Facepiece
Powered Air Purifier	50	1000[3]	1000[3]	25
Atmosphere Supplying Airline Pressure Demand	50	1000	-	-
Continuous Flow	50	1000	1000	25
Self-Contained Breathing Apparatus Pressure Demand Open/Closed Circuit	-	[4]	-	-

[1] Includes ¼ mask, disposable half masks, and half masks with elastomeric facepieces.

[2] Demand SCBA shall not be used for emergency situations such as firefighting.

[3] Protection factors listed are for high-efficiency filters and sorbents (cartridges and canisters). With dust filters, an assigned protection factor of 100 is to be used due to the limitations of the filter.

[4] Although positive pressure respirators are currently regarded as providing the highest level of respiratory protection, a limited number of recent simulated workplace studies concluded that all users may not achieve protection factors of 10,000. Based on this limited data, a definitive assigned protection factor could not be listed for positive pressure SCBA's. For emergency planning purposes where hazardous concentrations can be estimated, an assigned protection factor of no higher than 10,000 should be used.

NOTE: Assigned protection factors are not applicable for escape respirators. For combination respirators, e.g., Airline respirators equipped with an air-purifying filter, the mode of operation in use will dictate the assigned protection factor to be applied.

Attachment II – Respirator Selection

Logic Guide: Reference ANSI 288.2- 1992 7.2.2.

Respirator selection involves reviewing each operation to (a) determine what hazards may be present (hazard determination) and (b) select which type or class of respirators can offer adequate protection.

Hazard Determination Steps

The nature of the hazard shall be determined as follows:

- Determine what contaminant(s) may be present in the work place.
- Determine whether there is a published Threshold Limit Value, Permissible Exposure Limit, or any other available exposure limit or estimate of toxicity for the contaminant(s). Determine if the IDLH concentration for the contaminant is available.
- Determine if there is a comprehensive health standard (e.g., lead, asbestos) for the contaminant(s). If so, there may be specific respirators required that influence the selection process.
- If the potential for an oxygen-deficient environment exists, measure the oxygen content.
- Measure or estimate the concentration of the contaminant(s).
- Determine the physical state of the contaminant. If an aerosol, determine or estimate the particle size. Determine if vapor pressure of the aerosol is significant at the maximum expected temperature of the work environment.
- Determine whether the contaminant(s) present can be absorbed through the skin, produce skin sensitization, or be irritating or corrosive to the eyes or skin.
- Determine for a gas or vapor contaminant(s) if a known odor, taste, or irritation concentration exists.

Selection Steps

The proper respirator shall be selected as follows:

- If unable to determine what potentially hazardous contaminant may be present, the atmosphere shall be considered IDLH.
- If no exposure limit or guideline is available and estimates of the toxicity cannot be made, the atmosphere shall be considered IDLH.
- If a specific standard exists for the contaminant. follow those guidelines/requirements.
- If there is an oxygen-deficient atmosphere, the type of respirator selected depends on the partial pressure and concentration of oxygen and the concentration of the other contaminant(s) that may be present.
- If the measured or estimated concentration of the contaminant(s) is considered IDLH, reference "Respirators for use under IDLH conditions" at the end of this guide.
- Divide the measured or estimated concentration of each contaminant by the exposure limit or guideline to obtain a hazard ratio. When two or more substances are present, consideration needs to be given if there is a synergistic or combined effect of exposure rather than considering each substance individually. Select a respirator with an assigned protection factor greater than the value of the hazard ratio, as listed in Attachment I, Table 1.

- If the contaminant(s) is a gas or vapor only, select a device with an assigned protection factor that is greater than the hazard ratio. The concentration shall also be less than the maximum use concentration of the cartridge/canister.
- If the contaminant is a paint, lacquer, or enamel, select a respirator approved specifically for paint mists or an atmosphere-supplying respirator. (Approval label or regulatory provision may preclude use for some paints.)
- If the contaminant is a pesticide, select a respirator and filtration system specifically approved for pesticides or an atmosphere-supplying respirator. (Approval label may preclude use for some pesticides.}
- If the contaminant is an aerosol with an unknown particle size, or less than 2 um (MMAD), a high-efficiency filter shall be used.
- If the contaminant is a fume, use a filter approved for fumes or a high-efficiency filter.
- If the contaminant is an aerosol with a particle size greater than 2 um (MMAD), any filter type (dust, fumes, mist, or high efficiency) may be used.
- If the contaminant is a gas or vapor and has poor warning properties, the use of an
- atmosphere-supplying respirator is generally recommended.
- When atmosphere-supplying respirators cannot be used because of the lack of a feasible air supply, or the need for worker mobility, air-purifying devices should be used only if:
- The air-purifying respirator has a reliable end-of-service-life indicator that will warn the user prior to contaminant breakthrough or.
- A cartridge change schedule is implemented based on cartridge service data including desorption studies (unless cartridges are changed daily), expected concentration, pattern of use, duration of exposure, and the chemical does not have a ceiling limit.
- Special considerations for confined space entry into IDLH conditions are not addressed in the policy.

Use and duration of cartridges

Contaminent[1]	Maximum Concentration	Maximum Use Time[2] (Hours)
1,3 Butadiene	50	1
Ammonia	100	4
Benzene	10	8
Benzene	50	4
Chemicals not specified[3]	N/A	1
Naphtha	100	4
Naphtha	500	2
Particulates (Including dusts, mists, welding fumes)	N/A	8
Sulfur Dioxide	50	8
Total Hydrocarbons (as n-hexane)	100	4
Total Hydrocarbons (as n-hexane)	500	1
[1] If more than one contaminant is present, use the lowest maximum use time.		
[2] Cartridges should be changed out if the contaminant can be detected inside the respirator mask, regardless of the maximum use time.		
[3] Cartridges for chemicals not listed should be used for only 1 hour. This will error on the side of safety. If specific information is needed on a particular chemical, consult with the SDS or your supervisor.		

Attachment III – Fit Testing

If the test subject is not familiar with using a respirator, the test subject shall be directed to don the face piece several times and to adjust the straps to become adept at setting the proper tension on the straps.

A. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:
    1. Position of the mask on the nose
    2. Room for eye protection
    3. Room to talk
    4. Position of mask on face and cheeks

B. The following criteria shall be used to help determine the adequacy of the respirator fit:
    1. Chin properly placed
    2. Adequate strap tension, not overly tightened
    3. Fit across nose bridge
    4. Respirator of proper size to span distance from nose to chin
    5. Tendency of respirator to slip
    6. Self-observation in mirror to evaluate fit and respirator position

C. The test subject shall conduct a user seal check, utilizing the negative and positive pressure seal check methods. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to side and up and down slowly while taking in a few slow deep breaths. Another face piece shall be selected and retested if the test subject fails the user seal check tests.

D. The test shall not be conducted if there is any hair growth between the skin and the face piece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel, which interferes with a satisfactory fit, shall be altered or removed.

E. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.

F. Exercise regimen: Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercise that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test

G. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use, which could interfere with respirator fit.

H. Test exercises: The following test exercises are to be performed for all fit testing methods. The test subject shall perform exercises, in the test environment, in the following manner:

    1. Normal breathing: In a normal standing position, without talking, the subject shall breathe normally.

2. Deep breathing: In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
3. Turning head side to side: Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily, so the subject can inhale at each side.
4. Moving head up and down: Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
5. Talking: The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a person looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

6. Bending over: The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted far this exercise in those test environments that do not permit bending aver at the waist.
7. Normal breathing: Same as exercise (H,1).

Each test exercise shall be performed for one minute. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

Irritant Smoke Protocol

This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.

A. General Requirements and Precautions

1. The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter(s).
2. Only stannic chloride smoke tubes shall be used for this protocol.
3. No form of test enclosure or hood for the test subject shall be used.
4. The smoke can be irritating to the eyes, lungs, and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. Sensitivity varies, and certain individuals may respond to a greater degree to irritant smoke. Care shall be taken when performing the sensitivity screening checks that determine whether the test subject can detect irritant smoke to use only the minimum amount of smoke necessary to elicit a response from the test subject.
5. The fit test shall be performed in an area with adequate ventilation.

B. Sensitivity Screening Check

1. The test operator shall break both ends of a ventilation smoke tube containing stannic chloride, and attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute, or an aspirator squeeze bulb. The test operator shall cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.
2. The test operator shall advise the test subject that the smoke can be irritating to the eyes, lungs, and nasal passages and instruct the subject to keep his/her eyes closed while the test is performed.
3. The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties, and to determine if he/she can detect the irritating properties of the smoke. The test operator shall carefully direct a small amount of the irritant smoke in the test subject's direction to determine that he/she can detect it.

C. Irritant Smoke Fit Test Procedure

1. The person being fit tested shall don the respirator without assistance, and perform the required user seal check(s).

2. The test subject shall be instructed to keep his/her eyes closed.

3. The test operator shall direct the stream of irritant smoke from the smoke tube toward the face seal area of the test subject, using the low flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the face piece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.

4. If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.

5. The exercises identified in section H of this attachment shall be performed by the test subject while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches.

6. If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity check and fit test procedure.

7. Each test subject passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check with the smoke from the same smoke tube used during the fit test, once the respirator has been removed, to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.

8. If a response is produced during this second sensitivity check, then the fit test is passed.

Attachment IV
Respirator Cleaning Procedures

These procedures are provided as a guideline when cleaning respirators. They are general in nature, and the administrator as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth (i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user).

A. Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
B. Wash components in warm water (110° F maximum), with mild detergent or cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
C. Rinse components thoroughly in clean, warm (110° F maximum), preferably running water. Drain.
D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
    1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 110° F, or,
    2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100cc of 45% alcohol) to one liter of water at 110°F, or,
    3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
E. Rinse components thoroughly in clean, warm (110° F maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
F. Components should be hand-dried with a clean lint-free cloth or air-dried.
G. Reassemble face piece, replacing filters, cartridges, and canisters where necessary.
H. Test the respirator to ensure that all components work properly.

Attachment V – Table 2 – Acceptable Fit-Testing Methods

	QLFT	QNFT
Half-Face, Negative Pressure, APR (<100 fit factor)	Yes	Yes
Full-Face, Negative Pressure, APR (<10 fit factor) Used in atmospheres up to 10 times the PEL	Yes	Yes
Full-Face, Negative Pressure, APR (>100 fit factor)	No	Yes
PAPR	Yes	Yes
Supplied-Air Respirators (SAR), or SBCA used in Negative Pressure (Demand Mode) (>100 fit factor)	No	Yes
Supplied-Air Respirators (SAR), or SBCA used in Positive Pressure (Pressure Demand Mode)	Yes	Yes

COMPRESSED GAS HANDLING SAFETY PLAN

PURPOSE AND SCOPE

The purpose of this plan is to ensure the safe use, handling, and storage of compressed gases utilized by Rock Hill Mechanical Corporation. A multitude of gases are utilized at job sites and facilities, all having different properties that can cause serious accidents, injuries, and even death if proper precautions and safety practices are not followed. Their usage introduces hazards of flammability, explosion, chemical reaction, toxicity, and serious interference with firefighting efforts. This procedure applies to all compressed gas usage, handling, and storage at RHMC job sites and facilities.

