INTECH MECHANICAL

INJURY AND ILLNESS PREVENTION PROGRAM (IIPP)

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INJURY AND ILLNESS PREVENTION PROGRAM

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7501 Galilee Road, Roseville, CA 95678 www.intech-mech.com
Phone: (916) 797-4900 Fax (916) 797-4901 CA #998149 NV #0080942 NV #008053

SAFETY POLICY STATEMENT

It is the policy of Intech Mechanical to provide a safe and healthful work environment for all employees and to prevent injuries and illnesses by establishing a positive safety culture. Safety is considered a priority and equal in importance to production and quality. It is not acceptable for any employee to get injured on the job. We must do everything possible to prevent injuries from occurring in the first place.

The success of our safety program is dependent upon the support by all management personnel and employees. All managers and employees must work toward continuous improvement in our safety program with an ultimate goal of zero incidents.

Rick Chowdry, President

MISSION STATEMENT: The mission of the Intech Mechanical Safety Committee is to develop and promote a healthy and safe environment for all employees and visitors to our facilities through the involvement of all individuals with regards to communication and all safe work practices.

THE SAFETY PLAN

The Safety Program

Intech Mechanical believes that safety should never be sacrificed to meet budget or schedule constraints. Our safety program which is administered by our safety coordinator, is designed with the objective of zero accidents and injuries. A critical component is our injury prevention program which provides Project Managers, Superintendents, General Foremen, Foremen and workers with a detailed and comprehensive source of information outlining our safety performance expectations.

Safety Meetings are attended weekly by all employees on the job sites, our project managers and job site superintendents also participate in corporate meetings each month to review project safety performance and needs. Safety inspections at each job site occur no less than weekly. Equipment, materials and tools are inspected for safe conditions, work practices, PPE and exposure controls are evaluated for proper hazard recognition and enforcement of best injury prevention methods. This assures that our crews are supporting safe and healthy work practices.

THE SAFETY PLAN

Accident Prevention Policy

In the fall of 1989, the California legislature created Senate Bill 198 (SB 198) which in part, requires every California employer to establish, implement and maintain an effective written Injury and Illness Prevention (IIP) Plan. This accident prevention plan is written to help define typical hazards on our job sites and to discuss safety performance expectations for workers when exposed to common and task specific hazards in the workplace.

The Management Official and Plan Administrator, named below, have the authority and the responsibility for implementing and maintaining this IIP Plan for Intech Mechanical.

Management Official: **Richard B. Chowdry, President**

Plan Administrator: **Scott Martello, Safety Manager/Training Development**

All managers, supervisors and foremen are responsible for implementing and maintaining the IIP Plan in their work areas and for answering employee questions about the IIP Plan. A copy of this IIP Plan is available from each manager, supervisor, and foremen.

In the event of an unsafe condition or unsafe work practice is observed on any project, it is imperative that we be informed immediately so that corrective measures may be made. Hazards that cannot be corrected immediately will be removed, tagged, barricaded, or otherwise protected in a way to prevent others from being exposed or injured.

All employees acting in a supervisory or lead capacity are directly responsible for the safe working conditions of each crewmember on the project at which they are working.

Our non-supervisory employees must also be aware of the working conditions and make every effort to ensure that they are their fellow employees are working safely and in a safe and healthy environment. If unsafe conditions exist or are created, our employees must take steps necessary to ensure that they are not exposed to unsafe and unhealthy conditions.

Safe and injury free work sites are our ultimate goal.

THE SAFETY PLAN

Introduction to the Injury and Illness Program (IIPP)

Intech Mechanical has developed and implemented this written Injury and Illness Prevention Program (IIPP) as part of our employee health and safety policies. The work performed by Intech Mechanical personnel causes many similar safety exposures that vary in nature and duration according to the work site and scope of work. Under all circumstances, it is the intent of Intech Mechanical to: (1) identify actual and potential hazards to employees, (2) provide a safe and healthy work environment for employees; and (3) comply with the requirements and spirit of the California Code of Regulations: Title 8. Accordingly, Intech Mechanical has implemented this IIPP in compliance with Senate Bill 198, encoded as Labor Code 6401.7, and the California Code of Regulations (CCR), Title 8, Section 3203. Intech Mechanical expects and requires all employees to follow the requirements set forth in this IIPP.

Management and Employee Responsibilities

Intech Mechanical has designated its Superintendents & General Foremen as the Responsible Individuals for safety and injury prevention on the jobsites, and our shop manager for the safety and injury prevention in our shop. It is the responsibility of the Superintendents and Shop Managers/Foremen to ensure overall implementation of the IIPP. Overall corporate responsibility for our Injury Illness Prevention Program is delegated to **Richard B. Chowdry, President.**

Corporate Responsibilities Include:

1. Overall administration of the program, monitoring, directing, planning, updating and enforcing the IIPP policy, procedures, and rules.

2. Insures an annual review of the safety program and policies occurs, to make sure that our program remains compliant with regulatory changes and changes to company policy, procedures.

3. Assures that a review of our accident trends and serious losses occur. Making sure that loss trends are properly analyzed, contributing factors identified and appropriate corrective actions recommended, with time frames for implementation, and verifying that recommended actions were taken.

4. Making sure that hazard control inspections are performed in the shop and at each job site with actions taken to correct safety discrepancies that are identified.

5. Making sure that safety and injury prevention is discussed during Superintendent/Foremen meetings.

6. Reviewing and making sure that action or response is taken when employees submit safety recommendations: Responsible Crew Leads, Jobsite Foremen, Department Supervisors and others, in the field or shop. Making sure the order and schedule of corrections is prioritized.

7. Make sure that OSHA 300 logs remain up to date and posted as required.

8. Making sure the Safety Data Sheet (SDS) binders are updated with new SDS's whenever new chemical hazards are introduced to the workplace.

9. Making sure that necessary permits are obtained and maintained, as required by Cal OSHA and other regulatory agencies.

10. Holding Foremen, Supervisors and Responsible Crew Leads accountable for safety compliance in the field.

11. Making sure of the proper and prompt reporting within 8-hours, to appropriate Cal OSHA district office, following a serious incident.

Project Managers, Foremen, Supervisors, & Crew Leads Responsibilities:

The following are minimum safety responsibilities for all employees who are assigned supervising responsibilities at the job site or in the shop. Supervising Employees are expected to:

1. Set the example for safety by demonstrating safe practices and following established safety rules, enforce safety regulations, rules and safe work practices.

2. Identifying common and unusual hazards associated with each job or new work task, making sure proper controls are identified during plan reviews, daily work coordination and task assignments.

3. Being familiar with the injury and illness prevention program and site-specific safety plan, ensuring its effective implementation.

4. Being familiar with job site-specific safety policies and procedures.

5. Being aware of all safety considerations general in nature, jobs, or task specific, when introducing employees to a new process, procedure, new equipment, material or substance to the workplace.

6. Making sure that aerial lift operators and forklift operators are properly trained and authorized as needed or required.
7. Schedule and conduct safety briefings with employees on weekly bases.

8. Participate in safety and health group meetings when requested to do so.

9. Provide positive and productive suggestions and feedback to the Safety Manager.

10. Correct or initiate corrective actions in a timely manner for any unsafe conditions or unsafe situation identified during inspections, hazard control audits, and hazard analysis and when reported by employees.

11. Participating in or conducting periodic and routine job site hazard inspections, review safety inspections with the crew, and making sure that follow up actions are taken to respond and correct safety discrepancies that are identified.

12. Document the corrective actions taken and completion date.

13. Report to Safety Manager all work related incidents resulting in employee injury or property damage, immediately or by the end of the shift. Complete or assist in the completion of the accident investigation form. Participate in accident investigation process. Follow through with corrective actions when notified by the Safety Manager or other responsible safety representative. (See the Accident Investigation procedures section of this manual for guidance.)

14. Solicit employee suggestions for improving worksite safety.

15. Follow company policy in disciplining those who break safety rules – treating violators with fairness, yet firmness.

16. Set the tone for safety by personal example and demonstrated commitment to performing duties in the safest way.

17. Insist on good housekeeping, proper, appropriate use/pre-use inspection for personal protection, hand and power tools, power cords, lifting devices as well as rigging, ladders, and equipment in areas under your specific control and supervision.

18. Taking quick action, including disciplinary action as necessary, when employees are observed performing unsafe acts or taking unacceptable risk. If disciplinary action is warranted, write a description of action taken, and distribute to the Safety Manager.

19. Observe & monitor employee's activities & behaviors to determine if the employee should be removed from jobsite for job safety.

Employee Safety Responsibilities:

Although our policies place primary responsibility for health and safety on our Program Administrator, Project Managers, Superintendents, General Foremen and Crew Leads; employees are also responsible for the following minimum activities:

1. Obeying all safety and health standards, rules and regulations, and safe work practices.

2. Notify supervisor if employee is physical or mentally unable to perform work so that the employee doesn't endanger other workers.

3. Not removing, displacing, damaging, destroying, or tampering with any safety devices, safeguards, notices, or warnings.

4. Not interfering with the use of any safety equipment or safeguard by others.

5. Practicing good housekeeping – have clean and orderly work zones.

6. Inspecting hand held power tools, cords, powered equipment, ladders, scaffolding personal fall protection, hoisting apparatus, rigging, and other equipment and materials for safe condition, prior to each use.

7. Report any unsafe conditions, equipment, ladders, tools, or unsafe work tasks to supervisors.

8. Reporting all accidents immediately to your foreman, department supervisor, responsible Crew Lead, or Safety Administer, regardless of extend of injury or property damage. All reports are to be made immediately or by the end of your work shift.

9. Using the designated medical clinic when seeking medical attention, following a work-related incident.

10. Taking part in safety activities, including meetings, audits and inspections, general and task specific training sessions, accident investigations, or other related activities as appropriate or as requested.

11. Taking enough time to be safe

Specific Company Safety Rules and Safe Work Practices are detailed in the following sections. Failure to adhere to any of the Safety Rules and Safe Work Practices may result in disciplinary action, including suspension and or termination.

Code of Safe Work Practices

Safe Workplace Conditions

1. All employees will follow Intech safety rules and safe work practices, and in every possible way, support safe operations, report all unsafe conditions, unsafe work practices and unhealthy exposures to the Safety Administrator, Superintendent, General Foreman, Department Foreman or Responsible Crew Lead.

2. Being under the influence of, or using, alcoholic beverages and drugs during working hours, including the mid-shift meal period and overtime is prohibited. The operation of company vehicles or equipment (owned or leased) while under the influence of alcohol or drugs is prohibited. Being under the influence of, or using, alcohol or drugs during working hours is a termination offense.

3. Horseplay, scuffling, and other acts which tend to have an adverse influence on the safety and well-being of the employees shall be prohibited. Unacceptable and/or loud language will not be tolerated. "Cat Calls" or other derogatory language towards other workers or the public will not be allowed.

4. Workers shall not handle any electrical equipment, machinery, tools, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from the foreman or superintendent.

5. All injuries shall be reported promptly to the foreman, superintendent or Responsible Crew Lead, so that arrangements can be made for medical or first aid treatment.

6. Floor, wall, and roof openings are to be protected or covered, and labeled, with standard guardrails and toe boards or whole covers made of material that will support 400 pounds or twice the intended or expected weight. Hole covers will be identified and labeled and secured to prevent slipping. Report any unprotected openings immediately to the foreman or superintendent.

7. The edges of all floors over (6') six feet above the surface below must be protected by proper guard railing or you must use a personal fall protection system with body harness, anchor, lanyard, lifeline or rope grab. Stairs over 30 Inches high will also be equipped with proper handrails.

8. Employees will not work above protruding reinforcing steel, dangerous equipment or similar hazards unless protected by guard rails or personal fall protection system and approved rebar caps to eliminate the hazard of impalement.

9. Excavations in excess of 5 feet in depth must include a protection system, either shored, sloped or benched and ladder or other means of safe access. Spoil piles will be 2 feet from the edge of the excavation. No work outside the protection systems will be allowed. Do not enter any excavation that does not comply with this standard.

11. When hoisting equipment, materials, or supplies, employees shall keep clear of suspended loads and swing radius of the crane and of live traffic areas. Barricades, or spotter will be used to safeguard the hoisting area and to warn people. Tag lines will be used as needed to control the load and to keep employee a safe distance from the load.

12. All employees have a right to know of the presence of hazardous substances and to be trained in the safe use of these substances. Safety Data Sheets (SDS's) are available at the jobsite office. Review of hazard communication and SDS's will be included in our safety meeting rotation.

13. Noise ordinances at jobsites when enforced will be observed at all times. Work generating noise will only take place during approved hours.

14. Good housekeeping will be maintained in office areas, work areas, break areas and storage areas. Pile or store materials in a stable manner so that it will not be subject to falling. Rubbish, scraps and debris shall be removed from the work area as soon as practical. It is not permissible to leave materials and supplies in stairways, walkways, near door openings, in front of fire extinguishers or in the path of traffic

15. Ladders will be used as intended and secured from slipping. Proper selection, inspection, and use is required.

Shop Code of Safe Practices

1. When working with hazardous material, understand the hazards and proper handling of the material. Safety Data Sheets (SDS) are available in the shop by the tool room. The hazard communication program is located on the safety bulletin board in the shop. You have the right to know what hazards you may be working with.

2. Wear ear protection when working around/near noise levels exceeding the permissible exposure limits allowed by OSHA. Earplugs and other means of hearing protection are provided by the company. When in doubt, wear them.

3. Eye protection is required when working around flying particles, dust or harmful liquids that can endanger the eyes. There are different types of eye protection. Use the proper type for each job. Eye protection is required 100% of the time when on a job site or in any Intech fabrication shop area.

4. Wear proper apparel: No loose clothing, jewelry or long hair in a down position where there is danger of catching such articles in moving machinery. Proper footwear and protective clothing such as goggles, gloves, face shield and protective clothing shall be worn at all times when necessary.

6. Housekeeping: Maintain good habits. Discard material that no longer has a use in the proper refuse receptacle. Containers with a cover shall be provided for flammable or harmful substances.

6. Notify the foreman immediately when discovering a piece of equipment that is faulty or in need of repair. Do not use this item until it has been repaired and is in good working condition.

Worksite Safe Work Practices

1. Power saws must be operated only with the blade guard in place and operable.

2. Only appropriate tools shall be used for the job.

3. Portable electric tools shall not be lifted or lowered by means of the power cord.

4. No tools shall be used that are damaged or defective in any way. Report these to the foreman or superintendent who shall remove or lock the tools up and schedule repair or replacement.

5. In locations where the use of a powder tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength.
6. Air tools must be disconnected from the air supply when not in use.

7. Air hoses shall not be disconnected until the hose line is bled.

8. Only qualified persons who carry a valid operator's card may operate powder-actuated tools.

9. Power-actuated tools and power loads must be kept under lock and key when not in use.

10. If you are directed to use any equipment or tool with which you are unfamiliar, you shall request to be trained on its use before using it.

11. Ladders and scaffolding may be used only if in good condition and set up properly with legs spread and braces locked.

12. When lifting heavy objects, the large muscles of the leg, instead of the smaller muscles of the back, shall be used. Get additional help for loads over 50 lbs.

13. Compressed gas cylinders shall be secured in an upright position and in an appropriate cart or rack at all times.

Employee Compliance/Enforcement/Disciplinary Policy

Intech Mechanical requires all employees to follow safety policies and operating procedures. When needed, employees will be provided with additional training and information, or re-training to maintain their knowledge.
The discipline policy of Intech Mechanical is intended to encourage employee compliance with Intech Mechanicals' IIPP and to comply with the mandate of California Labor Code 6401.79(a)(6).

Intech Mechanical reserves the right to discharge "at will," we believe that employees found performing work in an unsafe manner that would endanger the employee or another employee will be subject to discipline or termination by management. A supervisor or foreman who knowingly or negligently permits a safety violation of any safety laws, rules, regulations, policy, procedures or instructions which result or could result in serious personal injury, property damage, damage to company equipment or safety citations shall after a complete investigation be subject to disciplinary action appropriate for the severity of violation.

Any other employee who knowingly violates a safety provision, law, rule, regulation, policy, procedure or instruction which result or could result in serious personal injury, property damage, and damage to the

company equipment or safety citations shall, after a complete investigation, be subject to disciplinary action appropriate for the severity of the violation.

Management of Intech Mechanical will determine the course of action best suited to the circumstances. The steps to be taken, at a minimum, will include the following:

1. **Verbal Warning** - As the first step in correcting unacceptable behavior, the supervisor/manager shall review the pertinent facts with the employee, and the employee's past performance. A verbal warning with constructive criticism and supportive training will be issued to the employee, which will be documented by the supervisor in the employee's personnel file. If necessary, the employee will be placed on probation.

3. **Written Warning** - If the unacceptable performance continues, the next step will be a written warning. The written warning will clearly state the safety policy that was violated and steps the employee must take if it is to be corrected. Probation will be a part of the written warning. It may also include time off without pay.

    - Possibly one (1) to four (4) week(s) suspension from work without pay, depending on the severity of the violation. At the completion of the suspension period, the supervisor will meet with the employee to determine if the employee has achieved the required level of performance.

4. **Termination** - The employee may be terminated if he or she does not improve their performance while on probation or has violated another company policy within twelve months.

    - Certain infractions such as use of alcohol or controlled substances, reckless behavior, blatant disregard for safe work practices and/or causing serious property damage may result in immediate dismissal.

    - Depending on the severity the individual may not be eligible for rehire

Record Keeping

All written citations and/or conference reports will be documented and placed, into the affected employee(s) file or job file. A copy of the written violation will be submitted to the affected employee, Foreman, or Department Supervisor.

All written documentation (exemplary or deficient performance) will be maintained in Job files and personnel files when appropriate.

A template for the Employee Reprimand/Citation form can be found at the back of this manual.

SAFETY COMMUNICATION

Communication of Safety and Health Matters

We recognize that open, two-way communication between management and staff on health and safety issues is essential to an injury-free, productive workplace. The following system of communication is designed to facilitate a continuous flow of safety and health information between management and staff in a form that is readily understandable and consists of one or more of the following fundamentals:

- ✓ New employee orientation including a discussion of safety and health policies and procedures.
- ✓ Review of our IIP Plan.
- ✓ Workplace safety and health training plans.
- ✓ Weekly scheduled Tail Gate Meetings. Discuss: Safety, Job Hazards, Pre-Task Planning & Training.
- ✓ Effective communication of safety and health concerns between employees and management including translation where appropriate.
- ✓ Posted and/or distributed safety information.
- ✓ A system for employees to anonymously inform management about workplace hazards. Have drop box set up on job site for workers to access and add comments.
- ✓ Our establishment communicates with and instructs employees orally and thru documentation about general safe work practices and with respect to hazards unique to each employee's job assignment.
- ✓ Discussion and task specific safety training occurs before employee exposure.
- ✓ Job Safety Rewards Program / Quarterly Reviews / Acknowledge Safe Workers.

Foremen, Department Supervisor or Responsible Crew Leads are responsible for communicating with all workers about occupational safety and health in a form readily understandable by all workers. Our communication system encourages all workers to inform their Direct Reports about workplace hazards without fear of reprisal. It is the responsibility of Foremen, Department Supervisor or Responsible Crew Leads to address the concerns, or to relay the information to the Safety Administrators for action and reply.

It is the policy of Intech Mechanical to encourage all employees to report hazards existing at their worksite to their supervisors or the Responsible Person, so that corrective action can be taken in a timely manner.