DEFINITIONS

Asphyxiant – A gas or agent that produces a decrease of oxygen and an increase of the carbon dioxide level in the blood stream

Flammable Gas – A gas that is flammable when mixed with air in concentrations of 13% or less by volume in air

Inert Gas – A gas that is a simple asphyxiant which displaces oxygen in the air necessary to sustain life and can cause rapid suffocation due to a resultant oxygen deficiency

Small Compressed Gas Cylinder – A cylinder having a maximum water capacity of 1,000 pounds (i.e., 120 gallons) or less

NFPA – National Fire Protection Association

Storage – A cylinder is “in storage” when it is reasonably anticipated that gas will NOT be drawn from the cylinder within 24-hours. Cylinders in welding carts shall be considered “in storage” and are required to meet the storage requirements of 1926.350(a)(10) and this procedure when specific welding or cutting work is NOT planned for within 24 hours

RESPONSIBILITIES

Project Manager

- Implementing and enforcing this procedure

Project Foreman

- Approving the introduction of any new compressed gases onto the job site or into the facility
- Ensuring all employees are trained in the safe use, handling, and storage of compressed gas
- Monitoring compliance with this procedure

Employees

- Comply with this procedure when handling, storing, and utilizing compressed gases

STORAGE OF CYLINDERS

The following directives shall be adhered to when storing compressed gas cylinders.

- Cylinders shall be stored and secured in an upright position in their designated area.

- Storage areas for full and empty cylinders must be designated and labeled. Cylinders should be stored in assigned places away from elevators, stairs, or gangways.
- Cylinders shall be secured by chain, or other non-combustible means, to ensure that they will not be accidentally knocked over.
- Storage locations shall be well-ventilated, and ambient room storage temperatures shall not be allowed to exceed 125°F.
- Cylinder storage location shall be distinctly marked with the appropriate hazard warning for each type of compressed gas hazard maintained at the location.
- Cylinders shall not be stored near external heat sources such as open flames, intense radiant heat, electric arc, or high temperature steam lines. They shall also be stored a minimum of 20 feet from flammable and combustible liquids.
- Care shall be taken so no cylinders come into contact with any electrical components.
    - Electrical equipment within a flammable storage area shall be in accordance with NFPA 70.
- Each compressed gas cylinder maintained at a storage location shall be labeled with proper identification of its contents.
- Cylinders designed to accept valve protection devices shall be so equipped when stored.
- Oxygen cylinders shall be stored a minimum of 20 feet from fuel gas cylinders.
- Portable fire extinguishers consisting of carbon dioxide and/or dry chemical shall be available at the storage locations.

CYLINDER HANDLING

The following directives shall be adhered to when handling and transporting compressed gas cylinders.

- All cylinders shall be visually inspected for signs of damage prior to being removed from the storage area.
- Leaking cylinders should be moved to an isolated, well-ventilated area, away from ignition sources. Soapy water should be used to detect leaks.
    - If the lead is at the junction of the cylinder valve and cylinder, do not try to repair it, contact the supplier and ask for response instructions.
- Valve protection devices shall never be used for lifting cylinders unless they are designed for that purpose and manual methods are utilized.
- Cylinder valves shall be tightly closed prior to moving.
- Compressed gas cylinders shall never be rolled, slid, or dragged from one location to another
    - Only an approved dolly (i.e., hand truck) shall be used to transport cylinders.
- Unless cylinders are secured on a special truck, regulators shall be removed and valve protection caps, when provided, shall be put in place before cylinders are moved.
- Care shall be taken to ensure cylinders are not dropped, struck, or allowed to strike each other.
- Cylinders should be marked when empty. Never mix gases in a cylinder, and only professionals should refill cylinders. Empty cylinders must be handled as carefully as full cylinders.
- Cylinders used in portable service shall be conveyed by, and secured to, suitable trucks or carts.
- Cylinders shall be securely fastened in the upright position when transported by vehicle when possible.

CYLINDER USAGE

The following directives shall be adhered to when using compressed gas cylinders.

- All cylinder connections, hoses, valves, etc., shall be inspected prior to using the compressed gas cylinder. All connections shall be tight with no leaks. Damaged and/or deteriorated cylinder, valves, couplings, hoses, etc., shall not be used.
- Acetylene cylinders shall not be permitted to be used in the horizontal position.
- When Acetylene cylinders have been placed in a horizontal position they shall be placed in a vertical position and not used for 12 hours to allow the Acetylene to remix with the acetone.
- All cylinders shall be securely fastened to a cart, rack, or other rigid object when in use.
- Regulators, hoses, piping systems, or other apparatus damaged, leaking, or suspected of leaking, shall not be utilized.
- Cylinders must be equipped with the correct regulators. Regulators and cylinder valves should be inspected for grease, oil, dirt, and solvents.
- Cylinder valves shall not be tampered with, nor shall any attempt be made to repair them. If trouble is experienced, the supplier shall be contacted, and their handling instructions followed.
- Installation, disconnection, and replacement of cylinders is performed by qualified personnel.
- An incompatible regulator or thread adaptor shall not be used.
- Product identification labels or paint shall be clearly visible at all times.
- Compressed gas cylinders shall not be used in areas where the cylinder tank may come in contact with any sparks or flames.
- A pressure reducing valve must be used to remove gas from a cylinder.
- When opening cylinder valves, gas outlets shall always be pointed away from the user and other facility personnel standing in the immediate usage area.
    - Hydrogen cylinders shall NEVER be “cracked” open prior to connection of pressure regulator
- All cylinder valves shall be opened slowly.
    - Pressure seal valves shall be fully opened and back-seated when in use.
    - Hand wheel operated packed valves shall be fully opened, then closed a ½ turn when in use.
    - Wrench operated packed valves shall be opened a ¼ to a ½ turn when in use. The operating wrench shall remain on the cylinder valve at all ties
    - Only tools provided by the supplier should be used to open and close cylinder valves.
- Compressed gas-cylinder valves, couplings, hoses, etc., shall not be lubricated or allowed to come in contact with oil and/or grease.
- Cylinders of compressed gases shall not be placed in areas where there may be oil and/or grease, nor handled with oily and/or greasy hands.
- After each use of a compressed gas, the cylinder valve shall be fully closed and all gas remaining in the regulator valve shall be slowly purged. The regulator valve shall be removed, the cylinder valve cap shall be installed, and the cylinder tank shall be removed from the work area and returned to its proper storage location.
- If the contents of a compressed gas cylinder are depleted, the cylinder valve shall be fully closed, and the valve protection cap shall be reinstalled. The cylinder tank shall be appropriately marked with EMPTY TANK, and the tank shall be stored in a secured upright position.
- When a cylinder cap cannot be removed by hand, cylinder shall be tagged “Do Not Use” and returned to the designated storage area for return to vendor.

CYLINDER DELIVERY

The following directives shall be adhered to when receiving cylinders into the facility.

- When a cylinder is delivered it shall be complete with the following information:
  - The contents identified by stenciling or labeling
  - A DOT label
  - A protective cap
  - A hydrostatic test date within the previous 5 years
    - Propane requires a visual re-qualification date within the previous 5 years
- Personnel accepting delivery shall ensure that:
  - Cylinders meet the requirements listed above
  - A Safety Data Sheet is on file
  - A visual inspection of the cylinder is performed to detect any obvious signs of damage to the cylinder such as dents, swelling, deep gouges, corrosion, etc.

Cylinders not meeting the listed labeling requirements, or cylinders that exhibit signs of damage or excessive wear, shall not be accepted and shall be removed by the supplier immediately.

COMPRESSED GAS USE

The following directives shall be adhered to when using compressed gases.

- Compressed air shall not be used for cleaning purposes except where the pressure is reduced to less than 30 psi and effective chip guarding and PPE is used.
- Compressed cylinder gases shall not be used for testing pressure vessels unless a pressure relief device has been installed on the gas supply line or on the vessel being tested to function at a pressure not to exceed the safe working pressure of the vessel.
- Compressed oxygen shall never be used:
  - To purge pipe lines, tanks, or other confined areas
  - To supply head pressure in a tank
  - In pneumatic tools
  - In oil preheating burners
  - To start internal combustion engines
  - For ventilation
  - For dusting clothing
  - As any other substitute for air

TRAINING

All employees shall be trained in the safe handling and use of compressed gases prior to their being assigned tasks requiring them to use or handle such gases. This training shall include:

- The physical and chemical hazards of the gases
- Proper handling and storage methods
- Proper valve operation
- Proper application and use of pressure regulators
- Actions to be taken if a compressed gas emergency occurs

Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through the initial training.

Rock Hill Mechanical Corporation

SCAFFOLDING SAFETY PROGRAM

PURPOSE

This procedure defines the general requirements for the proper erection and inspection of scaffolding on the job site. This procedure also addresses the specific standards for Tubular Welded Frame Scaffolds and Manually Propelled Mobile Scaffolds. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart L section 1926.450, however, all subjects of this subpart are to be strictly observed and followed.

DEFINITIONS

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.

Exposed Power Lines – Electrical power lines that are accessible to employees and that are not shielded from contact. Such lines do not include extension cords or power tool cords.

Fabricated Frame Scaffold (Tubular Welded Frame Scaffold) – A scaffold consisting of a platform(s) supported on fabricated end frames with integral posts, horizontal bearers, and intermediate members.

Failure – Load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate yield strength is exceeded.

Large Area Scaffold – A pole scaffold, tube and coupler scaffold, system scaffold, or fabricated frame scaffold erected over substantially the entire work area.

Maximum Intended Load – The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

Scaffold – Any temporary elevated platform (supported or suspended) and its supporting structures (including points of anchorage), used for supporting employees or materials or both.

System Scaffold – A scaffold consisting of posts with fixed connection points that accept runners, bearers, and diagonals that can be inter connected at predetermined levels.

Tube and Coupler Scaffold – A supported or suspended scaffold consisting of a platform(s) supported by tubing, erected with coupling devices connecting uprights, braces, barriers, and runners.

Walkway – A portion of a scaffold platform used only for access and not as a work level.

RESPONSIBILITIES

Competent Person

- Ensure that all scaffold erection, movement, dismantling, or alteration be performed only by experienced and trained employees.
- Determine the feasibility and safety of providing fall protection for employees erecting and dismantling supported scaffolds. Fall protection is required where the installation and use of such protection is feasible and does not create a greater hazard.

- Perform inspections of scaffolds and all its parts, as required.

SCAFFOLDING INSPECTIONS

The supervisor (competent person) shall inspect the scaffolding and scaffold components for visible defects before each work shift, and after any occurrence which could affect the scaffold's structural integrity. Any part of the scaffold that is damaged or weakened shall be immediately removed from service to be repaired or replaced.

All scaffolding inspections are to be documented on the scaffolding "Inspection Sheet" that is attached to the framework of the scaffolding. A "Red Tag" is immediately attached to the scaffolding whenever the scaffolding inspection determines that there are defects and the scaffolding is unsafe for employee use.

The supervisor shall ensure that RHMC's Safety Director is contacted whenever employees are subject to use other types of scaffolding on the job site. The Safety Director shall inspect this scaffolding prior to it being used by RHMC employees.

GENERAL REQUIREMENTS

1. The footing for scaffolds shall be sound, rigid, and capable of supporting the maximum intended load without settling or displacement. Unstable objects, such as loose bricks or concrete blocks, shall not be used as scaffold supports.
2. Scaffolds and their components shall be capable of supporting, without failure, at least 4 times the maximum intended load.
3. Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the structural integrity of the scaffold is maintained. Scaffold components manufactured by different manufacturers shall not be modified to intermix them.
4. Standard guardrails and toe boards are required on all open sides and ends of platforms more than 10 feet above the ground or floor.
5. A competent person shall supervise and direct the erection, moving, dismantling, and alteration of scaffolds. Scaffold erection work will only be performed by trained, experienced, and qualified personnel.
6. Prior to each work shift, and after any occurrence that could affect a scaffold's integrity, a competent person shall inspect the scaffold and scaffold components for visible defects. If structural defects are observed, the scaffold shall be Danger-tagged out of service until corrective action is taken.
7. An access ladder shall be provided for employees to reach the scaffold platform. Cross braces cannot be used as means of access.
8. Each platform on all working levels of scaffolds shall be fully planked between the front uprights and the guardrail supports.
9. Each plank shall be installed so that the space between adjacent planks and the space between the platform and the uprights is not more than 1 inch wide unless it can be demonstrated that a wider space is absolutely necessary to complete the work activity.
10. Each scaffold plank shall be at least 18 inches wide and secured to the scaffold to prevent movement.

11. Any part of a scaffold that is damaged or weakened shall be immediately repaired, replaced, braced, or removed from service. RHMC employees are prohibited from working on damaged and/or defective scaffolds.
12. Platforms shall be maintained and stay free of any debris.
13. Employees may not work on scaffolds covered with snow, ice, mud, or other slippery material, except as necessary to remove such materials.
14. Employees may not work on scaffolds during storms or high winds unless a competent person has determined that it is safe to do so, and those employees are protected by a personal fall arrest system.
15. Tag lines or other means shall be used to control swinging loads being hoisted onto scaffold deck, or near enough to scaffolds where contact could occur.
16. Boxes, barrels, and other makeshift devices shall not be used on scaffold platforms to increase the working level height of employees.
17. Ladders must not be used on scaffolds, except for large area scaffolds, unless all of the following are met: (1) The scaffold is secured against any lateral thrust created by the ladder, (2) The platform is secured to the scaffold, (3) All ladder legs are on the same platform or are isolated from unequal platform deflection, and (4) The ladder legs are secured to prevent movement.
18. Care shall be taken to secure cantilevered portions of platforms against tipping. The platform shall be designed and installed to support employees and materials without tipping, or access to the cantilevered end shall be blocked.
19. Supported scaffolds with a height to base width ratio (including outriggers) of more than 4 to 1 shall be restrained from tipping by bracing or equivalent means.
20. Supported scaffold poles, legs, posts, frames, and uprights shall bear on base plates and mud-sills or other adequately firm support foundation.
21. Supported scaffold poles, legs, posts, frames, and uprights shall be plumb and braced to prevent swaying and displacement. Scaffolds that are required to be secured to the structure, due to height and/or stability requirements, shall be adequately secured at the prescribed vertical and horizontal structure's attachment points.
22. Employees working on scaffolds more than 10 feet above a lower level shall be protected from falling by the correct fall prevention requirements.
23. The top edge height of top rails must be between 36 and 45 inches above the platform surface. Mid rails, where used, shall be installed approximately midway between the top rail and the scaffold platform. Where screens or mesh are used, they shall extend from the top rail to the platform along the entire opening between uprights.
24. Top rails on single-point adjustable suspension scaffolds or two-point adjustable suspension scaffolds shall resist, without failure, a force of 100 pounds in a downward or horizontal direction applied at any point. Mid rails and other guardrail system components on these scaffolds shall resist, without failure, a force of 75 pounds in a downward or horizontal direction applied at any point.
25. Top rails on other scaffold types shall withstand, without failure, a force of 200 pounds in a downward or horizontal direction applied at any point. Mid rails and other guardrail system components on these scaffolds shall resist, without failure, a force of 150 pounds in a downward or horizontal direction applied at any point.

26. Guardrails shall be treated, to prevent injury to employees from punctures/lacerations, and to prevent snagging of clothing.
27. Cross-bracing may be used in place of a top rail when the crossing point is between 38 and 48 inches above the work platform, or as a mid rail when the crossing point is between 20 and 30 inches above the work platform. The cross-brace endpoints at each upright shall be no more than 48 inches apart.

WORKING NEAR ELECTRICAL POWER LINES

Scaffolding shall not be erected, used, dismantled, altered, or moved so that the scaffold, or any conductive material handled on the scaffold is near electric power lines. Only when the lines have been deenergized and grounded, or where insulating barriers have been erected to prevent any possibility of physical contact by either the scaffold or the personnel using the scaffold is that acceptable.

The minimum clearance between an energized power line rated at 50,000 volts or less and any part of the scaffold is 10 feet.

For lines rated over 50,000 volts, the minimum clearance distance between the lines and any part of the scaffold is 10 feet plus 1 foot for every 30,000 volts over 50,000 volts.

Any overhead wire shall be considered an energized line unless, or until, the person owning the line or electric utility authorities can confirm that it is not energized and that it has been grounded.

TUBULAR WELDED FRAM SCAFFOLDS

Scaffold legs shall be set on adjustable bases or plain bases placed on mud-sills, or other foundations adequate to support the maximum rated load.

The frames shall be locked together vertically by coupling or stacking pins.

Scaffold frames shall be properly braced by cross-bracing, diagonal braces, or both, to secure vertical members together laterally. The cross-braces shall be of such length that they will automatically square and align vertical members so that the erected scaffold is always plumb, square, and rigid. All braces connections shall be secure.

To prevent movement, the scaffold shall be secured to the building or structure at intervals not to exceed 30 feet horizontally and 26 feet vertically.

MANUALLY PROPELLED MOBILE SCAFFOLDS

When free-standing mobile scaffolds are used, the height shall not exceed 4 times the minimum base dimension.

All casters shall be provided with a positive locking device to hold the scaffold in position. The casters shall be properly designed to support 4 times the maximum intended load.

The frames shall be locked together vertically by coupling or stacking pins.

Scaffolds shall be braced by cross, horizontal, or diagonal braces to prevent racking or collapse of the scaffold and to secure vertical members together laterally so as to automatically square and align the vertical members. All brace connections shall be secured.

A ladder shall be provided for proper access and affixed or built into the scaffold in such a way that when in use it will not have a tendency to tip the scaffold.

Scaffolds in use by any person shall be on a suitable base and stand plumb. The casters or wheels shall be locked to prevent any movement.

Manual force used to move the scaffold shall be applied as close to the base as possible, but not more than 5 feet above the supporting surface.

Employees are not allowed to ride on manually propelled scaffolds unless all these conditions exist:

1. The floor is within 3 degrees of level, and free from pits, holes, or obstructions.
2. The minimum dimension of the scaffold base is at least ½ of the height.
3. Outriggers, if used, are installed on both sides of the scaffold.
4. The wheels are equipped with rubber or similar resilient tires.
5. All tools and materials are secured before movement.

TRAINING

Each employee who performs work while on a scaffold shall be trained by a qualified person to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize the hazards.

Each employee subject to use a scaffold must be trained in the scaffolding inspection system with specific reference to the “Red Flag”.

All employees must understand that scaffolding is to be inspected on a daily basis by the job site Competent Person prior to their use and the inspection tag attached to the framework at the entrance to the scaffold should be initialed by the Competent Person. Any scaffolding having a “Red Tag” is unsafe and cannot be used under any circumstance until it has been repaired and re-inspected by the Competent Person.

In addition, the employee training shall include these areas, as applicable:

- The nature of any electrical hazards, fall hazards, and falling object hazards in the work area.
- The correct procedures for controlling the electrical hazards.
- The correct procedures for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used.
- The proper use of the scaffold, and the proper handling of materials on the scaffold.
- The maximum intended load and the load carrying capabilities of the scaffold being used.

Each employee shall be retrained:

- Where changes in the workplace present a hazard that has not been previously addressed.
- Where changes in the types of scaffolds, fall protection, falling object protection, or equipment present a hazard that has not been previously addressed.
- Where the employee’s work performance involving scaffolds indicated that retraining is necessary.

Rock Hill Mechanical Corporation

SMALL TOOL SAFETY PROGRAM

PURPOSE

There are various types of tools and equipment used in the workplace for many different purposes. Examples include, but are not limited to; portable hand tools, power tools, pneumatic tools, and powder-actuated tools.

The purpose of this policy is to provide employees with appropriate knowledge relating to the care and use of tools and equipment and to protect employees from hazards associated with improper use of tools/equipment, and defective or poorly maintained tools or equipment. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart I section 1926.300, however, all subjects of this subpart are to be strictly observed and followed.

POLICY

Only trained and/or experienced employees may use/operate tools or equipment. Tools and equipment shall not be modified, and they are to be used only for their designed purpose. It shall be the responsibility of the employee to inspect tools and equipment prior to use and to use all tools and equipment in a safe manner. Employees observed abusing, altering, modifying or misusing tools/equipment shall be subject to disciplinary action. Employees shall wear all appropriate personal protective equipment while using tools and equipment. Additionally, if a tool or piece of equipment is found to be defective the tool/equipment shall be red-tagged, taken out of service until it can be replaced or repaired by a qualified person.

PROCEDURE

General Tool Safety

Many serious injuries have resulted from the improper use of tools and equipment. All tools will be kept in good working condition with no modifications. Examine each tool for damage before use and do not use damaged or modified tools.

Selection

Use the right tools for the task instead of trying to make the wrong one fit.

Use

Keep control of yourself, the tool, and the job. When applying force with a tool, remember that it may slip, break, or just suddenly not do its job. Watch your hands and your balance (body mechanics) to avoid injury.

Vibration-absorbing gloves are to be made available to workers using pneumatic impact guns or other vibrating equipment. These gloves are required PPE for worker's operating heavy vibrating tools (i.e. jack hammers, 90 guns, impact guns, etc.). The use of these gloves are designed to dampen vibration, dissipate impact, and absorb shock, they can assist in the prevention of cumulative trauma injury often associated with operating this type of equipment. They only work if you use them.

Select the right protective equipment for the task and use it properly. Do not use tools or equipment that you have not been trained to use.

Care

Take proper care of your tools. Keep them stored where they will not get damaged and will not present a hazard. Check your tools and equipment prior to use for defects, wear, or damage. Immediately remove from service and tag any defective tools. Damaged tools shall be turned into the tool room for repair or replacement.

Supervision

Supervisors shall be responsible for ensuring that employees are trained before using a specific tool. Watch your employees at work. Ask them about their immediate assignment and take an interest in finding the safest way to do the job. Then follow up to ensure that the tools are being used safely.