Any employee has the right to halt work, which is unsafe and notify the Superintendent immediately.

SAFETY COMMUNICATION

Employees who report such conditions will not be disciplined nor will they suffer any reprisals due to their actions.

Anonymous safety notifications will be accepted and acted on by the job site superintendent.

Hazard Assessment/Identifying Workplace Hazards

One of the goals of this IIPP is to identify and evaluate unsafe work conditions and practices so that accidents, injuries, and job-related illnesses are minimized, if not completely eliminated. The goal is to work towards zero accidents. To this end, Intech Mechanical has instituted the procedures described in this section of the IIPP.

The principle approach at Intech Mechanical for identifying safety hazards on the job site, including unsafe conditions and risky work practices are through periodic, scheduled and unscheduled inspections and through job safety analysis. Assigned competent observers will conduct inspections and hazard control audits and will use checklists and any other effective methods to identify and evaluate workplace hazards.

- ✓ The jobsite Superintendent, Project Manager, General Foreman, or Responsible Lead Crew Member will make a daily jobsite walk and note the results on the Daily Construction Report. Assignments for making improvements will be made and documented in the daily report, as appropriate and when required.
- ✓ Assigned Management representative will make a follow up monthly inspection of jobsites.
- ✓ Whenever new substances, processes, procedures, or equipment are introduced to the workplace that may represent a new occupational safety or health hazard.
- ✓ Whenever Intech Mechanical is made aware of a new or previously unrecognized hazard.
- ✓ When occupational injuries and illnesses occur.
- ✓ Whenever workplace conditions warrant a review, analysis or inspection.
- ✓ When critical work tasks that are unusual or infrequent are to be performed.

The following approaches will be used periodically to further identify and evaluate hazards and practices in the workplace:

- ✓ Inspections of the jobsite by the General Superintendent and/or Company Management monthly.
- ✓ Records Review (including workers' compensation summaries, accident reports, injury reports, new Safety Data Sheets, purchase orders) done annually.

SAFETY COMMUNICATION

As part of the safety program an inspection check sheet is provided and when conscientiously completed, it will give positive information as to the condition of the worksite and whether or not safety improvements are indicated. Our Inspection Program includes a review of the following:

1. Housekeeping.
2. Material handling methods and hazards.
3. Electrical hazards (switches & boxes, machine grounds, wiring, extension cords, etc.)
4. Material storage, housekeeping, working space and overhead clearances.
5. Maintenance of equipment, guarding, furnishings and facilities.
6. Physical condition of floors, rack, floor and yard storage, stairs & handrails, shelving, machine guarding, loading bays, paint areas, job sites, shake out areas, job site storage, access, fall exposures, electrical.
7. Hand tools, power tools, welding, cutting, & material handling cranes and forklifts.
8. Workplace lighting, (Fabrication, cutting and finish bays, maintenance, job site storage containers, and work areas,).
9. Ergonomic considerations in the shop, office, and job sites.
10. Fire hazards and protective devices, hot work,
11. Ladders, welding platforms, aerial devices, swing stage, etc.
12. Carts, dollies, tables, loaders, trays.
13. Egress, access, exit ways, exit doors, etc.
14. First aid kits, supplies and equipment.

Corrective Actions

It is our policy at Intech Mechanical to respond quickly to safety and health discrepancies noted during hazard identification procedures, or when identified during our routine and periodic inspections, or when brought to our attention by employees. Safety discrepancies will be corrected by order of severity, as determined by the superintendent, Project Manager, General Foremen, and Department Supervisor, Responsible Crew Lead or other designated employee or management representative.

Templates for the Project Daily Safety Audit, Job Hazard Analysis (JHA), and the Daily Pre-Task Plan.

SAFETY COMMUNICATION

Working Alone Policy

Purpose

The purpose of this procedure is to establish guidelines to ensure the health and safety of employees while working alone. This policy applies to all Intech Mechanical employees.

Responsibility

The Supervisor Shall:

- ✓ Identify all employees who are likely to work alone and maintain a log of their locations.
- ✓ Maintain contact with employees who work alone, both internally and externally.
- ✓ Take action to contact and locate employees who have failed to make contact or return at the expected time. If employee cannot be located, then contact the police.
- ✓ Ensure that all employees who work alone are made aware of this policy and provided with adequate instruction and training.
- ✓ Assess the risks associated with working alone initially and periodically to identify control measures.

The Employee Shall:

- ✓ Comply with any precautionary measures for working alone.
- ✓ Follow employer's safety, health and environmental policies.
- ✓ Carry a cellular phone or electronic monitoring device at all times
- ✓ Inform key person on return to base.
- ✓ Report to their managers any unsafe or potentially unsafe situation using the incident reporting procedure.
- ✓ Take reasonable care for their own safety and not expose themselves to unnecessary risk.
- ✓ Attend any training provided.

Control Measures

Before an employee is assigned a task that requires them to work alone ensure that suitable precautions are put in place such as:

- ✓ Two-way radios are provided as a source of back up communication.

SAFETY COMMUNICATION

- ✓ Provide a list of contact and emergency numbers to employee working alone.
- ✓ Avoid having a lone worker whenever possible, especially for jobs with a recognized risk.
- ✓ Evaluate safety measures at each work area such as lighting, egress, phone coverage, etc.
- ✓ Report all situations, incidents or 'near misses' where being alone increased the severity of the situation. Analyze this information and make changes to company policy where necessary.
- ✓ Establish a check-in procedure. Make sure that regular contact is kept with all employees.
- ✓ Schedule higher risk tasks to be done during normal business hours, or when another worker capable of helping in an emergency is present.

Check-in Procedure

Prior to any employee working alone, the designated contact person and the affected employee shall follow check-in procedures as follows:

- ✓ The employee must sign out on the log and provide details of work location, method and frequency of contact.
- ✓ The employee is provided with contact and emergency numbers.
- ✓ The employee will contact the designated check-In contact person via the prescribed method, at the pre-determined check-in time(s),
- ✓ If the check-in contact person is unavailable the employee shall contact the designated back-up contact person.
- ✓ If the employee encounters an unsafe situation while working alone this must be reported to the contact person immediately.
- ✓ At end of shift or completion of job the employee shall sign back in on the log.

Failure to Check-in

If an employee fails to check-in at their pre-determined time, the contact person must make an attempt to contact the employee. If the employee can't be reached, a second attempt shall be made within 5 minutes of the first.

If the employee still can't be reached, the contact person shall attempt to contact the employee in person. If the employee can't be located, contact the local police department.

A template for the Lone Worker Hazard Assessment/Check-in Log suggested above can be found at the back of this program.

SAFETY COMMUNICATION

Accident, Injury and Illness Investigations

When accidents, injuries, or illnesses occur on the job, they will be thoroughly investigated by the Responsible Person whether in the shop or at the jobsite. The responsible person is typically the jobsite foreman or superintendent who has been trained on how to properly investigate an incident and how to appropriately report one. Those investigating will complete the Supervisors Report of Accident form and will determine at least the following:

- ✓ Who and what was directly involved in the accident;
- ✓ Who and what was indirectly involved in the accident;
- ✓ Where and when the accident occurred including the time of accident;
- ✓ Any witnesses of the accident
- ✓ The cause of the accident, if known;
- ✓ Steps/Procedures to take to prevent re-occurrence, if known;

The investigation will be in writing and will be signed by the responsible person.
In the event of a serious injury, the local Cal-OSHA office will be contacted within 8-hours and appropriately notified of the incident and facts as they are known at the time.

The controlling general contractor and/or host facility must also be notified within 24 hrs.

Phone numbers for Northern California Cal-OSHA offices are noted below:

Sacramento 916-263-2800

Redding 530-224-4743

San Francisco 415-703-5210

Concord 925-602-6517

The Superintendent, Project Manager, General Foremen, Department Supervisor, or Responsible Crew Lead will transport all injured workers who need treatment during their shift to the Identified Occupational Medical Provider. In worst cases the transportation will be provided by ambulance.

If possible and before the employee leaves the site for treatment, the employee will be given directions for the attending physician and notification for when and where the medical clinic should return the reports. To accommodate insurance obligations for use of Managed Provider Networks, we have assigned appropriate local industrial medical clinics for each jobsite. These clinics must be used should any employee required medical assistance following an injury while on the job.

The following procedures will help Superintendent, General Foremen, Department Supervisor, and/or Responsible Crew Lead perform a successful investigation:

SAFETY COMMUNICATION

1. Visit the accident scene as soon as possible and while the facts are fresh. Investigations should be performed before witnesses forget important details.
2. If possible, interview the injured worker at the scene of the accident and "walk" him or her through a re-enactment.
3. All interviews should be conducted as privately as possible. Interview witnesses one at a time. Talk with anyone who has knowledge of the equipment or circumstances contributing to the accident.
4. Interview witnesses and have them complete the employee Witness Statement of Facts report.
5. Document details graphically. Use sketches, diagrams and photos as needed, and take measurements when appropriate.
6. Focus on causes and hazards. Develop a description of what happened, how it happened, why it happened, and how it can be prevented. Determine what caused the accident, not just the injury. A Root Cause Survey should be used. The Root Cause Survey should include an action plan that includes how you will prevent such accidents in the future. Corrective actions usually involve employee training or re-training, changing processes or procedures, correcting unsafe conditions, or any combination of the above.

A template for the Supervisor's Report of Accident and Root Cause Survey can be found at the back of this program.

Methods and Procedures for Correcting Unsafe or Unhealthy Conditions/Work Practices

All unsafe or unhealthy work conditions or work practices identified will be evaluated and corrected. Unsafe or unhealthy work conditions or work practices will be corrected in a timely manner, as determined by the severity of the hazard. Under no conditions will Intech Mechanical personnel be required or permitted to work under conditions, which pose a clear or imminent hazard.

Problems that cannot be corrected immediately will be assigned to the Responsible Person to ensure completion of the corrective action. Once corrected, written documentation of the action taken will be developed or obtained by the Responsible Person.

When an imminent hazard exists, which cannot be immediately corrected without endangering employees and/or property, the following steps will be followed:

1. Remove all potentially endangered employees;
2. Provide employees responsible to correct the conditions with necessary safeguards;
3. Correct the problem.

4. Document the corrective action and date corrected in accordance with this Section. The documentation is to be completed by the Responsible Person or his/her designee. Documentation will be included in the job file and included in corporate safety files.

Unsafe or unhealthy work conditions needing corrective action will be documented by noting on the Daily Construction Report a description of the unsafe condition and the corrective action taken or planned. Engineering controls will be used first to eliminate or minimize unsafe or unhealthy work conditions. If engineering controls are impractical or infeasible, administrative controls including PPE and instruction will be used. If engineering controls alone, or in combination with administrative controls cannot adequately minimize the hazard, personal protective equipment shall be used.
Unsafe work practices will be immediately corrected by providing the affected employees with re-training to be provided by the Responsible Person or his/her designee.

All Operating Procedures will be reviewed at least annually and whenever new chemicals or equipment are introduced into the workplace, or when there is a process change. When changes are made, affected employees will receive additional instruction.

Near Miss Program

Definition

What is a Near Miss?
A Near Miss is an unplanned event that did not result in injury, illness, or damage – but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality or damage; In other words, a miss that was nonetheless very near. A faulty process or management system invariably is the root cause for the increased risk that leads to the near miss and should be the focus of improvement. Other familiar terms for these events are a "close call," a "narrow escape," or in the case of moving objects, "near collision" or a "near hit."

Background

Near-miss reporting has proven to reduce fatalities, injuries, and equipment loss in a number of industries. Managing error through the use of non-punitive strategies such as near-miss reporting has proven to be an effective tool in keeping the workforce and community served safe.

Many safety activities are reactive and not proactive, and some organizations wait for losses to occur before taking steps to prevent a recurrence. Near miss incidents often precede loss producing events but may be overlooked as there was no harm (no injury, damage or loss).

An organization may not have a reporting culture where employees are encouraged to report these close calls. Thus, many opportunities to prevent the incidents are lost. History has shown repeatedly that most loss producing events (incidents), both serious and catastrophic, were preceded by warnings or near miss incidents. Recognizing and reporting near miss incidents can significantly improve worker safety and enhance an organization's safety culture.

SAFETY COMMUNICATION

Given the concept's proven track record, and the dedication of our company to the health and welfare of its employees, Intech Mechanical is issuing this policy endorsing the use of near-miss reporting.

Applicability

This policy applies to all employees of Intech Mechanical Company.

Policy

Intech Mechanical is adopting a non-punitive approach to human error. Members who commit an error while in the performance of their duty shall be exempt from disciplinary action provided they promptly file a near-miss report. This exemption from disciplinary action applies to actions that do not willfully violate department policy or purposely place members or citizens unnecessarily in harm's way. Employees who personally experience, witness or are made aware of a near-miss event shall file a Near-Miss report.

Procedure

Employees who experience, witness, or are informed of a near-miss incident shall use the Hazard Assessment, Near Miss, and Correction Report for recording their near-miss event.

Multiple reports of the same incident are encouraged. The variety of perspectives provides additional value to reporting the incident.

A copy of the report will be forwarded to the Safety Manager so the incident can be reviewed and corrective actions can be implemented to prevent future occurrences.

All near miss occurrences must be discussed with all involved employees and parties, including safety manager, Job Foreman and Superintendent to determine a root cause/s, if further training is required, resolution, and lessons learned.

If a satisfactory resolution cannot be achieved then all work related to the near miss occurrence shall be suspended until a resolution can be achieved. The safety manager, foreman, and superintendent shall make the final determination on the corrective action and provide the go-ahead to continue.

The root cause and corrective actions for all near misses shall be documented on the submitted Near Miss report.

The Safety Manager will publish incident details regarding the near miss to all Intech Mechanical Senior Management team members, Superintendents, and Foreman outlining the issue, root causes, and corrective actions.

Training

All published Near Miss reports will be discussed as a tailgate topic at all jobsites to minimize potential re-occurrence and determine training needs. These reports should be shared with other employees and used for "lessons learned".

SAFETY COMMUNICATION

A template of the Root Cause Survey and the Hazard Assessment, Near Miss, and Correction Form can be found at the back of this program.

Stop Work Policy

Purpose

This program establishes the Stop Work Authority (SWA) of all team members and contractors to suspend individual tasks or group operations when the control of Health, Safety or Environmental (HSE) risk is not clearly recognized or understood.

to stop any task or operation where concerns or questions regarding the control of HSE exist. It is the policy of Intech Mechanical that:

- ✓ All team members have the authority and responsibility.
- ✓ No work will resume until all stop work issues and concerns have been effectively addressed.

Any form of retribution or intimidation directed at any team member or company for exercising their authority as outlined in this program will not be tolerated.

As with any policy, accountability for non-compliance will follow established company procedures or contract requirements.

Scope

This "stop work" program applies to all Intech Mechanical projects and operations.

Key Roles and Responsibilities

Intech management has a responsibility to accept and support all "stop work" intervention from team members. Management shall resolve issues resulting from a team member's "stop work" concerns and ensure no actions are taken as retribution against team member(s) who raise safety concerns to stop an activity they believe is unsafe. This action of "stop work" will also include any evidence of potential equipment service interruption due to unsafe or undocumented processes (methods of procedure) when performing equipment installations or maintenance.

Team members have a responsibility and are authorized to "stop work" on any activity or situation they believe to be dangerous or where a risk is present to them or a coworker without fear of retribution from management. The "stop work" may include discussion with other team members or management to resolve work related issues, address potential unsafe conditions, and/or clarify work instructions, etc.

SAFETY COMMUNICATION

The Safety Manager is responsible for monitoring compliance with the requirements of this program, the maintenance of associated documents, processes, training materials, identification of trends, and sharing of lessons learned.

Stop Work Authority Procedure

Team members who identify a potentially unsafe condition or act which could result in an undesirable event, a "stop work" intervention shall be immediately initiated for the individual(s) and/or equipment potentially at risk. All potential unsafe condition or acts shall be documented on a Job Safety Stop Work Form. This form shall be completed to identify all potential unsafe condition or issues.
The team member who identified the "stop work" incident will notify all affected team members and their Foreman/Superintendent/Safety Manager or Direct Report of the stop work issue.

All team members shall discuss and gain agreement on the "stop work" issue.

Resolve any issues that have resulted in the "stop work". The issue resolution or corrective action must be discussed with all team members, including safety manager, and be in place before return to work.

If team members cannot provide a resolution to the "stop work", then work shall be suspended until a resolution can be achieved. The safety manager, foreman, and superintendent shall make the final determination on the corrective action and provide the go-ahead to continue.

All corrective actions on job "stop work" incident when finalized shall be documented on the initial Job Safety Stop Work Form.

Reporting

All stop work reports will be used as part of "lessons learned". The Safety Manager will provide a root cause analysis to the "stop work" action and identify any potential opportunities for improvement, training, encourage team member's participation, and share lessons learned.

The Safety Manager will publish incident details regarding the "stop work" action to all Intech Mechanical Senior Management team members, Superintendents, and Foreman outlining the issue, corrective action, lessons learned, and to identify any additional investigation or follow-up required.

Training

Training regarding this SWA Policy will be conducted as part of site tailgate safety meetings. All documented training shall be submitted to the Safety Manager.

A template for the Job Safety Stop Work Form suggested above can be found at the back of this program.

EMERGENCY PROCEDURES

General Emergency Procedures

Job Site Emergencies (Fire, Incidents, and Medical Emergencies)

1. All job site emergencies must be reported immediately to the Foreman, Intech Superintendent, Intech Safety Manager, and General Contractor Safety Coordinator.

2. All communications during an emergency will be by cell phone, and word of mouth.

3. Should evacuation be required, each crew will be alerted by cell phone or word of mouth, or by alarm system established by the general contractor on the site. Related training will occur during job site orientation.

4. During an emergency situation, all communication should be only between the coordinator and crew.

5. Job Site Emergency Telephone Numbers shall be posted on the job site bulletin board and will be shared with each subcontractor Safety representative, and project managers.

6. A local street map clearly identifying the project and active entrances shall be maintained and posted on the job site bulletin board by the Emergency Telephone Numbers.

7. A sufficient number of Employees shall be trained in First Aid and CPR to provide for adequate coverage of the project.

8. In the event that there are no hard-wire ("land line") telephones available at the project site, the 10-digit emergency numbers for the local emergency dispatch will be identified and posted. This number will be used to contact emergency service providers via cell phone. This is necessary, as dialing 911 on a cell phone does not always provide a direct connection to local Emergency Services.

In emergency situations where evacuation is necessary, all affected personnel will be required to observe the following procedures:

1. Stop all work activities.

2. If possible, shut down all equipment, energy sources and ignition sources.

3. All employees will proceed, if safe to do so, to the designated emergency gathering area.

4. Upon reaching the designated emergency gathering area, check in with the foreman, safety administrator, or responsible crew lead.

5. Provide full cooperation to emergency responders and other project managers, as needed.

EMERGENCY PROCEDURES

In the event of a Fire

1. Call 911 or the Local Fire Department/Agency. At minimum, provide the building, floor and area of the incident.

2. In case of fire in any building:

   ✓ Evacuate the immediate area, and;

   ✓ Activate the fire alarm system (if available), and;

   ✓ Call the Fire Department.

3. For fires outside of buildings:

   ✓ Evacuate the immediate area, and:

   ✓ Call the Fire Department

   ✓ Notify the Project Safety Administrator

In the event of a Power Outage

1. If operating machinery and its safe to do so, turn-off or disconnect the machinery power source. Make sure to stay clear of points of operation that could move or cycle unexpectedly when the power returns.