HAND TOOL SAFETY

- Hand tools shall only be used for the purpose for which they are intended.
- All appropriate PPE will be worn while using hand tools.
- Wrenches, including; adjustable, pipe, and socket shall not be used when jaws are sprung to the point of slippage.
- Pipe wrench parts (i.e., jaws) are not to be removed and used for anything other than the manufactured use.
- The use of snips and cheater bars or double wrenching to gain leverage is prohibited.
- Always use tool holder while using hammer and knocker wrenches.
- Hand tools shall be tagged and removed from service if any of the following defects are present:
    - Impact tools, such as hammers, flange wedges chisels, drift pins, pin bars, and knocker wrenches with visible signs of mushrooming, cracking, or bending.
    - Wooden handle tools, such as hammers, picks, shovels, and brooms with visible sign of cracking, loosening, or splintering of the handle.
    - Wrenches, such as adjustable, combo, and pipe with visible signs of bending, cracking, defective handles, or other defects that impair their strength.

ELECTRICAL POWER TOOL SAFETY

- All appropriate PPE will be worn while using power tools.
- Be sure that the proper permit has been obtained prior to use of electrical power tools.
- GFCI's are to be used with all portable electric equipment. GFCI's are to be inspected and tested prior to each use.
- Do NOT connect electrical power tools unless the operating switch is turned off.
- Employees shall avoid loose-fitting clothing when operating power tools.
- The power source on tools shall be physically disconnected prior to attempting any repairs or attachment replacement.
- Protective guards on power tools shall not be removed, altered, or modified.
- Trigger/switch locks on power tools are prohibited.
- All electrical tools and power cords must be inspected per the Electrical Equipment Safety and Inspection Policy.
- Electrical tools shall not be hoisted or carried by their power cords.

- Cords are tripping hazards. Route them so as to minimize interference in walkways. Overhead is preferred.
- Electrical power tools shall be tagged and removed form service if any of the following defects are present:
  - Power cord does not have current inspection color code.
  - Power cord is frayed, cut, or damaged. The use of electrical tape to cover damage to cords is prohibited.
  - Defective or faulty on/off switches.
  - Loose or defective components.

AIR POWER TOOL SAFETY

- All hoses exceeding ½ inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
- Chicago fittings shall be pinned.
- Attachments on air tools shall be secured by retainer pins and rings.
- Do NOT connect air unless the operating switch is turned off.
- Do NOT disconnect tool until air supply is shut off and air pressure is bled off.
- Air power tools shall NOT be hoisted or carried by their hoses.
- Hoses are tripping hazards. Route them so as to minimize interference in walkways, overhead is preferred.
- Air power tools shall be tagged and removed from service if any of the following defects are present:
  - Visible signs of deformities in the body of the tool; improperly functioning actuator, bent, or deformed blades, or any signs of obvious damage to the air supply line fittings.
  - Hoses must be visually inspected for; cracking, signs of aging, worn or damaged connecting fittings, or any other obvious deformities, such as blistering or bulges.

POWDER-ACTUATED TOOL SAFETY

- Only employees who have received an approved training source and license for the particular tool to be used may operate powder-actuated tools.
- Tool room personnel shall not issue powder-actuated tools unless the person requesting the tool can provide a current license for that tool.
- Powder-actuated tools shall be tested prior to use to ensure all safeties are functioning.
- The fastener shall NOT be loaded until ready for the shot. The tool shall NOT be left unattended unless it is unloaded.
- Never point an empty or loaded tool at any person.
- Keep both hands and feet clear of the open-end of the barrel.
- In the event of a misfire, the operator shall hold the tool firmly against the work surface for a period of 30 seconds and then follow manufacturer's instructions.
- Personnel, other than the operator of the tool, must stay clear of the area where the tool is being used.
- Operators of powder-actuated tools shall wear goggles for eye protection while operating these tools.

- A sign at least 8”x10”, using boldface type no less than 1” in height, shall be posted within 50 feet of the area where the tool is being used. The sign shall bear “CAUTION POWDER-ACTUATED TOOL IN USE”.
- Powder-actuated tools shall be tagged and removed from service if any of the following defects are present:
    - Tool has visible signs of worn or damaged parts.
    - Missing or malfunctioning part or accessories.
    - Missing operator’s instruction manual or missing power load and fastener chart.
    - Tool misfires more than one time during use.

ABRASIVE WHEEL MACHINERY

Abrasive wheels shall be used only on machines provided with safety guards as defined:

- The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard.
- Grinding machines shall be equipped with flanges.
- Ring test wheels
    - Tap gently with a light non-metallic implement, such as a handle of a screwdriver
    - Tap wheel at 45° on each side
    - Undamaged wheel will give clear metallic tone
    - Cracked wheel will give a dead sound
- Abrasive wheel machinery guards shall meet the design specifications of the American National Standard Safety Code for the use, care, and protection of abrasive wheels, ANSI B7.1-1970, which is incorporated by reference as specified in Sec. 1910.6.

Rock Hill Mechanical Corporation

RESPIRABLE CRYSTALLINE SILICA EXPOSURE CONTROL PROGRAM

PURPOSE

The purpose of this written Respirable Crystalline Silica Exposure Control Plan is to describe the controls and procedures needed to protect Rock Hill Mechanical workers from overexposure to Respirable Crystalline Silica (RCS). The use of control measures will be required to achieve this objective, and the work procedures established in this program will not only protect RHMC workers, but all workers in proximity to our operations.

SCOPE

Overexposure from RCS can lead to serious health problems such as; Silicosis, lung cancer, chronic bronchitis, kidney disease, and autoimmune diseases. This program is written to provide the perimeters by which workers will operate in order to reduce the exposure of RCS dust at a worksite. This program describes the major subjects of OSHA Regulation 29CFH 1926 Subpart Z Section 1926.1153, however, the entire section is to be strictly observed and followed.

HEALTH HAZARDS

Crystalline silica dust can cause a disabling, sometimes fatal disease called Silicosis. The fine particles are deposited in the lungs, causing thickening and scarring of the lung tissue. The scar tissue restricts the lungs' ability to extract oxygen from the air. This damage is permanent, but symptoms of the disease may not appear for many years.

A worker may develop any of 3 types of Silicosis, depending on the concentrations of Silica dust and the duration of exposure:

- Chronic Silicosis – Develops after 10 or more years of exposure to RCS at relatively low concentrations
- Accelerated Silicosis – Develops 5 to 10 years after initial exposure to RCS at high concentrations
- Acute Silicosis – Develops within a few weeks, or 4 to 5 years, after exposure to very high concentrations of RCS

Initially, workers with Silicosis may have no symptoms. However, as the disease progresses, a worker may experience shortness of breath, a severe cough, and weakness.

These symptoms can worsen over time and lead to death. Exposure to RCS has also been linked to other diseases including, bronchitis, tuberculosis, and lung cancer.

GENERAL

Silica is the second most common mineral on earth and makes up nearly all of what we call "sand" and "rock". Silica exists in many forms – one of these, "crystalline" silica (including quartz), is the most abundant and poses the greatest concern for human health in dust form. Some common materials that contain silica are:

- Rock and sand
- Topsoil and fill
- Concrete, cement, and mortar
- Masonry, brick, and tile
- Granite, sandstone, and slate
- Asphalt (containing rock and stone)
- Fibrous-cement board

Silica is a primary component of many common construction materials, and Silica-containing dust can be generated during many construction activities, including:

- Abrasive blasting
- Jackhammering, chipping, or drilling rock or concrete
- Cutting bricks or tiles
- Sawing or grinding concrete
- Tuck point grinding
- Road construction
- Loading, hauling, and dumping gravel
- Demolition of structures containing concrete
- Sweeping concrete dust

Unprotected workers performing these activities, or working in the vicinity, can be exposed to harmful levels of airborne Silica.

Rock Hill Mechanical will employ the American Conference of Governmental Industrial Hygienists (ACGIH) values. The permissible exposure over an 8-hour work day is defined as the TLV TWA or Threshold Limit Value Time Weighted Average. The TLV TWA for Respirable Silica is 0.025 mg/m³.

A worker's exposure to Silica is kept as low as reasonably achievable. Employees must not be exposed or expected to be exposed to airborne concentrations of RCS more than 0.025 mg/m³ over an 8-hour period. Atmospheric testing may need to be performed and results should be assessed to ensure a worker is not overexposed.

SILICA DUST-PRODUCING TASKS

Depending on Rock Hill Mechanical's scope, RHMC's workers may perform work in close proximity to the following silica dust-producing tasks:

- Handheld drill work on concrete
- Handheld impact drill work on concrete to provide anchor holes
- Handheld rotary hammer drill work on concrete to provide holes used to anchor mechanical pipe and duct hangers
- Rig-mounted core drill/saw work on concrete
- Handheld powered chipping tool work on concrete
- Working in close proximity to stationary masonry saw work on concrete
- Working in close proximity to handheld power saw work on fiber cement board with a blade diameter of 8" or less
- Working in close proximity to drivable saw work on concrete
- Working in close proximity to dowel drilling rig work on concrete
- Working in close proximity to handheld grinders for concrete work

CONTROLS AND PROCEDURES

Effective control options must be used to eliminate or reduce the risk to workers from the hazards of RCS dust exposure. The following hierarchy of control measures must be followed.

Engineering Controls

Where feasible, RCS dust exposure must be controlled through engineering controls and work practices in preference to respiratory protection.

RHMC purchases and supplies to employees, at no cost to the employee, commercially available dust-collection attachment devices for all drilling tools and equipment. Employees participating in a drilling operation shall use the dust collection device as intended and per manufacturer's instructions.

Acceptably effective engineering controls may not be feasible for RCS-generating tasks within RHMC's scope of work. When engineering controls are feasible, RHMC will always defer to and comply with Table 1 of OSHA's Respirable Crystalline Silica Standard.

TABLE 1

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor	
		<4 Hours/Shift	>4 Hours/Shift
Handheld and stand-mounted drills (Including impact and rotary hammer drills)	Use drill equipped with a commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None

Dust Collection Device Usage

Set Up: Prior to the use of the dust collection device, or any tool, the employee shall perform a visual inspection of the equipment to ensure it is safe for use. If not attached to the drill, the dust-collection device shall be properly attached to the tool per the manufacturer's instructions. The control switch should be set to the "Auto" setting to ensure the vacuum remains on after drilling, in order to clear dust from the hole.

Adjustment: The drill bit and vacuum armature shall be adjusted so that the tip of the drill bit is within the tip of the vacuum armature. Drill bits that protrude the armature can cause dust to be expelled into the air. Brushes on the armature tip should be replaced if damaged, or if excessive dust during operation is detected.

Cleaning: The dust collection device is equipped with a 99% efficient filter, or a HEPA filter, and collection tray. Per the manufacturer's recommendation, the filter is disposable and should be discarded

after 1,500 holes are drilled. If the collection tray becomes full of dust and restricts use, the tray shall be cleaned in the following manner on the worksite:

1. Disconnect power source from the device then remove the collection tray.
2. If needed, discard the filter. If the filter is still usable place it to the side.
3. Place the collection tray in a sealable plastic bag and shake the dust from the tray.
4. Allow the dust to settle before opening the bag and removing the tray. Any residual dust can be cleaned from the tray with a damp cloth. Allow the tray to dry before reinstalling.
5. Reinsert the filter into the tray and replace it onto the device.

A thorough cleaning of the collection tray shall be performed when the device is returned to the shop. A thorough cleaning consists of clearing dust with a HEPA vacuum and washing with water or damp cloth.