2. Intech's Main Headquarters and Fabrication Shops have emergency egress lighting and illuminated exit signs that will stay lit in the event of a power outage.

3. If you are working in a poorly lit area after a power outage, utilize the flashlight feature on your cell phone to safely navigate a path to a naturally illuminated area such as a lobby or other area with windows.

4. Further instructions from your manager or foreman will follow to ensure your safety while minimizing disruption to our business.

For a Medical Emergencies

1. Call 911 or the local Emergency Medical Services.

2. Call or report the job site emergency immediately to the Contractor.

3. Render first aid promptly to the injured Employee.

4. Dispatch employees to critical locations on the job site to quickly direct emergency response personnel to the injured worker.

5. The preferred provider for serious traumatic injuries is noted in the Foreman's Project Binder.

6. The designated provider for non-life threatening or minor injuries requiring medical treatment is noted in the Foreman's Project Binder.

7. Contact the Project Safety Coordinator and Intech's Safety Manager.

Emergency Medical Services

Provision of Services

Intech Mechanical will ensure employee access to emergency medical services. We participate in a medical provider network and have selected appropriate occupational medical providers local to our job sites. Employees, who are injured on the job, are expected to initially treat with these designated occupational medical clinics and designated hospital emergency rooms. Transportation will be provided.

Appropriately Trained Person

Intech Mechanical shall ensure that there is at least one appropriately trained employee on-site to render first aid to our employees. Trained employees must carry valid certificate at all times. A valid certificate will be obtained by the American Red Cross or an equivalent training program. First Aid training will be kept on file and retraining will be provided as required.

First Aid Kits

Intech Mechanical will provide adequate First Aid Supplies to be located in job designated job boxes and at our construction trailers. Supplies will be in weatherproof containers on-site at all times. The first aid kit will be inspected weekly and expended items replaced. Items supplied will be selected based on the exposures on the job and medical supplies most likely to be required for first aid response. Our kit will contain adequate quantities of the following: adhesive dressings, one-inch wide adhesive tape rolls, eye dressing, one inch gauze bandage roll, two inch gauze bandage roll, four inch gauze bandage roll, two inch square sterile gauze pads, four inch square gauze pads, triangular bandages, safety pins, tweezers, scissors, record forms and first aid manual.

Informing Employees of Emergency Procedures

All Intech Mechanical employees will be instructed in the procedures to follow in case of injury or illness.

Provision for Obtaining Emergency Medical Services

Hospitals, physicians, ambulance and fire services will be contacted using the job site office telephone or cell phone, whichever is more expeditious. The 10-digit phone number for emergency response will be

posted so cell phones will direct the call to the appropriate dispatch centers. An injured employee will be transported to the hospital in appropriate equipment or an ambulance called for this purpose.

Emergency Washing Facilities

Suitable facilities for drenching the body or flushing the eyes with clean water shall be readily available where employees may be exposed to injurious or corrosive substances.

Emergency Call System

On Intech Mechanical projects consisting of five or more floors or 48 feet or more above ground, a two-way voice emergency communication system will be installed or appropriate cell phones or radios will be available.

Basket Litter

Employees of Intech Mechanical will identify location of emergency litters when working on projects with five or more floors or 48 feet or more above the ground, to assure quick response by other employees. We will ask the general contractor to make sure that basket litter be equipped with straps and two blankets.

Naturally Occurring Emergency Situations

Many areas offer weather warnings or watches. In these areas consult your local weather watch service or reports for current updates and action needed. The following storm conditions may require additional emergency procedures to be taken and serve as a guide for actions. When any of these storm conditions may affect a project, the following procedures should be observed:

Earthquake

Should the situation arise where there is structural collapse or the threat of imminent collapse due to an earthquake, the following general procedures should be followed:

1. All people should evacuate the project as per normal emergency procedures.
2. The nearest supervisors should be notified.
3. Lower booms on all crawler and mobile cranes, lower loads suspended by chain falls, come alongs, and other hoisting devices when possible.
4. Secure cranes to prevent crane booms from contacting power lines.
5. People should be kept out of the area except for those rendering emergency aid.
6. All the area utilities should be turned off as quickly as possible providing it is safe to do so.

EMERGENCY PROCEDURES

Structure or Equipment Damage

Should the situation arise where a structure has collapsed or is in danger of collapse or equipment has been involved in an accident, the following general procedures apply:

1. The normal emergency assistance procedures should be followed.
2. The area where the incident has occurred should be secured.
3. Supervisors are to be notified.
4. People are to be kept out of the area except for those rendering medical assistance.
5. If necessary and safe to do so, area utilities are to be turned off as quickly as possible.
6. Attempts to clean up or make repairs should not be made until Management and emergency responders have given clearance.

Active Shooter Policy

Purpose
To provide direction for Intech Mechanical staff in the event that an armed intruder/s enters the facility/project job site and threaten and/or become violent with employees, occupants or visitors.

Good Practices for coping with a possible situation

- ✓ Always be aware of your environment and any possible dangers.
- ✓ Always take note of the two nearest exit points at any facility or job site you visit.
- ✓ Keep your back against a wall and face entrance points if possible.

Procedure

Threats of violence from persons can occur for a variety of reasons. The following are examples of some of the more common situations that may pose a threat from someone outside, as well as some basic guidelines for you to follow in the event a situation arises.

TAKE ALL THREATS SERIOUSLY!

1. Domestic Situation (disgruntled ex-spouse, boyfriend/girlfriend, etc.)

- ✓ Encourage all staff, through training, to report to their supervisor any real or potential threats or concerns regarding possible violent actions from spouses, ex-spouses, significant others, etc.
- ✓ Supervisors should gather as much information about the situation as possible from the employee, including a description of the individual (current photo is ideal), vehicle they may be driving (including license plate, if possible), any outstanding restraining/protection orders.

- ✓ Other members of the management team should be notified immediately (and General Contractors if on a jobsite) and inform them of the situation. Share information including descriptions of individual, vehicle, etc. Make plans to lockdown the facility or job site and contact police immediately if the person is seen on the property or in the immediate area. Lockdown should include gates, exterior doors, etc.

2. Disgruntled former employees/resident family members, etc.

- ✓ If a direct threat of violence is made towards the office/jobsite, employees/workers or visitors, contact the police immediately.

- ✓ Notify management (and General Contractor if on a job site) at your earliest possible convenience to discuss the situation, and plan for lockdown of the facility/job site if necessary. Intech Mechanical/General Contractor may wish to consider seeking an Order of Protection or Restraining Order against the person(s) making threats. This will need to go through the court system, or law enforcement to do that. Law enforcement or the court system can advise as to that process.
- ✓ If the person making the threat is seen on the property, job site, or in the immediate area, contact law enforcement (911) immediately and begin lockdown procedure. This will include all exterior doors, gates, and any other means of access that can be secured. Notify employees, occupants, and visitors that the facility/jobsite is in a Threat Outside Lockdown. Threat Outside Lockdown means that the threatening person has not yet entered the building/jobsite, and that immediate action is being taken to lock all means of entry into the building/jobsite.

- ✓ All entry/exit points should be locked and no one should be allowed to leave until clearance is given by law enforcement and the office management/general contractor.

- ✓ Clear hallways and keep everyone away from doors and windows if in an office building.

- ✓ Be prepared to move to an inner room that can be secured by locking or by barricading with heavy furniture.

3. Armed Intruder/Active Shooter

IF THIS EXTREMELY DANGEROUS SITUATION DEVELOPES OR APPEARS TO BE DEVELOPING TAKE ACTION IMMEDIATELY!

- ✓ Do not confront or attempt to reason with the individual.

- ✓ Announce to employees, occupants and visitors the nature of the threat and location of the situation such as "ARMED INTRUDER INSIDE NORTH WAREHOUSE ROLL-UP. "Threat Inside" means that there is already someone in the building or on the job site attempting to cause harm. DO NOT lock exterior doors as this will impede law enforcement when they arrive on the scene.

EMERGENCY PROCEDURES

- ✓ *RUN* - If a safe passage is available, leave the area immediately to a pre-designated location well away from the building or outside of the jobsite. Help others escape if possible. Leave your belongings behind. Dial 911 as soon as possible. Be prepared to give as many details of the situation as you can to the dispatcher, such as how many perpetrators, Last known location of the person(s) and their descriptions, types of weapons being used, any hostages/casualties, etc.

- ✓ Evacuate regardless of whether others agree to follow.

- ✓ Prevent others from entering and active area where an active shooter may be.

- ✓ Always keep your hands visible to assist with responding law enforcement.

- ✓ Follow all instructions given by any police officers.

- ✓ Do not attempt to move any wounded people.

- ✓ *HIDE* - If you are unable to safely leave the building or job site, attempt to seek shelter in a nearby room or office trailer that is capable of being locked from the inside and out of the shooters view. If the door does not have a lock, attempt to barricade the door with heavy furniture, etc. and remain very quiet. Shut off radios and set cell phones on vibrate/mute. TRY NOT TO hide under a desk or anywhere else that may impede your ability to move about or escape if necessary unless there are no other options.

- ✓ Remain quiet and hidden until authorities give an all clear.

- ✓ *FIGHT* - If none of the above options are available to you, your life is in imminent danger, or you are directly faced with the shooter/intruder, fight back as a last resort. Chairs and other immediate items can be used as improvised weapons in an attempt to incapacitate the shooter/intruder and defend yourself. Act as aggressively as possible against him/her and commit to your actions.

HAZARD COMMUNICATION/GLOBALLY HARMONIZED SYSTEM/SDS PROGRAM

Hazard Communication

Company Policy

To protect the health and safety of our employees, we have developed this Hazard Communication Program.

As a company, we intend to provide information about hazardous chemical substances used in construction through a comprehensive Hazard Communication Program.

This written Hazard Communication Program applies to all operations which may expose employees to hazardous substances as a result of normal work conditions or as the result of a reasonably foreseeable emergency.

This written Hazard Communication Program is available, upon request, to employees, & their designated representative.

Unless notified otherwise, the Foreman of each jobsite is designated as the person responsible for implementing this written program. Our Superintendents and/or Company Management will coordinate this effort, train, and assist the Foremen as necessary.

Identification of Hazardous Substances Used in the Workplace

Hazardous substances are materials or mixtures, which are physical or health hazards or are included by CAL/OSHA on the Director's List of Hazardous Substances, Safety Order Subsection 339.

Exposure in any situation arising from work conditions where an employee may inhale, absorb, ingest, or inject a hazardous substance.

Each Superintendent, Project Manager, General Foreman, Foreman or Responsible Crew Lead, will maintain on each jobsite a list of all of the hazardous substances to which employees may be exposed at the jobsite, using the same chemical name referenced on the appropriate SDS's for those substances.

Labels

When hazardous substances are received, the Foreman shall examine the containers to determine if the labels provide the following information:

- ✓ The identity of the hazardous substances they contain;
- ✓ Appropriate warnings of the physical and health hazards associated with those substances.

When hazardous substances are transferred into portable containers, the Foreman shall ensure that the portable containers are labeled with the following information:

- ✓ The identity of the hazardous substances they contain;

- ✓ Appropriate warnings of the physical and health hazards associated with those substances.

Portable containers may be labeled with an extra copy of the manufacturer's label or with a printed label, which includes the information discussed above.

Exception: When an employee transfers a hazardous substance into a portable container for his/her own immediate use, and the contents will be used up during his /her shift, the portable container does not to be labeled.

Each Foreman or other designated responsible person on the job site will ensure that the labels on containers of hazardous substances are not removed or defaced, unless the containers are immediately relabeled with the following information:

- ✓ The identity of the hazardous substances they contain.

- ✓ Appropriate warnings of the physical and health hazards associated with those substances.

Containers without complete labels or with defaced labels will not be used on the job.

Safety Data Sheets

Safety Data Sheets (SDS's) are documents which supply information about a particular hazardous substance or mixture. SDS's are obtained for each hazardous substance used on our jobsites.

Each Superintendent, Project Manager, General Foreman, Foreman or responsible Crew Lead will maintain at each jobsite the SDS for each hazardous substance used. In most cases, the SDS will be available from the main office or can be access via the Intech BIM site. SDS's are required to be included with deliveries to the job sites. It is our policy not to accept shipments that do not include data sheets for products with data sheets not already on file.

It may be necessary for the Superintendent, Project Manager, General Foreman, Foreman or responsible Crew Lead to obtain the SDS from the manufacturer or seller of the hazardous substance if the main office does not have a copy. A hazardous substance shall not be used when an SDS for the substance is not in hand.

The Superintendent, Project Manager, General Foreman, Foreman or Responsible Crew Lead shall provide an SDS to an employee, upon request, during his/her work shift. An SDS shall also be available, upon request, to the employee's designated representative, physician, and to the Division of Occupational Safety and Health.
The Superintendent, Project Manager, General Foreman, Foreman or Responsible Crew Lead shall be alert to other employers (such as subcontractors) whose work on the jobsite may expose our employees to additional hazardous substances. When it appears that such exposure will occur, SDS's for the substances must be obtained by the Superintendent.

When doing renovation or remodeling work, the superintendent shall be alert to the dangers, which might exist for our employees who work under or near unlabeled pipes, which contain hazardous substances and shall take proper precautions.

The Superintendent, Project Manager, General Foreman, Foreman or Responsible Crew Lead shall also post the Medical and Exposure Records (S-11) poster at each jobsite.

The Superintendent, Project Manager, General Foreman, Foreman or Responsible Crew Lead shall be alert to other employers (such as subcontractors) whose work on the jobsite may expose our employees to additional hazardous substances. When it appears such exposure will occur, our employees must be training as required below.

Information and Training

When employees are exposed, or could be exposed, to hazardous substances in their work area, they shall be provided information and training by the superintendent based on the data contained in the SDS's for those hazardous substances.

Training shall be provided before employees are assigned duties, which may cause exposure to hazardous substances. Training shall also be given when new hazardous substances are introduced into the work area or when an SDS is changed.

Training shall be conducted and documented as a toolbox or tailgate safety meeting, and shall provide at least the following:

- ✓ Information on which hazardous substances are in the work area.
- ✓ How to read and interpret information on SDS's and labels.
- ✓ Any physical or health hazards associated with the use of a hazardous substance or mixture being used in the work area.
- ✓ Proper precautions for handling, including specific procedures the company has implemented to protect workers from exposure, such as personal protective equipment and work practice.
- ✓ Emergency procedures for spills, fire, disposal, and first aid.
- ✓ The methods and observations that can be used to detect the presence of a hazardous substance in the workplace (odor, visual appearance, or monitoring).
- ✓ The right of employees, their physicians, or their collective bargaining agents to receive information on hazardous substances to which they may be exposed.

- ✓ The right against discharge or discrimination due to an employee's exercise of the rights afforded by law.

- ✓ The details of this written Hazard Communication Program; the availability and location of this written Hazard Communication Program and of SDS's or other information.

Non-Routine Task Training

When employees are assigned to a non-routine task that may expose them to a hazardous substance for which they have not been trained, they shall be trained in the manner required by the section above. Job Safety Analysis will be conducted as needed to identify general work tasks and common and uncommon hazards related to these tasks, identify appropriate safety controls and to support task specific safety training.

Access to Information by Others

When employees of another employer (as an example, a subcontractor) may be exposed to hazardous substances while working on one of our jobsites, the employer shall be provided with a list of hazardous substances we are using at that jobsite by the foreman. The Superintendent shall also give the employer suggestions for appropriate protective measures needed for exposure to such substances. If requested by the employer, names and addresses of suppliers or manufacturers of the hazardous substances we use shall be provided so that the employer may obtain SDS's and other information.

Hazard Communication Standard

The Hazard Communication Standard (HCS) is now aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This update to the Hazard Communication Standard (HCS) will provide a common and coherent approach to classifying chemicals and Communicating hazard information on labels and safety data sheets.

Hazard Communication Standard

Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import, and prepare labels and safety data sheets to convey the hazard information to their downstream customers;

All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed workers, and train them to handle the chemicals appropriately.

Major changes to the Hazard Communication Standard are as follows:

Hazard classification: Provides specific criteria for classification of health and physical hazards, as well as classification of mixtures.

Labels: Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided.

Safety Data Sheets: Will now have a specified 16-section format.

The standard pictograms for the Globally Harmonized Systems are noted below:

SPILL PREVENTION AND EMERGENCY RESPONSE PLAN

Spill Prevention

Hazardous Substance Management: All hazardous substances, including chemical wastes, are to be managed in a way that prevents release. The following general requirements are to be followed. They include:

Container Management

- ✓ All hazardous substance containers must be in good condition and compatible with the materials stored within.
- ✓ All hazardous substance containers must be accessible and spacing between containers must provide sufficient access to perform periodic inspections and respond to releases.
- ✓ Empty hazardous substance containers (drums) must have all markers and labels removed and the container marked with the word 'empty'.
- ✓ Any spills on the exterior of the container must be cleaned immediately.
- ✓ Flammable materials stored or dispensed from drums or totes must be grounded to prevent static spark.
- ✓ Do not overfill waste drums. 4" of headspace must remain to allow for expansion.
- ✓ Other site-specific practices.

Good Housekeeping

- ✓ All hazardous substances must be stored inside buildings or under cover.
- ✓ Store hazardous substances not used daily in cabinets, or in designated areas.
- ✓ All chemicals that are transferred from larger to smaller containers must be transferred by use of a funnel or spigot.
- ✓ All hazardous substance containers should be closed while not in use.
- ✓ Use drip pans or other collection devices to contain drips or leaks from dispensing containers or equipment.
- ✓ Implement preventative maintenance activities to reduce the potential for release from equipment.
- ✓ Immediately clean up and properly manage all small spills or leaks.
- ✓ Periodically inspect equipment and hazardous substance storage areas to ensure leaks or spills are not occurring.

- ✓ Use signage to identity hazardous substance storage or waste collection areas.
- ✓ Keep all work areas and hazardous substance storage areas clean and in good general condition.
- ✓ Other site-specific practices

Secondary Containment

- ✓ Store all bulk chemicals (>55 gallons) within appropriate secondary containment, or any sized chemical if there is a potential for release to the environment.
- ✓ Secondary containment should be checked periodically, and any spills identified in secondary containment must be immediately cleaned up and removed.
- ✓ Other site-specific practices

Marking/Labeling

- ✓ Ensure all hazardous substances, including chemical wastes, are properly marked and labeled in accordance with all federal, state and local regulations.
- ✓ Ensure that hazardous substances transferred to small containers are marked with the chemicals name (I.E. - "Isopropyl Alcohol") and hazard (I.E. - "Flammable").
- ✓ Other site-specific practices

Employee Training

All employees must receive periodic training on the proper handling of hazardous substances, spill prevention practices, and emergency response procedures. Training must include a review of the spill prevention and emergency response plan, and a review of location and use of emergency response equipment. Training can be recorded through safety committee meetings, staff training logs, or other equivalent record keeping.

Hazardous Substance Inventory

An inventory must be maintained for all hazardous substance stored in quantity (<55 gallons), and/or list of locations where non-bulk hazardous substances are stored (I.E. Flammable lockers, shop floor, etc.).

Spill Response Equipment

Spill response equipment must be maintained and located in areas where spills are likely to occur. Spill kits should provide adequate response capabilities to manage any anticipated spill or release. The following general requirements are to be followed: They include:

- ✓ Stock spill cleanup kits that are compatible with the hazardous substances stored on site.
- ✓ Locate spill kits in areas where spills are likely to occur (loading docks, chemical storage areas, locations where hazardous substance are being transferred)
- ✓ Spill kits should be sized to managing an anticipated release (spill equal to the largest container)
- ✓ Emergency response equipment should be inspected periodically to ensure that the spill kit is complete.

Emergency Response Plan

The Emergency Response Plan is a facility specific plan for dealing with emergencies and shall be implemented immediately whenever there is a fire, explosion, or release of a hazardous substance that threatens human health or the environment. The emergency response plan shall be reviewed and immediately amended whenever:

- ✓ The plan fails in an emergency.
- ✓ The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that increases the potential for fire, explosions, or release of a hazardous substance.
- ✓ The list of emergency contacts changes.
- ✓ The list of emergency equipment changes.

Response actions in the event of a spill or release

In the event of a hazardous substance spill or release, immediately take the following measures to keep the spill from entering sewer or storm drains, spreading off-site, or affecting human health. In all cases caution and common sense must be maintained with the primary goal being to prevent and/or limit personal injury.

Stop, contain, and clean up the chemical spill if:

- ✓ The spilled chemical and its hazardous properties have been identified.
- ✓ The spill is small and easily contained.
- ✓ Responder is aware of the chemicals' hazardous properties.

If a spill or release cannot be controlled or injuries have occurred due to the release the following procedures should be implemented:

- ✓ Summon help or alert others of the release.

- ✓ Evacuate immediate area and provide care to the injured - Call 911.
- ✓ If potential fire or explosion hazards exist initiate evacuation procedures - Call 911.
- ✓ Respond defensively to any uncontrolled spills.
- ✓ Use appropriate personal protective equipment when responding to any spill.
- ✓ Attempt to shut off the source of the release (if safe to do so).
- ✓ Eliminate sources of ignition (if safe to do so).
- ✓ Protect drains by use of adsorbent, booms or drain covers (if safe to do so).
- ✓ Notify onsite emergency contact(s).
- ✓ Notify other trained staff to assist with the spill response and cleanup activities.
- ✓ Coordinate response activities with local emergency personnel (I.E. Fire department).
- ✓ Be prepared to provide SDS information to the fire department, EMT's, hospital or physicians.
- ✓ Notify appropriate agency if a release has entered the environment. Refer to Notification and Reporting section for reporting thresholds.

Evacuation Procedures

In the event of a hazardous substance release that has the potential for fire, explosion, or other human health hazards the following procedures will be implemented:

- ✓ Facility staff will be notified of evacuation by one or more of the following methods: Verbal, Portable Radio, Alarm, Phone, Other.
- ✓ Notification to emergency services will be performed - Call 911.
- ✓ Facility staff will follow predetermined evacuation routes and assemble at designated areas. Evacuation maps are displayed throughout the facility.
- ✓ Individuals responsible for coordinating evacuations must confirm if the business has been completely evacuated.
- ✓ Facility staff will be made familiar with evacuation procedures during new employee orientation, and annual trainings thereafter.
- ✓ Designated emergency response contacts will coordinate all activities with outside emergency personnel.

Spill Cleanup and Disposal

In the event of a hazardous substance release, spill cleanup materials are to be properly characterized to determine if it designates as a California State Dangerous Waste. The designated onsite emergency contact and other resources will determine the wastes status prior to disposal.

Reporting a Release

If a hazardous substance spill has been released to soil, surface water, drains or air the following notifications (within 24-hours) must be performed:

- ✓ Fire Department (any release that poses an immediate threat to human health, property or the environment)
- ✓ Applicable County Environmental Health Department (any release)
- ✓ California Air Resources Board (CARB)

These organizations should be able to advise you on additional response notifications.

When reporting a release prepare to provide the following information.

- ✓ Your name and telephone number from where you are calling.
- ✓ Exact address of the release or threatened release.
- ✓ Date, time, cause and type of incident (fire, air release, spill, etc.).
- ✓ Material and quantity of the release, to the extent known.
- ✓ Current condition of the facility.
- ✓ Extent of injuries, if any.
- ✓ Possible hazards to the public health and/or environment outside of the facility.

TRAINING, PPE, AND GENERAL HEALTH

Employee Training and Instruction

All employees shall receive training and instruction in the following areas:

- ✓ General safety and health work practices
- ✓ Reporting of hazards and injuries
- ✓ Specific instruction with respect to hazards unique to the job assignment.

Training of employees at Intech Mechanical of this IIPP shall include:

- ✓ As needed, at the beginning of all new work assignments.
- ✓ To all new workers.
- ✓ To all workers given new job assignments for which training has not previously provided.
- ✓ Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard.
- ✓ Whenever Intech Mechanical is made aware of a new or previously unrecognized hazard.
- ✓ To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed.
- ✓ To all workers with respect to hazards specific to each employee's job assignment.
- ✓ To develop competent trained persons in such areas as fall protection, scaffolding, ladders, excavations, confined space work, lock out and tag out, aerial platforms, etc.
- ✓ Re-training will occur when worker performance and work practices identify safety rules are being violated, hazards are not properly identified and controlled, accidents and property damage investigations identify re-training needs.
- ✓ Training & Re-training for all employees performing welding/cutting. This will cover the proper safety operation of the equipment and processes.
- ✓ Emergency action and fire prevention

In accordance with this IIPP, training shall be provided by the superintendent or other supervisor at the jobsite "tool box" safety training meetings every five working days, or more frequently if appropriate.

This IIPP shall be made an integral part of existing occupational safety and health training programs at Intech Mechanical.

Additional training shall be provided to supervisors to familiarize them with the safety and health hazards to which employees under their immediate direction and control may be exposed.

TRAINING, PPE, AND GENERAL HEALTH

Personal Protective Equipment – (PPE)

- ✓ Eye Protection will be worn on jobsites or in Intech fabrication shops at all times. This is mandatory.

- ✓ Face shields must be worn whenever there is a risk of receiving eye injuries from flying particles, hazardous substances, projections, or dangerous light rays. Such a risk is present when using saws, drills, grinders, powder-actuated tools, and cold chisels, chipping guns, roto-hammers, jackhammers and other equipment.

- ✓ A welder's helmet or goggles with proper shaded lens will be worn when welding, or cutting, or when doing a job that requires looking at the process.

- ✓ ANSI approved Type II safety helmets (meets requirements of testing for vertical, front, back and side impacts and punctures) will be worn on the job at all times. This is mandatory.

- ✓ Hand protection must be worn for work exposing you to hazardous substances, cuts or burns. Gloves shall be rated with a minimum of cut resistance level 4.

- ✓ Work boots in good condition shall be worn on the job. No tennis shoes. Clothing must be OSHA compliant.

- ✓ Personal fall protection must be worn when you are subject to a fall of (6') six feet or more from any location to a surface below, when guard rails or other protection are not in place.

- ✓ Clothing appropriate for the work shall be worn. Loose clothing shall not be worn around tools, machinery or equipment in which it might become entangled.

- ✓ Approved Class II Orange or Lime Green Safety Vests shall be worn whenever there is, or is likely to be, exposure to vehicle and equipment traffic and/or earthmoving equipment.

- ✓ Hearing protection will be worn when required by the Noise Control Safety Orders and as the foreman or employee deems it necessary. Employees are encouraged to use hearing protection at any time they are exposed to loud noise and use is required when exposed to 50% dose, (85 dBA for 8-hour time weighted average.)

- ✓ A nuisance dust mask, no less than N-95 type, will be worn when requested by employees. Fit testing and instructions in proper use and care will be provided. Use of both straps is required.

- ✓ A properly approved, selected, and fitted respirator will be worn when exposed to harmful levels of dust, hazardous gases, vapors, mists and fumes. If there is a need to use respirators, a written respirator program will be followed. Medical exams, training, and fit testing are required before workers are allowed to use a respirator. Proper positive and negative fit test by the employee is required at each use. Proper cleaning, inspections, and proper storage is required and enforced.

TRAINING, PPE, AND GENERAL HEALTH

Training of PPE

All training of PPE is given at date of hire with new hire orientation and re-training of PPE will be required when knowledge of PPE is in question. Training & Re-Training will be documented by the Safety Manager.

Training will cover proper use of the following:

- ✓ Specific equipment that is required to be worn at all times.
- ✓ All PPE must fit properly. Consideration should be on comfort but correct sizing for the PPE is required.
- ✓ How to properly put on and remove the equipment.
- ✓ Care of the equipment and proper maintenance.
- ✓ All Safety Glasses, Hardhats, Hand Protection, Boots, Clothing, Hearing Protection, Respirators, and Masks must be properly maintained, and kept sanitary at all times.
- ✓ All PPE (boots excluded) will be provided by Intech Mechanical.
- ✓ If equipment is torn, warn, or defective stop use of the PPE and contact the Safety Manager to issue new PPE.
- ✓ Foremen, Superintendents, and the Safety Manger will access any hazards requiring specific PPE by conducting job site hazards assessments and documenting all hazards.

Ergonomics

Ergonomics is the study of people and their interaction with the elements of their job or task including equipment, tools, facilities, processes, and environment. In essence, it is the science of human comfort while performing work. When aspects of the work or workplace affect the human body, the result is often a cumulative trauma disorder (CTD) or musculoskeletal disorder (MSD). CTD's are injuries of the musculoskeletal and nervous systems that may be caused by repetitive tasks, forceful exertions, vibrations, mechanical compression, or sustained or awkward postures. MSDs are overuse injuries that can affect muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels, or spinal discs of the body. MSDs are synonymous with CTD's

TRAINING, PPE, AND GENERAL HEALTH

Policy

It is the policy of Intech Mechanical to provide all employees with a safe and healthy workplace. The ergonomics program is a proactive approach to assist in the identification, prevention, and control of employee exposure to ergonomic risk factors. It is a collaborative effort that includes managers, supervisors, and employees and consists of the following components:

- ✓ Roles and responsibilities
- ✓ Identification of high-risk jobs
- ✓ Worksite evaluations and setting priorities
- ✓ Control of ergonomic risk factors
- ✓ Training
- ✓ Early intervention and medical management
- ✓ Program evaluation and follow-up

This program enables Intech Mechanical to meet the requirements of the ergonomics regulation, California Code of Regulations, Title 8 (8 CCR), Section 5110.

Purpose

The purpose of the ergonomics program is to apply ergonomic principles to the workplace in an effort to reduce or eliminate the number and severity of CTDs/MSDs, thus increasing employee productivity, quality, and efficiency, while reducing injuries and decreasing workers' compensation claims.

Identifying and prioritizing jobs with increased risk factors through worksite evaluation is a critical step in our program. Once risks are identified and prioritized, action will be taken to control exposures which may cause repetitive motion injuries (CTDs/MSDs).

These actions include but are not limited to:

- ✓ Making changes before an injury/illness has occurred.
- ✓ Incorporating ergonomics into the design phase of a new work space or process.
- ✓ Providing training required within this ergonomics program.
- ✓ Purchasing the appropriate equipment and tools.

Responsibilities

Ergonomics Program Administrator

The Safety Manager has the ultimate authority and responsibility for the implementation of the ergonomics program, and provides:

- ✓ Executive management oversight of the ergonomics program.
- ✓ Performance goals and accountability for program implementation in collaboration with department managers, foremen, and superintendents.
- ✓ Program evaluations and resources to support program implementation.
- ✓ Facilitation of identifying and evaluating high-risk jobs and oversight of implementing control measures.
- ✓ Coordination of ergonomics training for managers, supervisors, foremen, superintendents, and employees to ensure the recognition and control of ergonomic risk factors, and early reporting procedures.
- ✓ Coordination of effective medical management.
- ✓ For maintaining documentation of training and worksite evaluations.
- ✓ Monitoring the ergonomics program on an annual basis.

Department Managers/Foremen/Superintendents

Intech Department Managers, Foremen, and Superintendents have the authority and responsibility for the implementation of the ergonomics program. This provides leadership to develop a strong safety culture and continuous improvement within their departments.

Responsibilities include:

- ✓ Providing leadership to ensure the ergonomics program is effectively implemented.
- ✓ Assisting the Ergonomics Program Administrator with the identification and evaluation of high-risk jobs and ensuring the implementation of recommended control measures.
- ✓ Encouraging active participation by employees in the ergonomics program, including attendance at required training and participation in the development of controls.
- ✓ Attending ergonomics training for managers and supervisors.

Employees

Employees are an essential element to the success of the ergonomics program and will be asked for their input and assistance with identifying ergonomic risk factors, worksite evaluations, and development and implementation of controls and training.

All employees will:

- ✓ Comply with our ergonomics program including the safe and appropriate use of tools, equipment, parts, materials, and procedures.
- ✓ Attend required ergonomics training.
- ✓ Report CTD/MSD signs, symptoms, and work-related hazards as early as possible to facilitate proactive interventions and prompt medical treatment.
- ✓ Follow the appropriate injury reporting procedures should an injury occur.
- ✓ Take responsibility for personal health and safety regarding ergonomics.

The Ergonomics Program

Identification of High-Risk Jobs

The following methods will be used to identify and prioritize high-risk jobs:

- ✓ Encourage employee appropriate injury reporting procedures.
- ✓ Encourage employee reporting CTD/MSD signs, symptoms, and work-related hazards as early as possible to facilitate proactive interventions and prompt medical treatment.
- ✓ Worksite evaluations
- ✓ Self-assessment and employee input
- ✓ Routine safety inspections and observations

Worksite Evaluation

Worksite evaluations provide a systematic approach for identifying ergonomic risk factors found within a job, process, or workstation.

The Ergonomics Program Administrator may schedule a worksite evaluation based upon the following:

- ✓ Any job, process, or workstation that has contributed to a worker's current CTD/MSD.

- ✓ A job, process, or workstation that has historically contributed to CTDs/MSDs.
- ✓ Specific jobs, processes, or workstations that have the potential to cause CTDs/MSDs.
- ✓ An employee reports an CTD/MSD sign or symptom to his/her supervisor.

Other triggers that may require a worksite evaluation include, but are not limited to:

- ✓ Change of jobs, tasks, equipment, tools, processes, scheduling, or work shifts.
- ✓ When a routine safety inspection has uncovered potential CTD/MSD hazards.
- ✓ Self-assessment identifying significant ergonomic hazards.

An outside ergonomics professional may be utilized in lieu of a workstation evaluation referred to above.

Risk Factors

Risk factors are aspects of the work that increase the likelihood that an injury will take place. The result is often a CTD/MSD. The worksite evaluation will assist the Ergonomics Program Administrator in identifying the following ergonomic risk factors:

- ✓ Awkward postures
- ✓ Repetitive motion
- ✓ Forceful exertion
- ✓ Reaching
- ✓ Contact stress
- ✓ Noise/Vibration
- ✓ Stationary Standing

Other factors are also considered such as lighting and environment.

Control Measures

Once the risk factors are identified, the hazards will be addressed by using the following control measures:

Engineering Controls

This is the preferred method for controlling ergonomic hazards. These controls may encompass a redesign of the workplace, changes in processes, or purchases of specialized equipment to eliminate the risk factors.

Administrative Controls

Although engineering controls are preferred, administrative controls are implemented as temporary measures until engineering controls can be implemented or when engineering controls are not technically feasible. Since administrative controls do not eliminate hazards, management makes every attempt to ensure the practices and policies are followed. Examples of administrative controls include but are not limited to job substitution; job rotation; minimizing time of exposure; regular stretch breaks; warm up activity immediately prior to exposure ("muscle setting"); stretch breaks immediately following risk exposure ("counter punching").

Personal Protective Equipment (PPE)

Where engineering and administrative controls are not feasible or practical, PPE will be provided to reduce risk factors.

Reporting Procedures

Employees who recognize the potential risk of injury, discomfort, or symptoms associated with CTDs/MSDs are to immediately report to their supervisor/manager and to the Safety Manager. The Safety Manager will complete a worksite evaluation and ensure appropriate action is taken and that an ergonomic evaluation is performed.

The supervisor is responsible for discussing the identified exposures and recommended solutions with the employee. In addition, the supervisor is responsible for implementing the recommended corrective actions. The employee will be asked for input regarding ideas about improving ergonomics in his/her work area. Employees are responsible for using equipment correctly and performing tasks as outlined in the recommended solutions.

Training

Training is designed to educate managers, supervisors, and employees to recognize work-related ergonomic risk factors and to understand and implement appropriate control measures.

Ergonomics awareness training will be provided and documented:

- ✓ When the program is introduced and annually thereafter.
- ✓ To all new employees
- ✓ When new jobs, tasks, tools, equipment, machinery, workstations, or processes are introduced.

- ✓ When high exposure levels to ergonomic risk factors have been identified.

The training will cover all the following topics:

- ✓ The Ergonomics Program
- ✓ Policy specific ergonomic risk factors associated with CTDs/MSDs.
- ✓ Symptoms and consequences of injuries caused by CTDs/MSDs.
- ✓ Importance of early reporting symptoms of CTDs/MSDs to supervisors.
- ✓ Awareness of safe work methods and techniques (i.e., use of proper body mechanics, stretch breaks, proper use of assistive devices/PPE) to minimize risk factors associated with CTDs/MSDs.

Specialized training may be provided for managers, supervisors, and employees who work in identified high-risk jobs or departments.

Medical Management:

Pursuant to the law, Intech Mechanical provides medical care to all employees injured at work. We maintain a good working relationship with medical care providers who may be utilized for these occasions. All work-related injuries and illnesses will be referred to one of these medical care providers unless the injured employee has notified Intech Mechanical in writing, prior to the injury or illness, that other medical provisions have been made.

In the event of a work-related injury or illness, the medical care provider/professional will:

- ✓ Provide diagnosis and treatment for injured employee(s)
- ✓ Determine if reported CTD/MSD signs or symptoms are work-related
- ✓ Comply with our return-to-work program by recommending restricted, modified, or transitional work duties when appropriate.
- ✓ Provide timely work status reports

Fatigue Management

Purpose/Scope:

The purpose or goal of the Intech Fatigue Risk Management Program is to inform employees of the potential stress when working long hours in the workplace. Management shall address the workplace and determine if fatigue risk hazards are present or likely to be present that would necessitate the use of administrative controls such as rotating crew members, work schedules, etc.

Training will be provided to employees of how to identify and report workplace stress and fatigue. It is the employee's responsibility for their own safety and that of their coworkers for reporting hazardous conditions, work fatigue/tiredness and dangers to their supervisor. They must also report any job-related injury or illness to their supervisor. Employees have the right to refuse unsafe work conditions.

What is an Extended/Unusual Shift?

A normal work shift is generally considered to be a work period of no more than eight consecutive hours during the day, five days a week with at least an eight-hour rest. Any shift that incorporates more continuous hours, requires more consecutive days of work, or requires work during the evening should be considered extended or unusual.

Health Risks:

Extended or unusual work shifts may be more stressful physically, mentally, and emotionally. Non-traditional shifts and extended work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. These effects lead to an increased risk of operator error, injuries and/or accidents.

Society is oriented toward traditional daytime work hours and work at night will often intensify fatigue and reduce alertness. Workers generally will not acclimate to night work, and sleep patterns will generally be disrupted so the non-work periods do not provide full recovery, resulting in sleep deprivation. Studies suggest that it can take up to 10 days to adapt to a night-time work schedule.