Safe Work Practice Controls

To reduce employee's exposure to RCS dust while performing drilling operations, RHMC will limit an employee's exposure to 4 hours per shift.

Employees may continue to participate in the operation if all engineering controls are in place and the work has not overexposed the employee to Silica-containing dust.

All affected RHMC workers and supervisors will follow designated safe work practices for tasks and exposures within our scope of work to help prevent overexposure to RCS. The safe work practices include, but are not limited to the following:

- Affected workers will wear appropriate respirators unless, and until, the results of the exposure assessment(s) indicate that overexposure to RCS will not occur without respiratory protection.
- When engineering controls, such as the wet method, HEPA filtered dust collection systems, and local exhaust ventilation are by themselves inadequate for worker protection from overexposure, but feasible to use, they will be implemented in conjunction with respirator use to help control RCS concentrations.
- Only sharp masonry drill bits and saw blades will be used when drilling or cutting into concrete
- Affected workers are not permitted to eat, drink, smoke, or apply cosmetics in affected work areas.
- Affected workers are required to wash their hands and faces before drinking, eating, smoking, or applying cosmetics.
- Affected workers are not permitted to dry sweep, dry brush, or use compressed air to clean their clothes or surfaces in affected work areas. Cleanup will be performed only with HEPA vacuums.

Personal Protective Equipment

As with any operation on a construction worksite, employees are required to use personal protective equipment (PPE) when participating in a drilling operation. PPE includes; gloves, hardhat, safety glasses, and face shield.

Although not required by Table 1 of the OSHA standard, employees that wish to utilize a dust respirator (N-95) while performing drilling operations may do so per RHMC's Respiratory Safety Program, at no cost to the RHMC employee. A dust respiratory device is not to be used in place of engineering controls, but only in addition to them. PPE should always be selected as the last line of defense and should not be the first and only control method.

Respiratory Protection

Affected workers are required to use respiratory protection unless, and until, the results of the exposure assessment(s) indicate that overexposure to RCS will not occur without respiratory protection. Prior to respirator use, RHMC's Safety Director will ensure that each affected worker has:

- Received appropriate training on respiratory protection, including the contents of OSHA's Respiratory Protection Standard, and proper respirator selection, use, maintenance, and storage.
- Completed a medical evaluation and been approved to work while wearing a respirator.
- Completed fit testing procedures that have established an appropriate size, brand, and style of respirator for adequate protection from overexposure to RCS on the project.

OVEREXPOSURE SAFETY

A key step in developing a Silica Exposure Control Plan (ECP) is to identify the work activities that would put workers at risk of exposure. In cases of exposure levels above the permissible exposure limit (PEL) of 0.025 mg/m³, a written plan to reduce that exposure will be prepared. This plan will be explained in the monitoring results letter sent to the exposed employee. The Foreman and Superintendent will receive a copy of this notice and will be responsible for the prompt implementation of this plan.

RESPONSIBILITIES

Due to the significant risk posed by RCS, it is critical that all personnel involved in operations that could potentially create Silica dust take specific action to ensure that, as much as possible, a hazard is not created.

Safety Director

- Ensure that the materials (e.g., tools, equipment, and PPE) and other resources (i.e., employee training materials) required to fully implement and maintain this exposure control program are readily available where and when they are required.
- Provide a job-specific exposure control plan for each project as needed; which outlines in detail the work methods and practices that will be utilized. Consideration for such plan should include:
  - Availability and delivery of all required tools/equipment
  - Scope and nature of drilling/boring work to be conducted
  - Control methods to be used and level of respiratory protection required
  - Coordination of plan
  - Conducting a periodic review of the effectiveness of the ECP, including a review of the available dust-control technologies to ensure these are selected and practical
  - Initiating a sampling of worker exposure to concrete dust when there are non-standard work practices for which the control methods to be used
  - Ensuring that all required tools, equipment, and PPE are readily available and used as required by the ECP
  - Ensuring supervisors and employees are educated and trained to an acceptable level of competency
  - Maintaining records of training, fit-test results, safety huddles, and inspections
  - Coordinating the work with the prime contractor and other employers to ensure a safe work environment

Foreman

- Obtain a copy of the ECP and make it readily available at the worksite.
- Select, implement, and document the appropriate site-specific control measures.
- Provide adequate instruction to workers on the hazards of working with Silica-containing materials and on the precautions specified in the job-specific plan covering hazards at the location.
- Direct the work in a manner that ensures the risk to workers is minimized and adequately controlled.
- Communicate with the General Contractor and other Sub Contractors to ensure a safe work environment.

Employee

- Know the hazards of Silica dust exposure.
- Use the assigned PPE in an effective and safe manner.
- Set up the operation in accordance with the site-specific plan.
- Follow established work procedures as directed by the Foreman.
- Report and unsafe conditions or acts to the Foreman.

The RHMC Safety Director is designated as the competent person for Silica-related activities that affect employees. The Project Manager and Foreman are responsible for the implementation of this exposure control program and will perform frequent and regular inspections of applicable areas of worksites, materials, and equipment to ensure that it is being properly implemented. The RHMC Safety Director will also evaluate the effectiveness of this written Silica exposure control plan at least annually, and update it as necessary to keep affected workers from overexposure to RCS.

HOUSEKEEPING MEASURES TO LIMIT WORKER EXPOSURE

In order to further reduce the exposure of RCS dust in the worksite, RHMC employees shall use a HEPA vacuum or wet method for all silica-containing dust clean up.

Dry sweeping/brushing or use of compressed air to clean clothing or surfaces in affected work areas are NOT permitted by RHMC employees.

AFFECTED AREA ACCESS RESTRICTIONS

Rock Hill Mechanical Corporation restricts access by all others to areas where RHMC workers are performing silica dust-producing tasks and restricts access to its own affected workers who must perform work in areas where other trades are pulverizing silica-containing building materials.

Prior to starting work on any project where RCS exposure is a concern, RHMC's Safety Director will meet with all other affected employers to determine whether RHMC workers could be exposed from the work of other trades on the project. Where potential exposures are identified, RHMC's Safety Director will document the operations, locations, and times of possible exposure.

Rock Hill Mechanical's Safety Director will also meet with all RHMC workers to inform them about the silica exposures on the project and the necessary affected area restrictions, prior to the work starting.

When RHMC workers are performing tasks that generate Respirable Crystalline Silica:

- The affected work area will be barricaded with stanchions and yellow and black caution tape

- The barricaded area will be large enough to prevent other trades in the area from overexposure, provided that they do not breach the barricade
- Signs stating “CAUTION – SILICA” will be posed around the perimeter of the barricaded areas so that other trades will know why they should not breach the barricade
- RHMC’s Safety Director will inform all other affected employers on the project about the silica-generating tasks that will be performed by RHMC, their locations, and when they will be performed

When RHMC workers must work in close proximity to other trades that are pulverizing silica-containing building materials:

- Affected RHMC workers will not enter the work area, but will report the issue to RHMC’s Safety Director
- RHMC’s Safety Director will reschedule the mechanical construction work in the affected area to another time when exposure is not a concern
- When work in the affected area can’t be rescheduled, access to affected RHMC workers will not be restricted, but the Safety Director will ensure that they are implementing the necessary safe work practices and protective measures to prevent overexposure to respirable crystalline silica in those work areas

TRAINING

An employee who may be exposed to RCS is to be informed of the health hazards associated with exposure to the substance, be informed of measurements made of airborne concentrations of harmful substances at the worksite, and should be trained in procedures developed by RHMC to minimize the employee’s exposure.

Training is required prior to using Silica-containing materials or working in an environment known to contain airborne concentrations of RCS. Periodic refresher training may also be required. Training will consist of:

- Hazards associated with exposure to RCS dust
- Risks of exposure to Silica
- Use of control systems
- Safe work procedures to be followed
- Use of PPE

Rock Hill Mechanical Corporation

ASBESTOS AWARENESS PROGRAM

PURPOSE

To establish awareness for employees who may come in contact with Asbestos.

THE HAZARD

Asbestos is a naturally-occurring mineral fiber that was used in numerous building materials and vehicle products. Its strength and ability to resist heat and corrosion made it the “miracle product” long before its dangerous health effects were discovered. Individual Asbestos fibers cannot be seen by the naked eye, which puts workers at an increased risk.

The health hazards associated with Asbestos may occur during the manufacturing of Asbestos-containing products; performing brake or clutch repairs; renovating or demolishing buildings; or cleanup from those activities; and contact with deteriorating Asbestos-containing materials.

Materials are presumed to contain Asbestos if they were installed before 1981, or unless a piece of the material is sent to a reputable laboratory and analyzed for Asbestos. This is done by the transmission of electron microscopy and found to contain a concentration of less than 1.0%.

POSSIBLE EXPOSURE

Asbestos materials are used in the manufacturing of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including; insulation, sound-proofing, floor tiles, roofing felts, ceiling tiles, Asbestos-cement pipe and sheet, and fire-resistant drywall. Asbestos is also present in pipe and boiler insulation materials, pipeline wrap, and in sprayed-on materials located on beams, in crawlspaces, and in between walls.

HEALTH EFFECTS OF EXPOSURE

Asbestos fibers enter the body when a person inhales or ingests airborne particles that become embedded in the tissues of the respiratory or digestive systems. Exposure to Asbestos can cause disabling or fatal diseases such as Asbestosis, an emphysema-like condition; lung cancer; mesothelioma; and gastrointestinal cancer. The symptoms of these diseases generally do not appear for 20 or more years after initial exposure.

EMPLOYEE PROTECTION

RHMC employees exposed to Asbestos-containing material are protected by OSHA’s Asbestos standard, 29 Code of Federal Regulations (CFR) subpart Z, section 1926.1101. Signs and labels shall identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that Asbestos-containing material (ACM) and/or presumed Asbestos-containing material (PACM) will not be disturbed.

Employees of RHMC are only trained in Asbestos awareness and no training, certification, or authorization, in the removal of Asbestos or Asbestos-contaminated materials. In the event of an Asbestos material discovery during the installation, maintenance, or servicing of equipment, employees shall evacuate the area of contamination and advise supervisory personnel. No further work shall be

performed in the area until deemed safe by methods of containment or air monitoring by a licensed Asbestos contractor.

CLASSIFICATIONS

Per OSHA standards, the following is an explanation of Asbestos work classifications.

- Class I Asbestos work means activities involving the removal of TSI and surfacing ACM and PACM.
- Class II Asbestos work means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of Asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.
- Class III Asbestos work means repair and maintenance operations, where “ACM”, including TSI and surfacing ACM and PACM, is likely to be disturbed.
- Class IV Asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste, and debris resulting from Class I, II, and III activities.

WORKING NEAR ASBESTOS

RHMC requires equipment or building owners to mark, with adequate signage, all areas where the potential for Asbestos contamination to its employees may be present. RHMC holds the equipment or building owner, or General Contractor, responsible for the detection, initial assessment, securing, or removal of Asbestos or Asbestos-containing materials in the work area.

Employees of RHMC are not trained in work pertaining to Class I removal of Asbestos or Asbestos-containing materials. In the event of Asbestos removal, employees will evacuate the work area until a licensed Asbestos removal contractor has deemed the area safe.