Fatigue is a message to the body to rest. It is not a problem if the person can and does rest. However, if rest is not possible, fatigue can increase until it becomes distressing and eventually debilitating. The symptoms of fatigue, both mental and physical, vary and depend on the person and his or her degree of overexertion. Some examples include:

- Weariness
- Sleepiness
- Irritability
- Reduced alertness, lack of concentration or memory
- Lack of motivation
- Increased susceptibility to illness
- Depression
- Headache
- Giddiness
- Loss of appetite and digestive problems.

Risks for Employers:

- Reduced productivity
- Increase in errors
- Absenteeism and presenteeism (present at work but not fully functioning because of health problems or personal issues)
- Increased health care and worker compensation costs
- Workforce attrition due to disability, death, or moving to jobs with less demanding schedules

Risks to the Community:

Potential increase in errors by workers leading to:

- Medical errors
- Vehicle crashes
- Industrial disasters

Fatigue Management Policy:

When there is a choice, managers should limit the use of extended shifts and increase the number of days employee's work. Job rotation schedules should also be considered. Working shifts longer than 8 hours will generally result in reduced productivity and alertness. Provide training to make sure that workers are aware of the ups and downs of shiftwork and that they know what resources are available to them to help with any difficulties they are having with the work schedule. Additional break periods and meals should be provided when shifts are extended past normal work periods. Tasks that require heavy physical labor or intense concentration should be performed at the beginning of the shift if possible. This is an important consideration for pre-emergency planning.

Managers and supervisors will learn to recognize signs and symptoms of the potential health effects associated with extended and unusual work shifts. Workers who are being asked to work extended or irregular shifts should be diligently monitored for the signs and symptoms of fatigue. Any employee showing such signs will be evaluated and possibly directed to leave the active area and seek rest.

Make efforts, whenever feasible, to ensure that unavoidable extended work shifts and shift changes allow affected employees time for adequate rest and recovery. Extended shifts should not be maintained for more than a few days, especially if they require heavy physical or mental exertion.

Plan to have an adequate number of personnel available in order to enable workers to take breaks, eat meals, relax, and sleep. Whenever possible the Company shall make use of ergonomic friendly equipment in order to decrease the fatigue risk factors.

Plan for regular and frequent breaks throughout the work shift. In addition to formal breaks such as lunch or dinner, encourage the use of micro breaks to change positions, move about, and shift concentration.

Supervisors should examine near misses and incidents to determine the role, if any, of fatigue as a root cause or contributing cause to the incident.

To determine whether it is or could be an issue for workers, Supervisors should also identify factors and analyze work tasks that can cause or contribute to worker fatigue.

What can workers do to address this issue?

- Make sure you give yourself enough time to sleep after working your shift.
- Avoid heavy foods and alcohol before sleeping and reduce intake of caffeine and other stimulants several hours beforehand since these can make it difficult to get quality sleep.
- Exercise routinely, as keeping physically fit can help you manage stress, stay healthy, and improve your sleep.
- Choose to sleep someplace dark, comfortable, quiet, and cool so you can fall asleep quickly and

stay asleep.

- Employees must not chronically use over-the-counter, prescription drugs, and any other product which may affect an employee's ability to perform their work safely.
- Seek assistance from an appropriate healthcare provider if you are having difficulties sleeping.
- Let your foreman know what is going on
- Get adequate sleep and understand how to maintain good sleep practices.
- Maintain routine bedtime and waking schedules whenever possible.
- Relax prior to bedtime (worrying or exercise too close to sleep can result in sleep loss)
- Avoid caffeine, alcohol, nicotine, OTC decongestants, and eating prior to bedtime.
- Maintain a healthy status and seek treatment or prevention activities for sleep apnea, insomnia, or other personal medical conditions which may cause or contribute to sleep loss.
- Manage daytime/evening family and social demands to extent possible as they relate to good sleep practices. Some examples are: Recreational or extracurricular activities, Internet culture 24/7, Two jobs or adult education, or Special situations such as newborns, chronic illnesses with family members, or travel.

Stretch and Flex

Intech Mechanical has established a voluntary Stretch and Flex program for its employees that perform work on Intech Mechanical job sites. It is recommended that all Intech subcontractors participate with Intech's program or in their company's own stretch and flex program.

Benefits of this program are that workers will increase their energy levels, increase flexibility and awareness, reduce range of motion injuries and injury rate, improve body mechanics, posture and circulation, increase strength and reduce stress levels while preparing the body for physical work activity.

The job foreman will initiate Stretch and Flex sessions which should be performed daily and not exceed 10 minutes. Mornings are best and when reviewing daily Pre-Task Plans or JHA's for the day's work is suggested.

Stretching a cold muscle may cause injury and may decrease the benefits of stretching. A simple warm-up will improve flexibility, reduce stretch-inducing injuries and will improve stretching sessions. This is not a strenuous workout but prepares the body for stretching.

Maintenance of Records

Intech Mechanical will keep records of the actions taken to implement and maintain this IIPP. The records will be maintained on file for a minimum of three years. The records kept by Intech Mechanical relating to this IIPP will not adversely affect the retention of medical and exposure records in accordance with Title 8, California Code of Regulations, Section 3204, "Access to Employee Exposure and Medical Records."

Records of scheduled and unscheduled periodic inspections as well as other records including methods used to identify and evaluate workplace conditions and work practices will also be retained a minimum of three years.

Records relating to the IIPP will include at a minimum the name of the person(s) conducting the inspection or evaluation; the unsafe conditions and work practices that have been identified; and actions taken to correct the identified condition or work practice.

Records and documentation of safety and health training will include at a minimum the name of employee and/or employee number, date of training, training topic(s), training format, and instructor. Records of employees who have worked for less than one year for Intech Mechanical may be turned over to the employee upon termination as long as the terminated employee signs an acknowledgement letter documenting the records which have been turned over to him or her.

Records of environmental monitoring, should this be necessary, will be maintained and available for review by the employee and their representatives.

Accident investigation and corrective action records are maintained

OSHA 300 logs will be maintained and up to date, with the OSHA 300A completed and posted as required from February 1, through April 30 of each year. These records will be maintained for no less than 5 years.

OCCUPATIONAL NOISE

Occupational Noise Exposure/Hearing Conservation Program

Every year, approximately 30 million people in the United States are occupationally exposed to hazardous noise. Noise-related hearing loss has been listed as one of the most prevalent occupational health concerns in the United States for more than 25 years.

Exposure to high levels of noise can cause permanent hearing loss. Neither surgery nor a hearing aid can help correct this type of hearing loss. Short term exposure to loud noise can also cause a temporary change in hearing (Your ears may feel stuffed up) or a ringing in your ears (Tinnitus). These short-term problems may go away within a few minutes or hours after leaving the noisy area, however, repeated exposures to loud noise can lead to permanent tinnitus and/or hearing loss.

What are the warning signs that your workplace may be too noisy?

Noise levels may be a problem if you experience any of the following:

- ✓ If you hear ringing or humming in your ears when you leave work.
- ✓ If you have to shout to be heard by a co-worker an arm's length away.
- ✓ If you experience temporary hearing loss when leaving work.

OSHA has set legal limits on noise exposure in the workplace. These limits are based on a worker's time weighted over an 8-hour day. With noise, OSHA's permissible exposure limit (PEL) is 90 dBA for all workers for an 8-hour day. The OSHA standard uses a 5 dBA exchange rate. This means that when noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half.

Example: OSHA allows 8 hours of exposure to 90 dbas but only 2 hours of exposure to 100 dBA sound levels.

What can be done to reduce hazard from noise?

Noise Controls are the first line of defense against excessive noise exposure. The use of these controls should aim to reduce the hazardous exposure to the point where the risk to hearing is eliminated or minimized. With the reduction of even a few decibels, the hazard to hearing is reduced, communication is improved, and noise-related annoyance is reduced. There are several ways to control and reduce worker exposure to noise in the workplace. Both engineering controls (*Modification or replacement of equipment or making physical changes at or around the noise source*) and administrative controls (*Changes in the workplace that reduce or limit worker exposure*) should be reviewed to minimize exposure to excessive noise.
Some of each of these types of controls are noted below:

- ✓ Chose low-noise tools and machinery. (*Engineering Control*)
- ✓ Maintain and lubricate machinery and equipment. (*Engineering Control*)
- ✓ Place a barrier between the noise source and the employees such as sound walls or curtains. (*Engineering Control*)

- ✓ Enclose or isolate the noise source. (*Engineering Control*)
- ✓ Operate noisy machinery during shifts when fewer people are exposed. (*Administrative Control*)
- ✓ Limit the amount of time a person spends at the noise source. (*Administrative Control*)
- ✓ Provide quiet areas where workers can gain relief from hazardous noise sources. (*Administrative Control*)
- ✓ Restrict worker presence to a suitable distance away from noisy equipment. (*Administrative Control*)

Hearing Protection Devices (HPD's)

Hearing protection devices (HPD's), such as earmuffs and plugs, are considered acceptable but are a less desirable option to control exposures to noise and are generally used during the time necessary to implement engineering or administrative controls, when such controls are not feasible, or when a worker's hearing tests indicate significant hearing damage.
If a threshold shift occurs, hear protection will be re-evaluated and/or refitted and a medical evaluation performed if necessary.

Hearing Conservation Program

An effective hearing conservation program must be implemented by employers in general industry whenever worker noise exposure is equal to or greater than 85 dBA over 8 working hours, or an 8-hour time-weighted average (TWA). This program should strive to prevent initial occupational hearing loss, preserve and protect remaining hearing, and equip workers with the knowledge and hearing protection devices necessary to protect them.
Key elements of an effective hearing conservation program include:

- ✓ Workplace noise sampling including personal noise monitoring which identifies which employees are at risk from hazardous levels of noise. These assessment documents will contain the certifier's name, signature, and date(s).
- ✓ Informing workers at risk from hazardous levels of noise exposure of the results of their noise monitoring.
- ✓ Providing affected workers or their authorized representatives with an opportunity to observe any noise measurements conducted.
- ✓ Maintaining a worker audiometric testing program (hearing tests) which is a professional evaluation of the health effects of noise upon individual worker's hearing.
- ✓ Implementing comprehensive hearing protection follow-up procedures for workers who show a loss of hearing (standard threshold shift) after completing baseline first, six months and yearly audiometric/audiogram testing. The audiogram test should be prior to 14 hours without expose to noise. All results of audiogram will be sent in writing within 21 days from date of test.

- ✓ Proper selection of hearing protection based upon individual fit and manufacturer's quality testing indicating the likely protection that they will provide to a properly trained wearer.
- ✓ Evaluate the hearing protector's attenuation and effectiveness for a specific workplace noise.
- ✓ Annual training and information that ensures the workers are aware of the hazard from excessive noise exposures and how to properly use the protective equipment that has been provided. Re-training will be provided in the event of PPE changes and/or work processes.
- ✓ Data management of and worker access to records regarding monitoring and noise sampling.

Each of these elements are critical to ensure that workers are being protected where noise levels are unable to be reduced below the OSHA required levels.

Requirements

Hearing protection will be worn when required by Noise Control Safety Orders and as the foreman of employee deems it necessary. Employees are encouraged to use hearing protection at any time they are exposed to loud noise and use is required when exposed to 50% dose, (85 dBA for 8-hour time weighted average.)

All PPE, including hearing protection will be supplied to employee(s) at no-cost and replaced as necessary. Employees shall be properly trained in the use, care, and fitting of the hearing protection they are issued. The protection offered should be suitable for the work environment, be comfortable to wear, and offer sufficient protection to prevent hearing loss. Company supplied PPE will be used as opposed to employee-owned equipment.

Recordkeeping

Employers must keep noise exposure measurement records for (2) two years and maintain records of audiometric test results for the duration of the affected employee's employment. Audiometric test records must include the employee's name and job classification, date, examiner's name, date of the last acoustic or exhaustive calibration, measurements of the background sound pressure levels in audiometric test rooms, and the employee's most recent noise exposure measurement.

ELEVATED WORK/FALL PROTECTION POLICY

Policy & Scope

It is the policy at Intech Mechanical to permit only employees trained and retrained in fall protection procedures to work in areas where fall hazards occur. Falls from elevations can be prevented with full commitment of our management team, superintendents, project managers, foremen, responsible crew leads, and every employee exposed to fall hazards. To reduce likelihood of fall accidents and to help ensure a safe workplace pre-planning of fall hazards associated with elevated work (6' - six feet or higher) is required. It is the responsibility of Qualified and Competent Persons, including Superintendents, Project Managers, Foremen, Department Supervisors or Responsible Crew Lead's to identify fall potentials and to identify a fall protection system, safe work plans and rescue plans/procedures, prior to each job and any employee exposure to falls from elevated work areas.

Elevated Work Pre-Task Planning

Work activities that expose worker(s) to fall hazards of (6') six feet or more, work on/around scaffolding, as well as overhead work requiring the worker to be (6') six feet or more above the work platform are activities defined by Intech Mechanical to be High Hazard and require pre-task planning. Fall protection strategies and employee training will be developed before employees are exposed and work tasks are initiated.

Fall Hazards Requiring Elimination, Prevention or Control

Unprotected Sides and Edges

Each employee working on a walking/working surface with an unprotected side of edge which is (6') six feet or more above lower levels will be protected by the use of guardrail systems or personal fall arrest systems.

Leading Edge Work

Each employee who is working within (6') six feet of the unprotected leading edge, (6') six feet or more above the lower levels will be protected by a guardrail system or personal fall arrest systems.

Hoist Areas

Each employee in a hoist area will be protected from falling (6') six feet or more to lower levels by guardrail systems or personal fall arrest systems. If guardrail system (or chain, gate, or guardrail) or partitions are removed to facilitate the hoisting operation (during landing of materials) and an employee must lean out over the edge of the opening, that employee will be protected by a personal fall arrest system.

Holes

Employees will be protected from falling through holes (including skylights) more than (6') six feet above the lower level by personal fall arrest system, covers, or guardrail systems erected around such holes. Hole covers shall be capable of safety supporting the greater of the weight of a 400-pound person or the weight of workers and materials placed thereon. Covers shall be secured to prevent accidental displacement. "Opening – Do Not Remove" will be painted or stenciled with legible letters, not less than one inch high.

Ramps, runways, gang ways, cat walks and other walkways

Employees on ramps, runways, gang ways, cat walks and other walkways will be protected from falling (6') six feet or more to lower levels by guardrail systems.

Wall Openings

Wall openings from which there is a drop of more than (4') four feet and the bottom of the opening is less than (3') three feet above the working surface will be guarded by a standard rail and intermediate rail. Toe boards will be installed if the bottom opening is less than (4") four inches above the working surface.

Protection from Falling Objects

Toe boards, screens, or guardrail systems will be erected to prevent objects from falling from elevated levels.
Potential fall areas will be barricaded and other means will be taken to prevent falling objects from falling from the edge of the elevated level.

Dangerous Equipment

If employees are required to work over dangerous equipment and be exposed to a fall hazard, then the employee will be protected at all times.

Warning Line System

A barrier erected on a roof to warn employees of an unprotected edge must be a minimum of (6') six feet back.

Definitions

Anchorage

The point at which all systems are attached/secured. All anchorage for fall arrest systems will be able to support at least 5000 pounds per employee attached.

Leading Edges

The edge of a work surface that may change as material is installed.

Unprotected Sides and Edges

Any walking or working surface with an unprotected side or edge which is (6') six feet or more above a lower level.

Low Slope Roof

A slope less than or equal to 4:12 (V to H).

ELEVATED WORK/FALL PROTECTION POLICY

Duty to have Fall Protection

Intech Mechanical will ensure workers are protected from the hazard of falls whenever work is being completed at heights of (6') six feet or greater measured from the lower level to the sole of the work boot. The (6') six-foot rule, at minimum, applies to the following conditions:

- ✓ Ladders - When performing work and 3-points of contact cannot be maintained.
- ✓ Walking and Working Surfaces
- ✓ Unprotected Sides and Edges
- ✓ Hoist Areas
- ✓ Protecting Ladder Ways to lower elevations (offsets or gates)
- ✓ Floor, Wall, and Roof Openings, / Holes
- ✓ Ramps, Runways, and other Walkways
- ✓ Excavation and Trenching
- ✓ When working over dangerous or large pieces of equipment.
- ✓ Wall Openings
- ✓ Floor Openings
- ✓ Leading Edges
- ✓ Scaffolding Erection/Dismantling
- ✓ Any additional circumstance that may be deemed necessary by Intech Mechanical.

Suitable Fall Protection Systems

Where potential fall hazards of (6') six feet or more exists, a suitable fall protection system will be provided to protect the worker.
Suitable systems may include:

- ✓ Guardrail Systems
- ✓ Warning Line Systems
- ✓ Safety Net Systems
- ✓ Fall Restraint Systems
- ✓ Positioning Device Systems

- ✓ Personal Fall Arrest Systems
- ✓ Controlled Access Zones, with monitors

Falling Object Protection Systems

Where potential hazards from falling objects exist, suitable systems will be provided to protect workers. Materials, equipment, debris, etc. with the potential to fall from an upper level should be stored or staged a minimum of (6') six feet from any edge, unless secured from movement.
Examples of suitable falling object protection systems include the following:

- ✓ Covers
- ✓ Toe boards
- ✓ Canopies
- ✓ Screens
- ✓ Nets
- ✓ Tool Lanyards

Controlled Access Zones

A controlled access zone is considered an area in which designated work may take place without the use of guardrail systems, personal fall protection systems or safety net systems and access to the work zone is controlled.

Use of controlled access zones is considered least desirable for providing fall protection safeguards for exposed persons at elevated heights. The use of a controlled access zone will occur only when all other means are demonstrated to be infeasible. In this case a written fall protection plan will be developed and will address the work to be performed.

When controlled access zone is used, the following guidelines will apply:

- ✓ The controlled access zone will be identified by a control line or by any other means that restricts access to only trained and assigned persons.
- ✓ The controlled access zone will be clearly identified using appropriate signage, detailing name of the company, contact person, and contact number.
- ✓ Control lines will be erected not less than (6') six feet nor more than (25') twenty-five feet from the unprotected or leading edge.
- ✓ The control line should extend along the entire length of the unprotected or leading edge and should be approximately parallel to the unprotected or leading edge.

- ✓ The control line should be connected on each side to a standard railing or wall, or securely anchored on each end, and should enclose all workers performing work in the designated area.

- ✓ Control lines should consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:

    - Each line shall be flagged or otherwise clearly marked at not more than (6') six foot intervals with high-visibility material.

    - Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than (39") thirty-nine inches from the walking/working surface and its highest point is not more than (45") forty-five inches from the walking/working surface.

    - Each line shall have a minimum breaking strength of 200 pounds.

Safety Monitoring Systems

Use of a safety monitoring system is not recognized as an effective means of ensuring the safety of persons at elevated heights and should only be used when all other means have been demonstrated to be infeasible. When this occurs, a qualified person will develop our written fall protection plan and it will clearly address the actual work to be performed and state the reasons why conventional fall protection cannot be used. The written plan will be developed and reviewed before any work begins.

A designated and competent person will be assigned to monitor the safety of employees.
This person/monitor will be clearly identified from other workers, using high visibility vest, different colored hard hat or using other system for clear identification. This competent person will be in the immediate work area and:

- ✓ Be trained and competent to recognize fall hazards.

- ✓ Warn the employee(s) when it appears that the employee(s) is unaware of a fall hazard or is acting in an unsafe manner.

- ✓ Be within visual sighting distance of the employee(s) at all times and will always be in immediate communication with the employees being monitored.

- ✓ Have no other responsibilities that will take the monitor's attention from the monitoring function.

- ✓ The safety monitor should be on the same walking/working surface (same roof level).

Personal Fall Arrest Systems

Personal fall arrest systems are designed to control the fall of a worker and minimize injury once a worker has fallen into his system. Personal fall arrest systems consist of the following components:

- ✓ Full Body Harness (Body Wear)
- ✓ Shock Absorbing or Retractable Lanyard (Connecting Device)
- ✓ Tie-Off Point (Anchorage)
- ✓ Training

Fall Protection Specific Requirements

Use of full Body Harness is the only acceptable means of personal fall arrest system permitted or allowed for used by our employees.

The use of body belts for other than fall restraint is not an acceptable component of fall suppression or positioning systems.

Retractable lanyards or "yo-yo's" are the preferred component for personal fall restraint systems.

Intech responsible and competent persons are responsible for assuring appropriate fall protection is in use, including requiring the use of guard rails, or personal fall protection systems that utilize body harnesses, appropriate anchor systems, lifelines and lanyards when workers are exposed to a fall of (6') six feet or greater.

Lanyards should be secured to employee's body harness between the should blades. This shall stop an employee and limit the free-fall traveling distance to (2') two feet. Lanyard should have sufficient strength to hold twice the impact energy of the employee falling distance of (5') five feet or permitted distant by the system.

All components of our personal fall protection systems will be provided at no cost when fall protection is required.

All lanyards will be equipped with double action locking snap hooks. The use of non-locking snap hooks is prohibited (per amendments dated January 1, 1998).

Appropriate shock absorbing lanyards will be used for fall suppression systems and when they do not create a greater hazard due to the length of the potential fall. When obstructions or short distances are contemplated, methods other than fall suppression will be considered and used.

Shock absorbing lanyards are not to be used in combination with a retractable lanyard.

Any safety harness, lifeline or lanyard actually subjected to in-service loading will be immediately removed from service and not reused.

Fall arrest equipment will be removed from service when evidence of wear is detected.

All safety harnesses, lifelines and lanyards will have a nominal breaking strength of 5,000 lbs.

The anchorage (tie off point) will be capable of supporting a minimum 5,000 lbs.

Anchorage used for attachment of personal fall arrest equipment will be secured above the point of operation whenever possible.

Fall arrest systems will be selected with consideration to fall distances, location of anchor points and obstruction in the fall path, to assure adequate distance for deployment, and so that no worker will strike any lower level surface or object, should a fall occur.
All fall protection equipment will be inspected daily, before each use, and every 6-months until the service life is met. Inspection documentation will be maintained. Any components deemed defective will be removed from service. **The Fall Protection Inspection Log template can be found at the back of this manual.**

Perimeter cables shall not be used as anchor points for personal fall protection systems.

When body harness is used a maximum arresting force on employee is 1,800 pounds.

Rescue Plans

Specific plans for prompt rescue of workers who fall into their system will be developed and in place before employees are exposed to fall hazards. The rescue plan will include use of ladders, aerial platforms, forklift with personnel platform or self-rescue apparatus. Prompt rescue will be a priority.

In the event of a fall, the following people will be notified as soon as possible:

- ✓ Rescue Personnel (Superintendent, Foreman, Crew Lead, other).
- ✓ Safety, Security, Emergency Responders such as Fire Department or Emergency Medical Services if necessary.

At the beginning of any work activity where fall protection is an issue, rescue plans will be identified and discussed with all affected employees before exposure occurs. Equipment will be inspected before each use.

Any employee involved in a fall arrest will be sent for a medical evaluation to determine extent of injuries, if any.

Floor and Wall Opening Definitions

Wall opening is defined as a gap or void (30") thirty inches or higher and (18") eighteen inches or more in width in a wall or partition in which an employee could fall to a lower level.

Floor opening is defined as a gap or hole (2") two inches or larger in a floor, roof or other walking/working surface.

Openings 12" X 12" or larger will be protected by guardrails or hole covers.

Protection of floor and wall openings, and guardrails systems will be maintained at all times. Any violation that is not corrected immediately will result in removal of the responsible supervisor.

Hole Covers

All floor openings must be protected by a cover or suitable guardrail system. Where there is a danger of workers or materials falling through floor, roof, perimeter edges or wall openings, such openings should be:

- ✓ Covered and protected
- ✓ Anchored or otherwise secured to prevent unintended movement
- ✓ Capable of supporting at least 400 lbs. or twice the maximum intended load, (workers, equipment, materials)
- ✓ Marked with a warning sign (e.g., DANGER HOLE, DO NOT REMOVE) in letters that are no less than 1" high.
- ✓ Hole Covers must have non- slip finish applied.

Guardrail Systems

A standard guardrail should consist of a top rail, intermediate/mid-rail, toe board and posts. Components of a guardrail system may consist of 2-inch by 4-inch stock, 3/8-inch double clamped wire rope, or its equivalent. Guardrail components must meet the following minimum requirements:

Top Rails should be:

- ✓ 42" and 45" from the upper surface of the rail to the floor, platform, or ramp level.
- ✓ Secured to withstand a 200-pound, horizontal force with maximum of 3" deflection.
- ✓ Have a smooth surface throughout its length.
- ✓ Wire rope top rails should be flagged with high visibility flagging at 6' intervals.

Mid-Rails should be:

- ✓ 21 inches, or halfway between the top rail and the floor, runway, platform, or ramp.
- ✓ Secured to withstand a 150-pound, horizontal force with maximum 3" deflection.
- ✓ The ends of the rail should not overhang the terminal posts except when it does not constitute a projection hazard.

Toe Boards should:

- ✓ Have a 4-inch nominal, minimum height.
- ✓ Be securely fastened in place.

- ✓ Be no more than 1/4-inch clearance above the floor level.

Posts:

- ✓ Wooden railing posts (vertical) should be made of at least 2-inch by 4-inch stock or its equivalent.

- ✓ Should be spaced so as not to exceed 8 feet on center.

Guardrail, Floor, or Wall Opening Protection Removal

The opening of guardrails or the removal of protective covers requires written, detailed pre-task planning by responsible persons on the site or competent Crew Lead and will include:

- ✓ Alternate means of fall protection if required to safely perform the work.

- ✓ Means and methods to protect other workers in the vicinity of the fall exposure.
  Note: Those who remove guardrails or protective covers are responsible for replacement per Cal OSHA standards. Prior Authorization is required before removal takes place and other all protection systems must be present.

Safety Nets

Safety Nets will be used when other methods have been considered and determined to be infeasible. Should safety nets be utilized, they will comply with Cal OSHA 1671, and CFR 1926.502 requirements. The following guidelines for Safety Nets will be followed:

- ✓ Safety nets will be used when work occurs at more than (25') twenty-five feet above the ground or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines or safety harnesses are impractical.

- ✓ When safety net protection is required, operations will not be undertaken until the net is in place and has been thoroughly tested.

- ✓ Safety nets will extend (8') eight feet beyond the edge of the work surfaces where workers are exposed and should be installed as close under the work surface as practical; in no case should the safety net be more than (25') twenty-five feet below the work surface.

- ✓ Nets will be hung with sufficient clearance to prevent the user's contact with surfaces or structures below; clearances should be determined by impact load testing.

- ✓ The mesh size of the nets should not exceed (6") six inches by (6") six inches.

- ✓ Edge ropes will have a minimum breaking strength of 5,000 pounds.

- ✓ Forged steel safety hooks or shackles should be used to fasten the net to its supports Connections between net panels should develop the full strength of the net.

- ✓ All nets will be purchased and will meet the requirements of ANSI A10.11-1989.

Fall Protection Training

Employees will be provided with appropriate training and re-training by a competent person before being exposed to any condition where fall exposure exists. Re-training shall take place when changes in Fall Protection procedures have changed or when protective equipment is modified. All training/re-training will be documented and include:

- ✓ The signature of who provided the training.

- ✓ Date and location that the training was completed.

This training will include:

- ✓ The nature of the fall hazards in the work area.

- ✓ The correct procedure for erecting, maintaining, disassembling and inspecting the fall protection systems to be used (the installation of personal fall protection systems cannot in themselves create a fall hazard exposure to the worker installing the system).

- ✓ The use and operations of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems (refer to section on Safety Monitoring of this Appendix); controlled access zones and any other methods of protection to be used.

- ✓ The role of each worker in the safety monitoring system (refer to the section on Safety Monitoring of this Appendix) when this system is approved for use.

- ✓ The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs.

- ✓ The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.

- ✓ The role of workers in fall protection plans.

- ✓ Emergency response and rescue / self-rescue

Accident Investigation

Intech's Safety Manager will be notified immediately of any falls, near misses or other serious incidents for an investigation to take place. Investigations will include evaluation of incident, fall protection training, practices and procedures for modifications to procedures and fall protection policies.

Scaffolding

Makeshift platforms are never to be used. Each task should be carefully planned to assure that appropriate scaffolding is used where required, up to and including non-standard and engineered scaffolding. At a minimum, all scaffolding will conform to the applicable Cal OSHA regulations.

General Scaffold Requirements

Scaffolds, including two-point suspension swinging scaffolds, shall be designed, built and inspected by competent persons. A competent person prior to start of work/shift each day or before any shift where employees will access the scaffolding will inspect scaffolds.

All employees whom erect, disassemble, move, operate, repair, maintain, or inspect scaffolds must be trained by a competent person. Training will include the nature of the hazards, such as falling objects, use and load capacity, electrical safety, and use of fall protection. Also including the correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in use.

At no time may any person alter or modify a scaffold for any purpose. Employees working on swinging scaffolds should be protected by safety harnesses, lanyards and independent lifelines securely attached to the building above the level of the work platform. Lifelines must be an independent system from the lines securing the scaffolding and secured separately. Ladders, boxes, blocks or other items may not be used on a scaffold platform to gain height.

Intech will retrain any employee where potential hazardous changes occur at the worksite. This will include any changes to the fall protection plan, potential for falling objects, any scaffolding changes, and any other potential equipment hazards. Employees whom are deemed inadequate to work on scaffolds will be re-trained, or whom have been previously trained.

Scaffolding that determined to be defective or unsafe must be documented and tagged by the competent person on the jobsite. Once equipment is tagged notify Intech's Safety Manager to have equipment removed or repaired immediately.

Additional Requirements for Scaffold include:

Scaffolds will be provided with all of the proper structural components, be capable of supporting 4 times the maximum intended load, and will be erected on sound, rigid footing capable of carrying the maximum intended load without settling or displacement.

Load limits should be verified and communicated for areas designated for material loading/storage.

Guardrails will be installed on all open sides and ends of platforms more than (6') six feet above ground or floor and toe boards will be installed on ends and sides where employees working below are exposed to falling materials, debris, tools or equipment.

Planking will be Scaffold Grade or equivalent, as recognized by approved grading rules for the species of wood used.

Each platform on all working levels must be fully planked or decked.

Scaffold planks will extend over end-supports not less than (6″) six inches and not more than (12″) twelve inches.

Scaffold planks will be secured from displacement.

Scaffolding and accessories with defective parts will be immediately replaced or repaired.

Scaffolds will be secured as per local, state and federal regulations.

The front edge of all scaffold platforms shall not be more than (14″) fourteen inches from the face of the work (18″ for plastering and lathing operations), unless guardrail systems and/or personal fall arrest systems are utilized.

Scaffolding erection crews will be trained by a competent person.

Fall protection is required for employees erecting or dismantling scaffolds, unless determined by the designated competent person to be infeasible or will create a greater hazard;
Additionally, a written fall protection plan should be developed with consideration to the sequencing of scaffold erection and dismantling and to address the actual work to be performed.

Training will be provided to all individuals working from a scaffold.

For scaffolds greater than (24′) twenty-four feet in height:

- ✓ Access to the scaffold should consist of internal access systems, a stair tower or platform ladders, as last option exterior ladders.
- ✓ At no time will an employee climb cross bracing on the exterior of a scaffold.

Mobile Rolling Scaffolds

The use of mobile rolling scaffolds will be in accordance with manufacturer's requirements as well as State and federal regulations.
In addition, the following guidelines will apply:

- ✓ The rolling scaffold must be inspected before each use each day by competent person. Documentation should indicate daily inspections occurred prior to access and use by workers.
- ✓ Rolling scaffold will be constructed so that minimum dimension of the base is no less than 1/3 the height.
- ✓ Rolling scaffolds should be used on solid, flat floor surfaces.
- ✓ The maximum load limit of the scaffold should always be verified prior to use.
- ✓ Safety Rails are required on Mobile Rolling Scaffolds. If safety rails are not feasible, some other type of fall protection must be identified and will be used.
- ✓ Platforms must be fully planked with no gaps greater than 1 inch.

- ✓ Mobile rolling scaffolds, regardless of height, should have their wheels appropriately locked or otherwise secured from incidental movement while work activities are being performed. All four caster wheels must be equipped with suitable locking devices which should be locked at all times while work is being performed from the scaffold.

- ✓ Riding a scaffold when pushed by others is permitted as long as:

    - Floor surface is within 3 degrees and free from pits, holes, or obstructions.

    - The minimum dimension of the scaffold base, when ready for rolling, is at least 1/2 of the height. Outriggers, if used, shall be installed on both sides of staging.

    - The wheels are equipped with rubber or similar resilient tires. For towers 50 feet or over, metal wheels may be used.

    - The manual force used to move the scaffold shall be applied as close to the base as practicable, but not more than (5') five feet (1.5 meters) above the supporting surface of the scaffold.

    - Before a scaffold is moved, each employee on the scaffold shall be made aware of the move.

    - No employee will be on any part of the scaffold, which extends outward beyond the wheels, casters, or other supports.

Riding on a Self-Propelled Scaffold. One employee may ride on and move a rolling scaffold while on the platform without assistance from others below provided the following conditions are also met:

- ✓ The scaffold platform will not be more than (4') four feet above the floor level.

- ✓ The working platform will be no less than 20 inches in width with a maximum 1-inch space between platform planks.

- ✓ Wheels or casters of rolling scaffolds will be provided with an effective locking device that is used to prevent movement of the scaffold when workers are climbing.

- ✓ The use of power systems such as motor vehicles, add-on motors, or battery powered equipment to propel a rolling scaffold is prohibited.

Training

- ✓ Employees who ride on rolling scaffolds and employees that assist in moving employees riding on a rolling scaffold shall be trained in accordance with the requirements of this Section and with the requirements of the Construction Safety Orders, Section 1509 to recognize the hazards associated with riding on a rolling scaffold.

- ✓ All components of the scaffold must be compatible and securely fastened to prevent uplift.

- ✓ When outriggers are required (stacking of two sections), they must be installed on both sides of the scaffold, or per manufacturer's requirements.

- ✓ Stacking of more than 2 sections of rolling scaffold requires additional training.

Aerial/Boom Lifts

Lifts should be inspected each day prior to use to verify they are in safe working condition. Manufacturer's inspection guidelines should be followed. **The Daily Equipment Inspection Form located at the end of this manual should be used.**

Modifications to Aerial Lifts must have written approval prior to modifications and must be inspected by manufacturer or equivalent entity prior to use.

Only authorized persons should operate an aerial lift and must be trained on the equipment they will be operating.

Always stand on the floor of the basket. Never sit or climb on the edge of the basket or use planks, ladders, or other devices for a higher work position.

A body harness must be worn and a shock absorbing lanyard shall be attached to the boom, basket or factory designated anchor point when working from an aerial lift.
Tying off to an adjacent pole, structure or equipment is not permitted.

Boom and basket load limits specified by the manufacture should not be exceeded.

The brakes should be locked and when outriggers are used, they should be positioned on pads or a solid surface; wheel chocks must be used before using an aerial lift on an incline, provided they can be safely installed.

An Aerial Lift Truck should not be moved when the boom is elevated with personnel in the basket.

No employees shall use the Aerial Lift in reverse unless:

- ✓ The lift has a reverse signal alarm audible above surrounding noise levels or;

- ✓ The lift is reversed when observer signals that it is safe to do so.

Aerial Lifts should have both platform (upper) and lower controls, and upper controls should be in or beside the platform within easy reach of the operator. In addition:

- ✓ Lower controls should be capable of overriding the upper controls.

- ✓ All controls should be plainly marked as to their function.

- ✓ Lower level controls should not be operated unless permission has been obtained from the employee in the lift except in case of emergency.

Aerial Lifts must be thoroughly inspected to determine if they require two hands or a hand and a foot to operate. Any lift that does not meet these conditions must immediately be removed from service and either be returned, replaced, or modified to meet this requirement.

A spotter must be used when there is a potential for operator injury or potential for damage due to physical contact with facility systems or structures.

In congested areas, spotters must also be used when there is a potential for damage to sensitive facility systems or structures.

It will be the responsibility of all Intech subcontractors to ensure all lift activities are safely performed by trained operators and within the parameters and limitations specified in manufacturer's operating manual.

Special consideration should be given to adverse weather conditions when operating any aerial lift equipment.

Aerial Lifts shall maintain a clearance of at least (10') ten feet away from the overhead lines or any conductive object that can be contacted. Always treat overhead lines as energized even if they are down or appear to be insulated.

Scissor Lifts

Scissor Lifts are to be inspected each day prior to use to determine that they are in safe working condition. Scissor/Boom Lift Inspection guidelines from the manufacturer should be followed. **The Daily Equipment Inspection Form located at the end of this manual should be used.**

Only authorized persons should operate a scissor lift and must be trained on the equipment they will be operating.

Lifts will be operated in accordance with manufacturer's recommendations.

Always stand on the floor of the basket. Never sit or climb on the edge of the basket or use planks, ladders, or other devices for a higher work position.

Basket load limits specified by the manufacture should not be exceeded.

A spotter must be used when there is a potential for operator injury due to physical contact with facility systems or structures.

Spotters must also be used in congested areas when there is a potential for damage to sensitive facility systems or structures.

Stop blocks or other means will be used to protect the scissor lift from rolling over open holes, floor edges, and other drop offs.

It will be the responsibility of all Intech subcontractors to ensure all lift activities are safely performed by trained operators and within the parameters and limitations specified in manufacturer's operating manual.

Stairways

Our employees are expected to have safe access to work areas during all phases of construction. During construction, stairs should be provided on all structures of two or more floors and for structures more than (20') twenty feet in height.

Permanent steel stairways having hollow pan type treads and landings will only be used when the filler blocks are properly installed, pans have been completely filled to the level of the nosing, or concrete has been placed.

Temporary stairs should have a landing not less than (30") thirty inches wide, in the direction of travel, for every (12') twelve feet of vertical rise.
Additionally, landings with wooden treads for temporary service should be the full width of the opening.

Stairway placement is expected to follow, as soon as practical, placement of the upper floor deck.
All parts of stairways should be free of hazardous projections.

Debris and other loose materials should not be allowed to accumulate on stairways and if debris is noted, written notification will be made to the responsible or general contractor.

The construction of stair railings is expected to be similar to that of standard railing: vertical height, however, should not be more than (38") thirty-seven inches or less than (34") thirty-six from the top rail to the surface of the tread in line with the face of the riser at the forward edge of the riser.

All handrails should be provided with a clearance of approximately (3") three inches between the handrail and any other surfaces or objects.

Riser height and tread width should be uniform throughout any flight of stairs.