To avoid contamination, RHMC employees will be restricted from participating in activities related to Class II, III, or IV work. Upon detection of ACM or PACM, RHMC employees will evacuate the work area and notify the equipment or building owner, or General Contractor. An assessment of the area and work to be performed will need to be conducted before service or work continues.

If RHMC employees that are working immediately adjacent to any classification of an Asbestos job, become potentially exposed to Asbestos due to the inadequate containment of such job, all RHMC employees shall be removed from the area until the enclosure breach is repaired, an initial exposure assessment is performed, and a licensed asbestos contractor deems the area safe.

TRAINING ELEMENTS OF OSHA’S ASBESTOS STANDARD

Asbestos awareness training is conducted for employees whose work activities may bring them into contact with Asbestos-containing materials or presumed Asbestos-containing materials, but does not disturb the ACM OR PACM during their work activities. The annual training must be provided in a manner and language that employees can understand.

The Asbestos awareness training includes the following:

- Health effects of Asbestos
- Identification of Asbestos-containing and presumed Asbestos-containing materials
- Recognition of damage and deterioration of Asbestos-containing materials
- Proper response to fiber release episodes

- Proper procedures to avoid handling of contaminated material

With proper training all employees will be able to recognize the presence, potential, and hazards associated with Asbestos.

RECORDKEEPING

Records of training and worker notifications are necessary. All RHMC employee exposure monitoring records and medical surveillance records will be kept for the duration of employment plus 30 years past. Training records will be kept for 1 year past duration of employment. Employees of RHMC have the legal right to examine their own personal monitoring and surveillance records during business hours.

AMMONIA AWARENESS PROGRAM

PURPOSE

The purpose of this program is to advise employees in areas where ammonia is being used and to supply, on an awareness level basis, about the properties and hazards of Ammonia.

SCOPE

This program applies to all Rock Hill Mechanical Corporation operations where employees whose work activities may involve working with or around Ammonia. When work is performed on a site not owned or operated by RHMC, the operator's program shall take precedence. However, this document covers RHMC employees and subcontractors and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

RESPONSIBILITIES

Project Manager/Supervisor

- In coordination with the Safety Director, develop and implement Ammonia awareness training
- Ensure personnel are aware of work that has the potential of exposure to Ammonia
- Identify possible locations where Ammonia in the workplace may be used
- Inform the Safety Director of upcoming work involving Ammonia, allowing the Safety Director to provide any necessary monitoring or other required actions
- Ensure employees comply with the Ammonia awareness requirements

Safety Director

- Coordinate Ammonia awareness training activities

Employees

- Comply with the Ammonia awareness requirements and direct any questions or concerns to the Safety Director
- Attend required training

PROCEDURE

Characteristics of Ammonia

<u>Appearance</u>

Ammonia is a colorless gas under normal conditions. It can be a liquid under pressure. It has a pungent, suffocating odor.

<u>Description</u>

Ammonia refers to solutions that are 50% ammonia or greater, Ammonia Anhydrous, and Ammonia Anhydrous liquefied, unless otherwise specified. Ammonia is a toxic gas or liquid that, when concentrated, is corrosive to tissues upon contact. Exposure to ammonia in sufficient quantities can be fatal. One of the highest production-volume chemicals in the U.S., concentrated Ammonia is used in manufacturing, refrigeration, and agriculture (as a fertilizer). Household ammonia is much less concentrated; it rarely causes burns, but it does cause irritation. The lowest level at which humans can

detect the odor of ammonia (odor threshold) generally provides sufficient warning of exposure; however, persons with prolonged exposure to Ammonia will lose their ability to detect the odor. Ammonia commonly exists as part of a solution.

Health Effects

Some of the potential health effects of Ammonia include; burning of the eyes, temporary blindness, coughing, chest pain, etc. Exposure of the eyes to Ammonia may cause burning, tearing, temporary blindness, and severe eye damage. Exposure of the skin to Ammonia may cause severe burns and blistering. Exposure of the respiratory tract to Ammonia may cause runny nose, coughing, chest pain, severe breathing difficulties, severe burns, and death.

Possible ways employees may be exposed to Ammonia during their job functions are:

- Working on/near industrial refrigeration machinery rooms, equipment, and/or piping
- Working in petroleum refineries
- Working with/near agricultural fertilizer

Methods of Dissemination

- Indoor Air: Ammonia can be released into indoor air as a liquid spray (aerosol) or as a vapor
- Water: Ammonia can be used to contaminate water
- Food: Ammonia is unlikely to contaminate food due to unpalatable qualities rendered to food
- Outdoor Air: Ammonia can be released into outdoor air as a liquid spray (aerosol) or as a vapor
- Agricultural: If ammonia is released into the air as a liquid spray (aerosol), it has the potential to contaminate agricultural products. If Ammonia is released as a vapor, it is highly unlikely to contaminate agricultural products.

Routes of Exposure

Ammonia can cause harm if inhaled and/or if it comes into contact with the eyes or skin. High concentration of Ammonia gas, liquid Ammonia, and solutions of Ammonia can cause harm if inhaled or if they come into contact with eyes or skin.

Because refrigeration systems operate at elevated pressures, additional care must be taken to maintain and operate these systems so as to prevent releases with potentially catastrophic consequences. Accidental spills and releases of Ammonia from refrigeration facilities have resulted in both injuries and deaths to employees of these facilities. These injuries and deaths are caused from contact with both liquid and vapor forms of Ammonia from skin contact, inhalation, fire, and explosion.

Pre-Job Planning for Ammonia Related Work

Pre-job planning, or a site-assessment will be conducted prior to starting work, and that the assessment will documented. Documented planning will be conducted for those operations involving potential Ammonia exposure and this includes any time an active purge is being applied to a system in or around equipment associated with work. Some planning or assessment elements include:

- A job site visits by the requestor and a unit operator to identify special precautions, equipment status, and personal safety equipment requirements
- Identifying all hazards and special personal protective equipment requirements
- Verifying appropriate signage is being utilized, adhered to, and including a warning

Personal Protective Equipment

RHMC employees will use impervious clothing, gloves and/or face shields if there is a possibility of skin contact with liquid Ammonia or vessels containing liquid Ammonia. Employees will be provided with, and required to use; impervious clothing, gloves, face shields, and other appropriate protective clothing necessary to prevent any possibility of skin contact with liquid anhydrous Ammonia or aqueous solutions of Ammonia containing more than 10% by weight of Ammonia. Similar precautions should be taken to prevent the skin from becoming frozen from contact with vessels containing liquid Anhydrous Ammonia.

TRAINING

Employees will be aware of provisions of site specific contingency/emergency plans. Employees will be aware of owners' contingency plans and provisions. Employees must be informed where Ammonia is used in the host facility and aware of additional plant safety rules.

RHMC shall provide training for all affected employees working with or near Ammonia and the training shall emphasize:

- The characteristics of Ammonia
- The hazards of Ammonia
- Proper PPE
- Owner client requirements

BENZENE AWARENESS PROGRAM

PURPOSE

The purpose of this program is to define work practices, administrative procedures, and engineering controls to protect employees exposed to Benzene concentrations above the OSHA action level. This plan shall be implemented and kept current by the Safety Director as required to reflect the most recent exposure monitoring data.

SCOPE

This program covers all employees who may be exposed to Benzene while completing job duties. Employees will be aware of provisions of site specific contingency/emergency plans by either RHMC or of a facility owner.

The Safety Director will develop and implement project/task specific Benzene control procedures prior to the start of activities that may include exposure to Benzene. RHMC will be aware of an owner's contingency plan provisions and all employees must be informed where Benzene is used in host facilities and aware of additional plant safety rules.

Possible locations where employees may be exposed to benzene may include, but are not limited to; petroleum refining sites, tank gauging (tanks at producing, pipeline, & refining operations) and field maintenance operations.

DEFINITIONS

Action Level – An airborne concentration of Benzene of 0.5 ppm calculated as an 8-hour time-weighted average.

Benzene – A toxic, colorless liquid or gaseous material, that has an aromatic odor, is not soluble in water, and is flammable.

Employee Exposure – Exposure to airborne Benzene that would occur if the employee were not using respiratory protective equipment.

RESPONSIBILITIES

Project Manager

- Ensure personnel are aware of work that has the potential of exposure to Benzene
- Ensure individuals responsible for monitoring area of exposure are properly trained
- Ensure that emergency exams are performed if an overexposure or suspected overexposure occurs

Project Foreman

- Ensure employees have the appropriate personal protective equipment (PPE) and are properly trained in its use and care
- Ensure employees comply with the Benzene control program

Safety Director

- Develop and implement project/task specific Benzene control procedures prior to the start of activities that may include exposure to Benzene
- Coordinate monitoring activities and, as necessary, modify the Benzene control procedures to reflect exposure monitoring data
- Maintain the Benzene control program, notify management of any regulatory changes and ensure compliance with regulatory, client, and corporate requirements
- Coordinate training activities
- Ensure, due to the flammability of Benzene, that fire extinguishers shall always be readily available

Project Manager/Foreman

- Comply with the Benzene control program
- Know where Benzene is used at facilities and follow any additional plant safety rules required by the client
- Maintain respiratory protection equipment in good working order and notify the Safety Director of any problems prior to starting work

Employees

- Review safety data sheets or consult with the supervisor to identify any container with Benzene containing material
- Do not smoke in prohibited areas where Benzene is present
- Report exposures resulting in any symptoms immediately

PROCEDURE

Permissible Exposure Limits

The time-weighted average limit (TWA) for Benzene is:

- 8-hour TWA 1 ppm
- 12-hour TWA 0.67 ppm

The short-term exposure limit (STEL) for Benzene is 5 ppm

Regulated Areas

- RHMC shall establish regulated areas wherever airborne concentration of Benzene exceeds or can reasonably be expected to exceed the PEL or STEL.
- RHMC will control access to regulated areas and limit access to authorized personnel.
- The following signage shall be posted in all regulated areas when the potential exists for Benzene vapors to be in excess of the PEL:

DANGER – BENZENE REGULATED AREA

CANCER CAUSING AGENT – FLAMMABLE – NO SMOKING

AUTHORIZED PERSONNEL ONLY – RESPIRATOR REQUIRED

Methods of Compliance

- The Benzene control program shall be written and implemented to comply with OSHA regulation 29 CFR Subpart Z Section 1910.1028 (Benzene), however all sections of this subpart are to be followed and strictly observed.
- RHMC shall establish and implement a written program to reduce employee exposure to or below the PEL, primarily by means of engineering and work practice controls to ensure compliance with the Benzene control program and federal and state requirements.

Exposure Monitoring

Exposure monitoring shall be performed for the 8-hour and 12-hour TWA's or for the 15-minute STEL exposure when:

- Regulated areas are established.
- An emergency occurs that could require a regulated area.
- A change in the production, process, control equipment, personnel, or work practices that may result in new or additional exposure to Benzene.
- Leak or rupture occurs.
- If the initial monitoring reveals employee exposure to be below the action level RHMC may discontinue the monitoring.
- Direct reading detection instruments will be used where Benzene vapors may be present in work areas not previously monitored.
- Personal monitoring will be performed by use of vapor monitoring badges following manufacturer requirements. All samples shall be analyzed at an AIHA (American Industrial Hygiene Association) certified laboratory.