Flights of stairs having four or more risers or rise more than (30") thirty inches, whichever is less, should be equipped with standard stair railings or handrails as specified below:

Stairways less than (44") forty-four inches wide with one side open must have at least one stair railing on the open side. Stairways less than 44" forty-four inches wide having both sides open must have one stair railing on each side.

Stairways more than (44") forty-four inches wide but less than (88") eighty-eight inches wide must have one handrail on each enclosed side and one stair railing on each open side

Ladders

Employees using ladders will be properly trained in proper selection, ladder inspections, safe use, and appropriate safety rules.

General Ladder Requirements

The following guidelines apply to work on all types of ladders:

- ✓ Ladders must always be used in accordance with manufacturer's recommendations.
- ✓ Ladders will be inspected daily and before each use by a competent person. Those with broken or missing rungs, broken or split side rails, or otherwise damaged, shall not be used.
- ✓ Always ensure steps are free of oil, grease, and other slipping hazards.
- ✓ Ladders shall not be loaded beyond the maximum intended load for which they were designed nor beyond manufacturer's rated capacity. This includes the user and equipment.
- ✓ All portable ladders should be equipped with non-skid safety feet and should be placed on a stable base
- ✓ Ladders placed in areas such as passageways, doorways, or driveways and where they could be displaced by workplace activities or traffic, must be secured to prevent accidental movement. A barricade should also be used to keep traffic and activities away from the ladder.
- ✓ Ladders should not be moved, shifted, or extended while in use. "Walking" ladders is prohibited.
- ✓ The access areas at the top and bottom of ladders in use should be kept clear.
- ✓ The top two rungs/steps of any ladder shall not be used as a point to work from at any time.
- ✓ All work performed on any ladder must be conducted facing in towards the center point
- ✓ Only Type 1, 1A and 1AA fiberglass ladders that comply with the ANSI requirements will be permitted on site. Wooden and metal ladders are not permitted.

Climbing and Working on Ladders.

The employee will climb or work with the body near the middle of the step or rung and shall not overreach from this position. When necessary to avoid overreaching, the employee shall descend and reposition the ladder. When it is not practical to work with the body near the middle of the step or rung, the ladder shall be secured to the top support, and the employee shall be protected by a personal fall protection system.

Employees are prohibited from carrying equipment or materials that could prevent the safe use of a ladder.

When ascending or descending a ladder, the user will face the ladder and maintain contact with the ladder at three-points at all times.

Contact with the ladder at three points means two feet and one hand, or two hands and one foot, which is safely supporting the user's weight.

An employee shall not be permitted to stand and work on the top 3 rungs of a single or extension ladder unless there are members of the structure that provide a firm hand-hold or the employee is protected by a personal fall protection system.

Employees shall not stand on the top cap or the step below the top cap of a step ladder.

Cross-bracing on the rear section of step ladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.

Ladders shall not be moved, shifted, or extended while occupied, unless the ladder is designed and recommended for this purpose by the manufacturer.

Step Ladders

For work being performed from a step ladder (A frame), fall protection will be required at elevations of (6') six feet or greater. Use of platform ladders will be considered when possible.

All work performed using an A-frame ladder shall be on a level surface with the ladder fully opened.

Workers must be facing the ladder for all work performed using a step ladder.
The belt buckle rule applies (i.e., employee's body always stays between vertical rails). Never reach past the vertical rails.

Manufacturer's recommendations for proper use must always be followed.

Extension Ladders

Extension Ladders should be used to gain access from one elevation to another. In the event an employee must use an extension ladder to perform work the following guidelines apply:

- ✓ Extension Ladders should be used at an angle where the horizontal distance from the top support to the foot of the ladder is approximately ¼ of the working length of the ladder.
- ✓ The side rails must extend (36") thirty-six inches above the landing. When this is not practical, grab rails will be installed.
- ✓ For work being performed from an extension ladder, fall protection will be required at elevations of (6') six feet or greater.
- ✓ Ladders should be secured to prevent slipping.
- ✓ The top must be placed with two rails supported equally unless the ladder is equipped with a single support attachment.

- ✓ The worker must face the ladder while ascending or descending and while conducting work activities.
- ✓ Employees must always maintain three points of contact and workers must use at least one hand to grasp the ladder when moving up or down the ladder.
- ✓ Worker must not carry any object or load that could cause the loss of balance or cause a fall.
- ✓ The employee's belt buckle must always stay between the vertical rails of the ladder.

Job-Made Ladders

Job-made ladders will be constructed for intended use. Job-made ladders will be fabricated and used in compliance with Cal-OSHA, regulations. Job made ladders will be used only when all other methods cannot be used.

Stairway & Ladder Training

Training will be provided for all employees that will be using ladders and stairways. Training will enable each employee to recognize the hazards related to ladders and stairways and the procedures to be followed to minimize such hazards. Re-training will be provided as necessary to assure employee competency.

The training will address the following topics that apply to the workplace:

- ✓ Importance of using ladders safely, including: frequency and severity of injuries related to falls from ladders.
- ✓ Selection, including: types of ladders, proper length, maximum working loads, and associated potential electrical hazards.
- ✓ Maintenance, inspection, and removal of damaged ladders from service.
- ✓ Erecting ladders, including: footing support, top support, securing, and angle of inclination (4:1)
- ✓ Climbing and working on ladders, including: user's position and points of contact with the ladder.
- ✓ Factors contributing to falls, including: haste, sudden movement, lack of attention, footwear, and user's physical condition.
- ✓ Prohibited uses, including: uses other than designed, climbing on cross bracing, maximum lengths, and minimum overlap of extension ladder sections.

Ladders Last Policy Statement for Specific Projects and General Contractors

Certain projects and/or general contractors prohibit the use of ladders unless it is determined that a ladder is the only means of performing the job at elevated height in which case a ladder permit must be submitted prior to starting work. At no time will a ladder be onsite without a current permit and safety checklist.

Ladder use on these projects will be allowed only when it has been determined that it is unfeasible to use all other options to complete a task.

Use of job-built ladders is prohibited on these projects as well. Temporary stair towers or prefabricated stairs shall be used to access different building levels.

These rules will apply over those written earlier in this program on projects or for work performed for general contractors with these policies in place.

HEAT ILLNESS PREVENTION PROGRAM

Objective

This Heat Illness Prevention Plan outlines our procedures to minimize and control heat illness hazards and comply with Cal/OSHA regulations (T8CCR3395.) This Heat Illness Prevention Plan will add to our Injury and Illness Prevention Program (IIPP.) Risk Factors will be considered daily by referring to weather reports with special attention during the months of May through September, to determine when this Heat Illness Prevention Policies and Procedures will be initiated.

Employees will have access to potable water at the beginning of the work shift. Shade will be available or be erected when temperatures reach or exceed 80° F. Additional communication will be initiated between the crew and responsible Foremen, Department Supervisor, Responsible Crew Leads when high heat conditions (heat at or above 80° F and heat wave, above average temperatures for several days in a row) exist.

Procedures for Compliance

Responsibilities:

Program Administrators, Foremen, Department Supervisor, Responsible Crew Lead have primary responsibility for the implementation of the Heat Illness Prevention plan in their work area. They are ultimately responsible for the safety of their employees. In this effort, responsibilities include:

- ✓ Make sure all employees on their crews have received heat illness prevention training.
- ✓ Make sure employees are reminded throughout the work shift to drink plenty of water and to take cool-down rests when necessary.
- ✓ Know the medical plan for the jobsite including method to contact emergency medical service (EMS), alternative method to transport an employee, (usually a vehicle on the jobsite)
- ✓ Check weather and plan work to avoid the hottest periods of the day, as feasible.
- ✓ Make sure adequate supplies of pure, suitably cool water are on site and located as close as practicable to areas where employees are working.
- ✓ Allowing employees to refill water containers as needed.
- ✓ Have shade available or erect shade shelters as close as practicable to the areas where employees are working when temperatures reach 80° F or more. The amount of shade present shall be at least enough to accommodate all employees on the shift for recovery or rest periods. Employees must be able to sit in a normal posture fully in the shade without having to be in physical contact with each other.
- ✓ Allowing and encouraging employees to take a preventative cool-down rest in the shade when they feel they need to do so to protect themselves from overheating.
- ✓ Ensure employees take a minimum 10-minute cool down period every (2) two hours when temperatures reach 95° F or above.

- ✓ Monitor employees for signs of heat illness and keeping a watchful eye on rest areas, Monitor more frequently during high heat, over 95° F and during heat wave conditions.

Employees

- ✓ Attend heat illness prevention training
- ✓ Follow instructions and directions of Supervisors
- ✓ Monitor themselves and fellow employees for signs and symptoms of heat illness
- ✓ Tell supervisors about any heat illnesses among other employees
- ✓ Ask supervisors if there are any questions about heat illness or safety on the job

Water and Fluid Replacement

Employees shall have access to potable drinking water. Where water is not plumbed or otherwise continuously supplied at the job or work site, it will be provided. It will be provided in sufficient quantity, at the beginning of the work shift, to provide (1) one quart or more per employee per hour for drinking for the entire work shift. If necessary, refill of drinking water containers will be done as needed to allow employees to drink the recommended one quart or more per hour. It will be the Foreman's responsibility to check the water supply and make sure that it remains adequate for the crew. It is our goal to keep drinking water at an ideal temperature of 50°F to 60°F. For remote outdoor work locations this will be accomplished by providing a cooler of chilled water and drinking cups, or bottled water or other thirst-quenching liquids that the employees can transport with them to the location. Where it exists, plumbed water will be considered to provide a sufficient supply of water. Employees will be encouraged to drink water before they get thirsty and when weather forecast is for high heat and heat wave conditions employees will be encouraged to drink water, initiating hydration processes at the start of the shift, before it gets hot.

High Heat Procedures (include but are not limited to)

High Heat Procedures are additional preventive measures that this company will use when the daily temperature equals or exceeds 95 degrees Fahrenheit and at least 10 degrees Fahrenheit higher than the average high daily temperature in the proceeding five day.

- ✓ Effective communication by voice, observation, or electronic means will be maintained, so that employees at the worksite can contact a supervisor when necessary. If the supervisor is unable to be near the workers (to observe them or communicate with them), then an electronic device, such as a cell phone or text messaging device, may be used for this purpose if reception in the area is reliable.
- ✓ Frequent communication will be maintained with employees working by themselves or in smaller groups (keep tabs on them via phone or two-way radio), to be on the lookout for possible symptoms of heat illness.

- ✓ Employees will be observed for alertness and signs and symptoms of heat illness. When the supervisor is not available, an alternate responsible person may be assigned to look for signs and symptoms of heat illness. Such a designated observer will be trained and know what steps to take if heat illness occurs.

- ✓ Employees will be reminded throughout the work shift to drink plenty of water.

- ✓ New employees will be closely supervised or assign a "buddy" or more experienced coworker for the first 14 days of the employment (unless the employee indicates at the time of hire that he or she has been doing similar outdoor work for at least 10 of the past 30 days for four or more hours per day).

Procedures for Acclimatization (include but are not limited to)

Acclimatization is the temporary and gradual physiological change in the body that occurs when the environmentally induced heat load to which the body is accustomed is significantly and suddenly exceeded by sudden environmental changes. In more common terms, the body needs time to adapt when temperatures rise suddenly, and an employee risks heat illness by not taking it easy when a heat wave strikes or when starting a new job that exposes the employee to heat to which the employee's body hasn't yet adjusted.

Inadequate acclimatization can be significantly more perilous in conditions of high heat and physical stress. Employers are responsible for the working conditions of their employees, and they must act effectively when conditions result in sudden exposure to heat their employees are not used to.

- ✓ The weather will be monitored daily. The supervisor will be on the lookout for sudden heat wave(s) or increases in temperatures to which employees haven't been exposed to for several weeks or longer.

- ✓ During a heat wave or heat spike, the work day will be cut short (example 12 p.m.), will be rescheduled (example conducted at night or during cooler hours) or if possible, cease for the day.

- ✓ For new employees, the intensity of the work will be lessened during a two-week break-in period (such as scheduling slower paced, less physically demanding work during the hot parts of the day and the heaviest work activities during the cooler parts of the day (early-morning or evening). Steps taken to lessen the intensity of the workload for new employees will be documented.

- ✓ The supervisor will be extra-vigilant with new employees and stay alert to the presence of heat related symptoms.

- ✓ New employees will be assigned a "buddy" or experienced coworker to watch each other closely for discomfort or symptoms of heat illness.

- ✓ During a heat wave, all employees will be observed closely (or maintain frequent communication via phone or radio), to be on the lookout for possible symptoms of heat illness.

- ✓ Employees and supervisors will be trained on the importance of acclimatization, how it is developed and how these company procedures address it.

HEAT ILLNESS PREVENTION PROGRAM

Shade

"Shade" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. Sun blockage is considered adequate when objects under the shade do not project a shadow. Shade is considered not adequate when heat in the area of shade defeats the purpose of the shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it unless the car is running with the air conditioning.

The amount of shade present shall be at least enough to accommodate all employees on the shift for recovery or rest periods. Employees must be able to sit in a normal posture fully in the shade without having to be in physical contact with each other.

Access to Shade

Employees suffering from heat illness or believing a preventative recovery period is needed shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times.

Emergency Response Procedures

Emergency medical services must be provided as quickly as possible if an employee suffers heat illness. If employees cannot reach emergency medical services directly (because cell phone coverage in inadequate, for example) Intech will designate a person who can immediately contact emergency services on the behalf of employees. The employees must be able to reach this person quickly (such as by radio) to request that emergency medical services be summoned.

If employees are able to contact emergency medical services directly, they must be able to do so in an emergency and not be required to contact a supervisor first.

Medical Services

The medical services program at Intech Mechanical will be used to guide our response to heat illness. This includes:

- ✓ Method to contact the emergency medical service (EMS) / Usually will require the Foreman or other lead worker to call 911 and may include notification of the general contractor at the site.
- ✓ Method to transport employee without an ambulance, usually a vehicle on the jobsite.
- ✓ If the work area is hard to locate by an EMS responder, spotters will be assigned to critical positions at the entrance to the job site and at critical points along the way to guide medical responders to the injured or ill worker.
- ✓ Location of hospital or doctor

HEAT ILLNESS PREVENTION PROGRAM

Training Requirements

Training: Employees, Supervisors and Lead Workers

All employees will receive training in heat illness prevention. New employees will be trained during orientation. Supervisors and responsible crew leads will be trained separately, before their employees are exposed to hot work conditions. Tailgate safety meetings will be used to cover heat illness related topics for current employees and as part of our ongoing communication and training efforts discussed in our Injury &Illness Prevention Programs.

Employee Training Topics

- ✓ Environmental and personal risk factors in heat illness
- ✓ Heat Illness Prevention Plan & Response Procedures
- ✓ Importance of drinking water/ hydration
- ✓ Acclimatization
- ✓ Types of heat illnesses & signs and symptoms of their onset
- ✓ Importance of shade
- ✓ Importance of telling supervisors about heat illness cases
- ✓ How to access emergency medical services or doctors

Supervisor, Foreman, Lead Worker Training

Managers, Supervisors, Foremen and responsible lead workers will receive the training provided to all employees. In addition, this training will also emphasize the following.

Supervisor, Foreman, Lead Worker Training Topics

- ✓ Responsibilities as responsible supervisors
- ✓ This Heat Illness Prevention Plan and Company Policies
- ✓ Access to Shade
- ✓ Procedures for shade, water, hydration, communication and emergency response during high heat conditions and during heat wave conditions.
- ✓ Emergency Response procedures
- ✓ Our Medical Services Plan for each job site
- ✓ All Employee Training Topics found in the above list.

HEAT ILLNESS PREVENTION PROGRAM

Heat-Related Illnesses

The human body regulates high temperatures by blood flow and sweating
Blood circulated to the skin, raises the skin temperature and allows the body to give off the excess heat through the skin.

Sweating occurs when heat loss due to increased blood circulation is not enough to cool the body. Evaporation of the sweat cools the skin and eliminates heat from the body.

If the body is unable to release excess heat, it will store it. When this happens, the body's core temperature rises and the heart rate increases. If the body continues to store heat, the person may begin to have difficulty concentrating, may become irritable and lose the desire to drink. The next stage is often fainting.

Body Cooling. One way to cool body core temperature is to cool the palms of the hands or the soles of the feet with wet towels at room temperature (70ºF.) This essentially cools the blood in the employee's palms or soles and takes the cooled blood to the rest of the body. It is OK to wet the clothing with water as a preventive measure.

Environmental Risk Factors for Heat Illness

Environmental risk factors are conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conducting heat sources such as the ground, air movement, workload, protective clothing and personal protective equipment worn by employees.

Personal Risk Factors for Heat Illness

Personal risk factors for heat illness may be enhanced by many conditions, including an individual's age, weight, general physical condition, and if they have experienced a previous heat illness. Skin trauma such as sunburn and heat rash can also increase risk factors. Their degree of acclimatization, use of prescription medications that affect the body's water retention or other physiological responses to heat may also enhance person's risk factors.

Heat Illness Prevention

Water
Drink lots of water, about 1 cup every 15 minutes, beginning at the start of the work shift, before the ambient temperatures get too hot.

Clothing
Wear lightweight light-colored clothing. Wear a hat (or hard hat if required on your job site.)

Acclimatization
Acclimatization means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

Diet
A well-balance diet is important to maintain the good health needed to work under hot conditions. Large meals should not be eaten during work breaks because they increase circulatory load and metabolic rate. Salt intake, as part of a normal diet, is usually sufficient to meet the salt demands during work in hot environments. Added salt may be desirable when repeated heat illness prevention exposures are first experienced, that is, during acclimatization. If salt is restricted by a doctor's order, the doctor should be consulted.

Life Style
A healthy life style is important to lowering the risk of a heat related disorder. An employee should have adequate sleep, a good diet, and exercise. A healthy life-style also means no abuse of alcohol or drugs. Employee's exposures to hot environments before heavy work demands may have increased risk of heat disorders.

Health Status
All employees should recognize that chronic illness such as heart, lung, kidney or liver disease indicates a potential for lower heat tolerance, and therefore are increased risk of experiencing a heat-related disorder. Employees suffering from a chronic disorder should inform their doctor about their work in hot environments to seek medical advice about the potential effects of their disorder or the drugs used for treatment. If an employee is experiencing the symptoms of any acute illness and still reports to work, that employee should inform the immediate supervisor.

HEAT ILLNESS PREVENTION PROGRAM

Heat Related Illness Symptoms

Common heat illnesses with symptoms and appropriate first aid measures are listed below.