Medical Surveillance

- A program should be available for employees who are exposed to Benzene at or above the action level 30 or more days per year; for employees who are exposed to Benzene at or about the PELs 10 or more days per year.
- Notification of monitoring results shall be provided to employees in writing within 15 working days of receipt of results.

Personal Protective Equipment

- PPE will be selected on the basis of its ability to prevent absorption, inhalation, and ingestion.
- PPE will reflect the needs of the employee based on, work conditions, amount and duration of exposure, and other known environmental factors but shall include at a minimum; boots, proper eye protection, gloves, sleeves, aprons, and others as determined.
- PPE shall be provided and worn when appropriate to prevent eye contact and limit dermal exposure to liquid Benzene. PPE must meet the requirements of 29 CFR 1910.133 and provided at no cost to the employees.

Respiratory Protection

- A respiratory protection program shall be established in accordance with 29 CFR 1910.134. Respiratory protection is required:

- During the time period necessary to implement engineering controls or work practices
- When engineering and work practices are not feasible
- In emergencies

Approved respirators shall be selected according to airborne concentrations of Benzene or condition of use.

- 0 to 0.67 ppm – No respirator required
- 0.67 to 6.7 ppm – Half-mask respirator with OV cartridges
- 6.7 to 33 ppm – Full-face respirator with OV cartridges
- Greater than 33 ppm – No employee shall enter the space

Recordkeeping

- Exposure monitoring records shall be maintained for 30 years after completion of the project
- Exposure and medical monitoring records shall be made available to affected employees or their representatives and to OSHA upon request

Communication of Benzene Hazards

- Signs and labels shall be posted at entrances of regulated areas
- The Benzene control program shall be updated by RHMC Safety Director
- Project site specific contingency and emergency procedures shall be updated by the Safety Director and made available to project staff prior to beginning work at the specific site

Rock Hill Mechanical Corporation

CADMIUM AWARENESS PROGRAM

PURPOSE

This safety guideline is intended to provide safety information to all RHMC employees, regarding Cadmium and what measures need to be taken to limit exposure through controls in the work place. This program describes the major components of OSHA Standard 29 CFH 1926, subpart Z, section 1926.1127, however all sections of this subpart are to be followed and strictly observed

GENERAL

Cadmium is a soft silver-white metal that can be found in the earth and in zinc, lead, or copper ores. It is also extracted as a by-product of zinc, lead, and copper. It is used in batteries, coating plating, and some plastics. It can also be found in tobacco leaves, edible vegetation, through the ground and fertilizers, fossil fuels, and waste incineration. Cadmium is a cancer carcinogen which damages lungs and kidneys.

EXPOSURE

- Inhalation of fumes through welding and brazing of metals which contain Cadmium by coatings or plating, smoking tobacco, fossil fuels, and waste incineration.
- Ingestion through leafy food productions or water.

However, exposure to excessive amounts of Cadmium is through air particles, fumes from heated metals, and tobacco smoke. The air particles come from industries which use and extract cadmium. Fumes from metals which are brazed or welded that have coating or platings.

PROTECTIVE MEASURES IN CONSTRUCTION

Review Safety Data Sheets of potential materials. When products containing Cadmium are to be welded or brazed, respirators and mechanical ventilation is to be used. Follow the facilities safety programs and procedures.

Rock Hill Mechanical Corporation

HEXAVALENT CHROMIUM POLICY

SCOPE

The purpose of this policy is to protect RHMC's employees from the exposure to Hexavalent Chromium (CR (VI)) and to comply with OSHA Standard 29 CFH 1926 subpart Z Section 1926.1126. RHMC employees are exposed to CR (VI) fumes when welding or cutting operations are performed on stainless steel, other metals containing CR (VI), or surfaces coated with CR (VI) paint. Welding on carbon steel in confined or enclosed spaces may also result in CR (VI) exposures.

Exposure to CR (VI) is expected to increase as the chromium content of the base material increases. Therefore, one would expect the exposures would tend to be higher for welding on stainless steel with 10-24% chromium versus welding on stainless steel that generally contains 3% chromium or less.

However, there are other factors that can greatly affect exposure to CR (VI) during welding operations, these are factors included in types of welding such as; Flux Core Arc Welding, Shielded Metal Arc Welding, and Gas Metal Arc Welding, which generate the highest fume levels. Tungsten Inert Gas and Submerged Arc Welding generate lower levels of fumes. The composition of filler metals, flux materials, or shielding gases used can affect the amount of fumes generated also.

In carbon steel welding, most exposures to CR (VI) are usually well below the PEL due to the low percentage of chromium, 90% of carbon steel produced has only a trace a chromium, 10% contains up to 3% of chromium. Welding carbon steel in confined spaces may elevate exposure levels.

Chromium oxidizes during the welding process, it converts to a hazardous hexavalent fume stat. Airborne concentration below 2.5 micrograms of CR (VI) per cubic meter of air over an 8-hour period are not considered hazardous. Detected levels at or above 2.5 micrograms require monitoring and/or engineering work practice controls.

DEFINITIONS

Hexavalent Chromium CR(VI) – Chromium with a valence of positive 6, in any form, or chemical compound in which it occurs. This includes all states of matter and any solutions or other mixture, even if it is encapsulated by another substance, that it is found. The term also includes when it is created by an industrial process, such as welding.

Action Level – An airborne concentration of 2.5 micrograms of CR (VI) per cubic meter of air calculated as an 8-hour time-weighted average. Exposures at or above the action level trigger certain requirements for exposure monitoring and medical surveillance.

Objective Data – Information, other than employee monitoring, that demonstrates the expected employee exposure to CR (VI) associated with a product or material, or a specific process, operation, or activity. Information that can serve as objective data includes, but is not limited to; air monitoring data from industry-wide surveys, data collected by a trade association from its members, or calculations based on the composition or chemical and physical properties of a material. Use of objective data is discussed in the exposure determination section under the "performance oriented" option.

Regulated Area – An area designated by the employer where an employee's exposure to airborne concentrations of CR (VI) exceeds or can be expected to exceed the permissible exposure limit. The employer has the responsibility to determine and designate the boundaries of the area.

COMMUNICATION OF CR (VI) HAZARDS

To protect against illnesses and injuries from CR (VI) exposures, it is critically important to RHMC employees to recognize the hazards associated with it and understand the measures they can take to protect themselves. These requirements include any operations where CR (VI) is present in the work area.

Rock Hill Mechanical will provide sufficient information and training to ensure that all RHMC employees exposed to CR (VI) can demonstrate knowledge of:

1. The requirements of the CR (VI) standard.
2. The medical surveillance program required by the standard, including recognition of the signs and symptoms of adverse health effects that may result from exposure.
3. The methods that may be used to detect CR (VI) in the work area.
4. The hazards of CR (VI).
5. Measures employees can take to protect themselves from the hazards of CR (VI).

RHMC will make a copy of the CR (VI) standard available to all employees.

The RHMC Safety Director must ensure that all training is performed, and all information is provided to any RHMC employees who will be directly involved with exposure to CR (VI).

PROCEDURE

In order to assess and prevent overexposure to CR (VI), RHMC uses the performance oriented procedure to evaluate the 8-hour time-weighted average (TWA) exposure. This is based upon compiling a combination of air-monitoring data obtained at various locations on various welding procedures. This data is then periodically updated and is also re-evaluated when there is any change to the production process, material work practices, or central methods.

When the air monitoring test data indicates an exposure at or above the action level, proper ventilation will be provided. In addition, a regulated area will also be established in order to prevent exposure to other RHMC employees.

Rock Hill Mechanical will keep and maintain accurate records on all air monitoring to comply with OSHA standards and to provide the necessary historical data for the performance oriented 8-hour TWA exposure procedure.

Rock Hill Mechanical Corporation

LEAD AWARENESS PROGRAM

PURPOSE

To advise employees, on an awareness level basis, the properties and dangers of lead, general guidelines, and training requirements. This Program describes the major components Of OSHA Standard 29 CFH 1926 Subpart D Section 1926.62, however all sections of this subpart are to be followed and observed.

SCOPE

This procedure applies to operations where employees whose work activities may cause them to come in contact with lead-containing materials.

HEALTH EFFECTS

Lead can be absorbed into the body by inhalation (breathing) and ingestion (eating). When lead is scattered in the air as a dust, mist, or fume it can be inhaled and absorbed through the lungs and upper respiratory tract. Lead can also be absorbed through your digestive system if lead gets into your mouth and is swallowed. Lead cannot be absorbed through your skin.

A significant portion of lead that is inhaled or ingested gets into the blood stream. Once in the blood stream, lead is circulated throughout the body and stored in various organs and body tissues. Some lead will be quickly filtered out of your body and excreted, however, some will remain in the blood and in other tissues. As exposure to lead continues, the amount stored in the body will increase, if more lead is absorbed than is excreted.

Common symptoms of acute lead poisoning are; loss of appetite, nausea, vomiting, stomach cramps, constipation, difficulty sleeping, fatigue, moodiness, headache, joint or muscle aches, and anemia. Anemia is characterized by weakness, paleness, and fatigue as a result of decreased oxygen-carrying capacity in the blood.

Long term (chronic) exposure to lead may result in severe damage to the blood-forming, nervous, urinary, and reproductive systems. The symptoms of these diseases generally do not appear for 20 or more years after initial exposure.

RESPONSIBILITIES

Project Managers and Supervisors

- Ensure personnel are aware of work that has the potential of exposure to lead
- Identify possible locations where lead in the workplace may be found
- Inform the Safety Director of upcoming work involving known or suspected lead-containing materials, allowing the Safety Director to provide any necessary monitoring or other required actions
- Ensure employees comply with the lead awareness requirements

Safety Director

- Coordinate annual lead awareness training activities

Employees

- Comply with the lead awareness requirements and direct any questions or concerns to the Safety Director
- Attend required annual training
- Review safety data sheets or consult with the supervisor to identify any container with lead-containing material

PROCEDURE

Permissible Exposure Limit (PEL)

The current OSHA lead standard is 50 micrograms per cubic meter of air (µg/m3) as an 8-hour time-weighted average (TWA).

Action Level

The standard also establishes an action level of 30 micrograms per cubic meter of air (µg/m3), time-weighted average, based on an 8-hour work day. The action level initiates several requirements of the standard, such as exposure monitoring, medical surveillance, and training and education.

Evaluation Process

The contracting company's project manager will provide employees with results of any evaluation processes and a listing of lead-containing material. The contracting company will provide all precautions and render the area safe for RHMC employees before work begins.

General Requirements

Employees must abide by any signs/labels/assessment reports indicating the presence of lead-containing materials and are not to disturb the lead-containing material. Regulated access signs are to demarcate the lead exposure regulated work areas. The signs should read as follows:

WARNING – LEAD WORK AREA
POISON
NO SMOKING OR EATING

General Work Practices

When working on multi-contractor worksites RHMC employees shall be protected from exposure. If employees working immediately adjacent to a lead abatement activity are exposed to lead due to the inadequate containment of such job, RHMC shall either remove the employees from the area until the enclosure breach is repaired, or perform an initial exposure assessment.

Employees will wash hands and face if lead-containing materials are contacted. Any possible contact with lead-containing material must be reported immediately to the supervisor.

If air is re-circulated back into the workplace, the system must be equipped with a HEPA (High Efficiency Particulate Air) and backup filter, and a system to monitor the lead level will be installed.

When using mechanical means to remove lead-containing paints or coatings, use equipment which is equipped with a HEPA collection system. Whenever possible, use a wet system to reduce airborne dust. Also, whenever possible, substitute lead-containing material with non-leaded material.

Respirators shall be used during the time period required to install or implement control if engineering and work practices are insufficient as well as for emergency use.

If respirators are required, they will be NIOSH certified and all employees will follow RHMC's Respiratory Protection Program.

Regulated Areas

The Contracting Company will ensure a work plan is designed and implemented that will:

- Eliminate lead dust or fumes from exposing both work personnel and building occupants.
- Ensure that unauthorized persons cannot access the area.
- Use of signage – Warning signs shall be provided and displayed at each regulated area, and is posted at all entries to regulated areas.

TRAINING

Lead awareness training is required before initial assignment in areas where lead is suspected for employees whose work activities may put them in contact with lead-containing materials, but do not disturb the material during their work activities.

Lead awareness training shall be documented including dates, location of training, employee name, and trainer name.

Training will include the health effects of lead, how to report suspected locations of lead-containing materials, and to not disturb any possible lead-containing material.

Rock Hill Mechanical Corporation

COVID-19 (CORONAVIRUS) POLICY

PURPOSE

As the COVID-19 ("Coronavirus") crisis continues, our primary goal is to keep our employees and surrounding communities safe while ensuring business continuity for our customers. RHMC has established these guidelines to make sure our on-going operations are consistent with guidance and requirements issued by federal, state, and local authorities. It is incumbent upon all of us to do our part to slow the spread of the virus. The purpose is to have our employees feel safe and comfortable at work.

OBJECTIVES

- Keep all employees and their family members safe by reducing the spread of COVID-19.
- Support our local community by doing our part to "Flatten the Curve" of the virus.
- Protect all individuals who are at a higher risk due to identified demographics (such as age or underlying health complications).
- Stay current with changing guidelines from federal, state, and local authorities.

RESPONSIBILITIES

Project Managers and Supervisors

- Review information provided by Safety Director on the following topics:
  - COVID-19 and its known characteristics
  - Probable portals of entry for the virus into the human body
  - How the virus spreads
  - Symptoms of contracting the virus
  - The potential health effects of contracting the virus
  - What to do if illness is suspected
  - What to do if exposure is suspected
  - Required personal health and hygiene practices
  - Required social distancing practices
  - What to do when social distancing is unsafe or impractical
  - Personal Protective Equipment (PPE) to help prevent exposure and spread
  - Daily jobsite surfaces disinfection
  - Tool cleaning and disinfection.

EMPLOYEE HEALTH SELF ASSESSMENT POLICY

It is every employee's responsibility to assess their fitness for work. This means that every employee must consistently evaluate their health condition. On a *minimum of a daily basis*, each employee must assert that they agree with each of the following statements:

1. In the last 14 days I have not experienced any of the following COVID 19 Symptoms:
   - Cough
   - Shortness of breath or difficulty breathing

- Fever
- Chills
- Muscle Pain
- Sore throat
- New Loss Sense of Taste or Smell

2. In the last 14 days I have not tested positive for COVID-19
3. In the last 14 days I have not been in close contact with a confirmed or suspected COVID-19 Case
4. In the last 14 days I have not traveled outside the country
5. In the last 14 days I have not used mass transit (bus, train, airplane)

INFECTED/POTENTIALLY INFECTED WORKERS

All Rock Hill Mechanical employees who have tested positive, or who have developed symptoms of COVID-19, which include fever, cough, shortness of breath, chills, repeated shaking, muscle pain, headache, sore throat, and new loss of taste or smell, are required to:

- Stay home or go home immediately if already in the workplace.
- Inform the foreman, project manager, or other appropriate supervisor by phone.

The supervisor who receives the call is required to:

- Interview the affected worker by phone to obtain as much critical information as possible.
- Determine and document the affected worker's symptoms.
- Determine whether the affected worker knows whether he/she has been in close contact with a confirmed case of COVID-19.
- Determine and document who the affected worker has been in close contact with over the past 14 days.
- Determine and document all work areas the affected worker was in over the past 5 days.
- Determine and document what tools, equipment, ladders, water coolers, elevators, etc. the affected worker has used over the past 5 days.
- Recommend to the affected worker that he/she contact his/her healthcare provider and carefully follow CDC recommendation regarding quarantine.
- Evacuate and shut down all affected work areas by posting conspicuous warning signs and establishing effective barriers, such as barricades and danger tape.
- Open doors and windows to the outside to increase air circulation.
- Inform Connie Yocum or Donna Kummer with Rock Hill Mechanical.
- Assess the potential exposure of other employees based on CDC guidelines for COVID-19 and implement isolation of affected workers as recommended by the CDC.

JOBSITE COMMUNICATION

Our Project Manager is responsible for making pertinent up-to-date information about COVID-19 readily accessible to all affected supervisors and other affected employees, vendors, suppliers, and all other affected parties, and is required to:

- Obtain or prepare up-to-date documents describing COVID-19 risk factors, and CDC recommended protective measures; and

- Post the written information in readily accessible common areas, such as jobsite trailers, information boards, gang boxes, etc.

TRAVEL POLICY

Notify your supervisor if you plan on traveling outside of the country. Please be aware that you will be subject to state and federal quarantine recommendations upon your return. Should federal and state recommendations differ, the company will require the longer period.

ILLNESS PROCEDURE

Sick Employees

If an employee is sick or thinks he/she may be sick, the employee should stay home and avoid close contact with all people. Watch for emergency warning signs including, but not limited to, the self-assessment symptoms listed above. Healthcare provider notification should be done right away. It should be done by phone when possible. Healthcare Providers will determine if testing for COVID-19 is appropriate.

Employees Seeking COVID-19 Testing

Employees who are ill and are advised by a healthcare provider to be tested for the COVID-19 virus should self-quarantine and notify the Safety Director immediately. The Safety Director should also be notified immediately upon receiving test results.

- Upon Positive Test Result:
  - Continue Self Isolation.
  - RHMC will notify state and local health departments and cooperate with contact tracing efforts.
  - Return to work - There are clear guidelines that must be met before discontinuing isolation following COVID-19 infection. Individuals must have at least 3 days (72 hours) since "Recovery" and at least 14 days since symptoms first appeared before returning to work. "Recovery" is defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath).

- Upon Negative Test Result:
  - Employee must provide a Return-to-Work Authorization from their medical provider.

Notifying Employees of Possible Exposure

If RHMC becomes aware of an employee who is suspected or confirmed to have the COVID- 19 infection, RHMC will inform the employee(s) who are known to have been in direct contact with the infected employee of their possible exposure to COVID- 19 in the workplace. Confidentiality will be maintained as required by HIPAA.

Employees Exposed to Someone Confirmed or Self-Quarantined Waiting on a COVID-19 Test Result

If an employee has had close contact with a person with COVID-19 for a prolonged period of time AND is NOT symptomatic, the employee should notify their employer and adhere to the following practices prior to and during their work shift, which should be documented:

- Regular monitoring - If the employee does not have a temperature or symptoms, they should self-monitor under the supervision of their employer's occupational health program.
- Wear a mask - The employee should always wear a face mask while in the workplace for 14 days after last exposure.
- Social distance - Employee should continue social distancing practices, including maintaining at least six feet distance from others.
- Disinfect and clean workspaces - Continue to clean and disinfect all areas such as offices, bathrooms, common areas, and shared electronic equipment routinely.

Should an employee develop symptoms or test positive for COVID-19, the Sick Policy outlined above should be followed.

Employees with Sick Family Members

Employees who are well but who have a sick family member at home with COVID-19 should notify their supervisor.

Office Cleaning and Sanitizing

All common areas should be cleaned/sanitized (Hallways, lunchroom, conference rooms, copier/printer areas, etc.) with special emphasis on high-touch common contact items such as doorknobs, handles and switches. Employees will be responsible for cleaning their work areas.

Each office will be cleaned daily, with a special emphasis on high-touch areas and common areas.

- Employees shall clean their own office regularly (desks, keyboards, phone, and other touched surfaces)
- Employees shall empty their own office trash.
- After using copier/printers wipe down surfaces by spraying paper towel with cleaning product provided and wiping down surface.
- Cleaning supplies are available.
- Change the current air filters to the new Camfil AP 13 filters. Change as needed per the manufacturer's recommendations.

Restrooms

Post signs in restrooms promoting proper hand washing. Provide adequate soap and water, and if possible, provide hand-sanitizer stations at hallway entrance to the restroom to allow for cleaning hands before and after touching the door handle. Promote the use of paper towels when opening doors.

Personal Hygiene and Respiratory Etiquette

- Wash hands often with soap for at least 20- seconds, especially:
  - After being in a public place
  - After blowing your nose, coughing, or sneezing

  - At start and end of shifts
  - Before and after breaks
  - After handling deliveries
  - After cleaning
- Use hand sanitizers if washing is not available.
- Cough/Sneeze in a tissue and discard in the trash or cover cough/sneeze into your elbow.
- Avoid touching face, mouth, eyes, nose, open sores, and cuts with unwashed hands.

Physical Distancing

- Employees should maintain a minimum physical distance of 6' from others. The use of conference calls, telephone, screen sharing, virtual meetings and emails are all ways to avoid contact closer than 6'.
- The number of employees allowed in common areas and restrooms at a given time will be limited in number to maintain separation of greater than 6' physical distance.
- When physical meetings are required, the number of attendees should be kept to a minimum and members should be staggered to maintain 6' separation. Once meeting is completed, table/desk surfaces, keyboard/mouse, remote control(s), chair arms, and light switches should be disinfected. Attendees should wash/sanitize hands directly after meeting.
- Stagger break times to limit the number of workers in the break areas.
- Present in-person meetings and training sessions outside whenever possible
- When social distancing while performing a temporary work task would be unsafe or impractical, all affected supervisors and other affected employees are required to:
  - Wear the appropriate PPE based on the degree of the risk
  - Limit the number of individuals riding together in vehicles, elevators, etc.
  - Limit the maximum number of occupants in trailers
  - Take breaks and consume lunch in personal vehicles whenever feasible
  - Increase the frequency of handwashing/appropriate hygiene practices
  - Ensure that all common area surfaces are disinfected immediately before and after the temporary work task is performed.

Lunch and Break Areas

- The number of employees allowed in common areas and restrooms at a given time will be limited in number to maintain separation of greater than 6' physical distance.
- Shared meals are prohibited (including but not limited to, pizza, bagels, donuts, buffet style meals)
- If preparing food in the kitchen, you must clean the area when finished. This includes doing any dishes that you may have used, using disinfectant wipes to wipe down sink handles, microwave panels, tables, refrigerator, and cabinet handles after use.
- Lunch should be eaten at your desk or other place where you are not within 6' of coworkers.
- If you choose to leave for lunch, you must wash/sanitize your hands when returning.

Masking

Employees are required to wear a mask (face covering) anytime they leave their desk or if 6' social distancing can't be maintained. Also, if in any common areas