Illness	**Cause**	**Signs & Symptoms**	**Treatment**
Heat Rash	Unrelieved exposure to humid heat with skin continuously wet with sweat	Tiny raised red blisters on the skin in affected areas. Affected areas can be extensive. Prickling sensation during heat exposure. Itching skin and reduced sweating.	Allow skin to dry. Use mild drying lotions. Skin should be kept clean to prevent infections.
Sunburn	Long exposure to UV radiation in sunlight	Red, painful, skin in severe cases swelling, blistering and peeling of skin, and headaches.	If the skin blisters, seek medical aid. Use sun block skin lotions with SPF 15 or greater protection to prevent sunburn. Use ointments for mild cases. If blister(s) appear and do not break. If blister(s) break, apply dry sterile dressing. Serious cases should be seen by a doctor.
Heat Fatigue	Non-acclimatized Not ready for work in the heat	Impaired performance of motor skills, decision-making and mental tasks.	Move worker out of the sun into a cooler environment. Medical treatment for serious cases
Heat Cramps	Heavy sweating drains a person's body of salt, which cannot be replaced just by drinking water.	Painful cramps in arms, legs or stomach, which occur suddenly at work or later at home. Skin is hot and moist. Cramps are serious because they can be a warning of other more dangerous heat-induced illnesses.	Move to a cool area; loosen clothing and sip cool water or commercial fluid replacement / Thirst Quencher beverage. Apply firm pressure on cramping muscles, or gentle massage to relive spasm. If the cramps are severe or don't go away, seek medical aid.
Fainting / Heat Syncope	Lack of acclimatization, pooling of blood in the legs and skin from prolonged static posture and exposure to heat	Fainting while standing with little change in posture. Blurred vision	Move worker out of the sun into a cooler environment. Lie on back in cooler area. Drink Water. Recovery should be prompt and complete. Flex leg muscles several times before moving, standing, or sitting.

Heat Exhaustion	Inadequate water and salt intake cause a person's body's cooling system to start to break down.	Heavy sweating; cool moist skin; body temperature over 100.4°F; weak pulse; normal or low blood pressure. • person is tired, weak, clumsy, upset or confused; • is very thirsty; or is panting or breathing rapidly, • Vision may be blurred.	Move worker out of the sun into a cooler environment. Lie down and loosen clothing. Apply cool, wet cloths. Fan or move victim to air-conditioned room. Sips of water, if nausea occurs, discontinue use. If vomiting continues, seek immediate medical attention.
Heat Stroke	Excessive exposure to hot environments. A person's body has used up all its water and salt. The body's system for temperature regulation fails, sweating stops and body temperature rises to critical levels	High body temperature (over 105.8°F) and any one of the following: • the person is weak, confused, upset or acting strangely; • Has hot, dry, red skin; a fast pulse; a headache or dizziness. • Chills or difficulty breathing • In later stages, a person may pass out and have convulsions.	HEAT STROKE IS A SEVERE MEDICAL EMERGENCY. GET THE WORKER TO A HOSPITAL IMMEDIATELY. **DELAYS CAN BE FATAL.** Move the worker to cooler environment. Reduce body temperature with cool bath or sponging. Use extreme caution. Remove clothing, use fans and air conditioners to cool the body. If temperature rises again, repeat the processes. Do not give fluids.

HEAT ILLNESS PREVENTION PROGRAM

Weather Conditions

Check weather conditions and adjust the work schedule. It might be appropriate to change work hours in order to minimize working during the mid-day heat. Heavy work should be scheduled for the cooler hours of the day. Non-essential tasks should be postponed in the event of a heat wave.

Heat Index (HI) or ("Feels Like") temperature

Heat Index is a measure of how hot it really feels in the degrees Fahrenheit when relative humidity is factored with the actual air temperature. This chart has been adapted from the National Weather Service's Heat Index. This guide should be followed or employees not wearing protective clothing such as chemical suits.

Heat Index	*General Effect of Heat Index on People in Higher Risk Groups*
80 to 89° - Caution	Fatigue possible with prolonged exposure and/or physical activity.
90 to 104° - Extreme Caution	Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity.
105 to 129° - Danger	Sunstroke, heat cramps or heat exhaustion likely, and heatstroke possible with prolonged exposure and/or physical activity.
130° or higher - Extreme Dangert	Heat/sunstroke highly likely with continued exposure.

Relative Humidity (in percent)

Air Temp (in F)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
140	125																				
135	120	128																			
130	117	122	131																		
125	111	116	123	131	141																
120	107	111	116	123	130	139	148														
115	103	107	111	115	120	127	135	143	151												
110	99	102	105	108	112	117	123	130	137	143	150										
105	95	97	100	102	105	109	113	118	123	129	135	142	149								
100	91	93	95	97	99	101	104	107	110	115	120	126	132	138	144						
95	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136				
90	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122		
85	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102	105	108
80	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88	89	91
75	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78	78	79	79	80
70	64	64	65	65	66	66	67	67	68	68	69	69	70	70	70	70	71	71	71	71	72

HEAT ILLNESS PREVENTION PROGRAM

OSHA QUICK CARD™

Protect Yourself
Heat Stress

When the body is unable to cool itself by sweating, several heat-induced illnesses such as heat stress or heat exhaustion and the more severe heat stroke can occur, and can result in death.

Factors Leading to Heat Stress

High temperature and humidity; direct sun or heat; limited air movement; physical exertion; poor physical condition; some medicines; and inadequate tolerance for hot workplaces.

Symptoms of Heat Exhaustion

- Headaches, dizziness, lightheadedness or fainting.
- Weakness and moist skin.
- Mood changes such as irritability or confusion.
- Upset stomach or vomiting.

Symptoms of Heat Stroke

- Dry, hot skin with no sweating.
- Mental confusion or losing consciousness.
- Seizures or fits.

Preventing Heat Stress

- Know signs/symptoms of heat-related illnesses; monitor yourself and coworkers.
- Block out direct sun or other heat sources.
- Use cooling fans/air-conditioning; rest regularly.
- Drink lots of water; about 1 cup every 15 minutes.
- Wear lightweight, light colored, loose-fitting clothes.
- Avoid alcohol, caffeinated drinks, or heavy meals.

What to Do for Heat-Related Illness

- Call 911 (or local emergency number) at once.

While waiting for help to arrive:

- Move the worker to a cool, shaded area.
- Loosen or remove heavy clothing.
- Provide cool drinking water.
- Fan and mist the person with water.

For more complete information:

OSHA Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov (800) 321-OSHA

OSHA 3154-07R-05

OSHA DATOS RÁPIDOS

Protéjase del Estrés por calor

Cuando el cuerpo no puede bajar su temperatura mediante el sudor, pueden ocurrir varias enfermedades debido al calor, tales como estrés o agotamiento por calor e insolación o golpe de calor, las cuales pueden resultar en la muerte.

Factores que llevan al estrés por calor

Alta temperatura y humedad, calor o sol directo, movimiento limitado de aire, esfuerzo físico, pobre condición física, algunas medicinas y tolerancia inadecuada para lugares de trabajo calurosos.

Síntomas de agotamiento por calor

- Dolores de cabeza, mareos, vértigo o desmayo.
- Debilidad y piel húmeda.
- Cambios de humor como irritabilidad o confusión.
- Nauseas o vómitos.

Síntomas de insolación

- Piel seca y caliente sin sudor.
- Confusión mental o pérdida de conocimiento.
- Convulsiones o ataques.

Evita el estrés por calor

- Conozca las señales y los síntomas de las enfermedades relacionadas al calor; obsérvese a si mismo y a sus colegas.
- Bloquee el sol directo u otras fuentes de calor.
- Utilice ventiladores (abanicos) o aire acondicionado; descanse con regularidad.
- Beba mucha agua, como 1 taza cada 15 minutos.
- Vístase con ropa ligera, de colores claros y no ajustada.
- Evite el alcohol, bebidas con cafeína o comidas pesadas.

Qué hacer en caso de enfermedades relacionadas al calor

- Llame al 911 (u otro número local para emergencias) inmediatamente.

Mientras espera por ayuda:

- Mueva a la persona a un lugar fresco y sombreado.
- Suéltele o quitele la ropa pesada.
- Ofrézcale agua fresca para beber.
- Abanique y rocíe con agua a la persona.

Para información más completa:

OSHA Administración de Seguridad y Salud Ocupacional
Departamento del Trabajo de EE.UU.
www.osha.gov (800) 321-OSHA

HEAT ILLNESS PREVENTION PROGRAM

Heat Training – Questions and Answers

What signs and symptoms might you notice if your body is too hot?

- ✓ First, you may notice that you are tired and less mentally alert. This increases the danger of accidents.
- ✓ You may sweat. The body produces sweat so the evaporation will cool you off. Sweating isn't as effective if the air is very humid, because not as much sweat evaporates.
- ✓ Heat rash is possible. You get it when your sweat glands swell and get plugged up. Also known as prickly heat includes tiny raised red blisters on affected areas and can be extensive. Heat rash can lead to skin infection and can be so uncomfortable that sleep is disrupted. Heat rash can impede a worker's performance and use or effectiveness of safety judgment. Symptoms include pricking sensations during heat exposure; itching skin and can reduced sweating.
- ✓ You can get sunburn if you're in direct sunlight too long without using a sunscreen product on your skin. Sunburn can be painful and may even lead to skin cancer. Sun burn generally results in redness and pain, but in severe cases swelling of skin, blisters, fever and headaches.
- ✓ Heat Fatigue can cause impaired performance of motor skills and your ability to finish certain mental tasks such as those that required increased concentration, critical decision-making and attention to detail.
- ✓ Fainting can occur when a worker is not acclimatized to a hot environment.

If you don't pay attention to these early symptoms and get out of the heat, you can get heat related illness. What does heat illness do to your body?

- ✓ The first symptom of heat illness is usually heat cramps. If you don't replace the fluids and salts (called electrolytes) that you lose by sweating, you may get muscle pain or muscle spasms. These symptoms are most common in the arms.
- ✓ Heat exhaustion can follow. Your whole body (especially your circulatory system) is extremely stressed. Some possible symptoms are:

— Pale, flushed face and neck
— Clammy skin
— Heavy sweating
— Fatigue
— Shortness of breath
— Headache, dizziness, or fainting
— Nausea and vomiting
— Rapid heartbeat and breathing

HEAT ILLNESS PREVENTION PROGRAM

Heat Stroke is the most serious stage of heat Illness. Your body temperature shoots up. 50% of people with heat stroke die. Symptoms are:

— Dizziness and confusion
— Red, hot, dry skin
— Nausea and vomiting
— Very little sweating
— Rapid pulse
— High body temperature (around 105° F)
— Convulsions
— Fainting

Anyone with heat stroke must be taken to a doctor or hospital immediately.

What's the best treatment for the different stages of heat Illness?

Heat Cramps — Stop work, drink fluids, and rest in a cool area. Drinking electrolyte solutions may also help

Heat Exhaustion — Give first aid by moving the person to a cool place to rest. Remove as much clothing as possible. Give the person water. Drinking electrolyte solutions may also help. Don't allow the person to get chilled and treat for shock if necessary. Get medical help.

Heat Stroke — Call 911 to get an ambulance immediately. Immerse the person in cool water or ice.

Some people are more likely to get heat illness than others. Why?

You have a higher risk of heat illness if:

- ✓ You are not physically fit.
- ✓ You are overweight.
- ✓ You have a chronic illness like heart disease or diabetes.
- ✓ You drink alcohol or take drugs (either illegal drugs or prescription drugs).
- ✓ You are dehydrated—from diarrhea, a fever, or not drinking enough water.
- ✓ You wear heavy or tight clothing.
- ✓ You wear some kinds of personal protective equipment (PPE) on the job. Some PPE (like a full body suit) is hot. Other PPE (like a respirator) increases the stress on your body in other ways, making it harder for the body to fight the heat.
- ✓ You are not used to working in heat. The more you work in heat, the more your body gets used to it. This is called becoming acclimatized to heat.

HEAT ILLNESS PREVENTION PROGRAM

How long does it take to become acclimatized?

- ✓ It usually takes 4 to 7 days of regular exposure to heat. But everyone is different.
- ✓ You shouldn't do strenuous work all day on a hot job until you've become acclimatized.
- ✓ When you are acclimatized, your body temperature and heart rate will be lower. You will sweat more, but your sweat will be less salty, so you won't lose as much salt.
- ✓ You lose acclimatization in a few weeks if you stop working in the heat.

What precautions do we need to take on the site to prevent heat illness?

In addition to providing this training, Intech Mechanical will:

- ✓ Assign strenuous work during cooler parts of the day.
- ✓ Give new hires that are not acclimatized lighter work during their first week.
- ✓ Rotate workers in strenuous, hot jobs so no one is exposed too long.
- ✓ Shield or enclose sources of heat (like furnaces) to minimize radiant heat.
- ✓ Keep first aid supplies and equipment available.

Workers should:

- ✓ Drink a lot of cool water (or an electrolyte solution). You may need a quart per hour or more, depending on conditions. Drink even if you don't feel thirsty.
- ✓ Take frequent breaks in a shaded or air-conditioned area.
- ✓ Wear appropriate clothing when you're in the sun. The best clothing is a loose, lightweight cotton shirt and pants in a light color. Wear a wide-brimmed hat in the sun. Wear a lightweight long-sleeve shirt and long pants if it's over 95° F.
- ✓ Use a sunscreen product to protect your skin from ultraviolet rays in sunlight. It should have a sun protection factor (SPF) of at least 15. (Check the label.)
- ✓ Take frequent cool showers if possible.
- ✓ Stay physically fit.
- ✓ Limit your use of alcohol. Ask your doctor about prescription drugs you're taking.

HEAT ILLNESS PREVENTION PROGRAM

How can we be sure no one on the site is getting affected by the heat too much?

- ✓ Use the buddy system. Watch your coworker/s for signs of heat illness.
- ✓ Know what to do if you or your coworker shows any symptoms.
- ✓ Notify your supervisor and stop work if you notice any major symptoms.

EXCAVATION POLICY

Excavations

Intech Mechanical Company, LLC. is committed to following safe excavation practices and legal requirements as set forth in this policy. Its workers and agents shall be trained on the content within prior to the start of any excavation work.

Utility, water service, phone, data, and other service lines and pipes may be located in areas where they are least expected. Even in areas where there are no structures. Impacting or striking a line or pipe could lead to costly property damage and/or disruption of services. More importantly, it can be the cause of serious injuries or even death to excavation workers or those around them.

All excavation performed by/for Intech Mechanical utilizing heavy equipment must be conducted utilizing fully trained operators running maintained machinery in good working order.

Utilities shall be located prior to excavation. USA (Underground Search Alert) must be called 48 hours in advance at 811 or (800) 642-2444. Potholes may also be required before digging is started. Hand digging is required within 2 feet of utilities. Note that shovels, hand tools and other means of "non-destructive" digging can still damage underground utilities so extreme caution should be exercised.

For excavations (5') five feet or deeper, Cal OSHA requires notification at least 24 hours prior to the start of activity using the Activity Notification Form located at the end of Intech's annual trench permit. Notification should be mailed or faxed to the district office closest to the job site. Applicable office information can be found at http:/www.dir.ca.gov/asp/DoshzipSearch.html.

Utility companies will be dispatched by USA and will mark any known pipes or lines buried at the site with paint, flags, and/or stakes. The response time is (2) two full working days. This will allow workers to identify collisions with utilities before they occur. Colors specific to the applicable utility will be as follows:

- ***Red – Electric***
- ***Yellow – Gas, Oil, or Steam***
- ***Orange – Phone or Data***
- ***Blue – Water***
- ***Green – Sewer.***

Standard USA requests or "tickets" last 28 days and must be extended if the excavation will exceed that duration.

In the event that a utility fails to respond to your ticket, USA must be re-notified of a "No Response" before excavation work starts.

All utility markings shall be maintained for the duration of the excavation or backfilling to ensure that identified lines or pipes are not lost or forgotten during the course of work. In the event the markings are lost or no longer visible, another USA request must be made to have them re-marked before the excavation work continues.

In the event an unknown or unmarked utility is discovered during an excavation, **stop work** immediately and notify your supervisor. The service provider must then be identified and notified before the excavation can safely proceed.

EXCAVATION POLICY

Flags, stakes or markings placed by utilities for utility identification may not be directly over a line or pipe. A "tolerance zone" must be maintained on each side of the location line and can range from 18" to 36".

Any damage to a utility line or pipe regardless of severity must be reported to your supervisor immediately. The appropriate service utility will then be notified so they can review and repair the service before work commences or backfill occurs. **All excavation incidents must be reported using the Excavation Incident Report and the Witness Safety Statement Form located in Section 21 of this manual.**

For trench excavations (4') four feet or more in depth, a safe means of egress (ladder, etc.) shall be provided within (25') twenty-five feet of the work area.

Trenches should always be checked for hazardous atmospheres prior to entry. No employee will enter a trench with atmospheres containing less than 19.5 percent oxygen or that contains a concentration of a flammable gas in excess of 20 percent of the lower flammable limit of the gas.

Employees shall not work in excavations with accumulated water.

Excavations shall not affect the stability of adjacent structures. Do not excavate beneath the level of the base of any adjacent foundations, retaining wall or other structure until a qualified person has determined that the earthwork will not create a hazard to workers or structures.

Protection from loose rock or soil will be provided. Spoils and mobile equipment must remain (2') two feet from the edge of the trench.

Daily inspections shall be made by a competent person and also when conditions change, such as after rainstorms, earthquakes, or heavy vibration from equipment and vehicles.

Fall protection (walkway with guardrails) shall be provided when crossing over excavation (6') six feet or greater in depth.

Protective systems (sloping, benching, shoring, or shield) shall be used where excavations are greater than (5') five feet deep or when soil conditions require. When necessary, provide similar protection for workers in excavations less than (5') five feet deep.

Soil classification will be determined by a competent person using at least one visual and one manual analysis. No employee will be allowed in any trench at any depth until a competent person deems the excavation safe.

Remove trees, poles, boulders and similar objects, which may be hazardous to workers.

Do not work in or near the excavation until a qualified person has determined that no hazard to workers exists from possible moving ground.

Dump spoils from an excavation far enough from the edge of the trench so that it does not fall back in. Locate the spoil at least (2') two feet from the edge. Do not contain the soil by any method, which will disturb the soil already in place (such as driving stakes).
If the excavation endangers the stability of adjoining structures, shore, brace or underpin those structures. A licensed engineer should design and certify these systems.

EXCAVATION POLICY

Do not use an existing wall or structure as a retaining wall until it has been determined that it will safely support expected loads.

At all work locations, provide barriers to prevent workers from falling into excavations.

Trench Plates shall cover all wells, pits, shafts and caissons.

Backfill temporary wells, pits and shafts when the operation is completed.

Use diversion ditches, dikes and other effective methods to prevent water from accumulating and from entering the excavation.

Employees will not step across excavations that are (30") thirty inches or wider. When it is necessary to cross wider excavations, walkways or bridges with standard guardrails will be provided. Walkways and bridges will always extend at least (2') two feet on each side of the trench.

All Intech employees and our subcontractors working on or around excavation work have the authority to stop work if they see an unsafe act or activity per Intech's Stop Work Policy. (Section 2, Pages 2-10 and 2-11 of this Safety Program.)

CONFINED SPACE ENTRY POLICY

Purpose

To assure safe entry and safe work within confined spaces determined to be non-permit spaces. Intech's policy and procedures are based on Cal OSHA regulatory requirements established in (T8 CCR 5157) & (5158 - Other Confined Space Operations) Non-Permit Entry.
All confined spaces will be considered permit entry space until a thorough evaluation is completed, and the space is determined to be a non-permit space. Annual audits will be performed to review confined space permit processes. This process will review previous years permit to ensure that appropriate changes are made to the confined space procedures. This will ensure that the safety of the procedures is current annually.

Application

Every effort must be made to identify and classify potential confined spaces throughout the course of construction and to pre-plan accordingly. All areas that meet the definition of a confined space should be treated as permit-required confined spaces until testing and documentation are performed and finalized, and the space can safely be reclassified to a non-permit required entry. We will document our testing and entry plans, and as needed pre-task planning.

Definitions

Attendant – A trained individual stationed outside one or more permit spaces who monitors the authorized entry into the space and who performs all attendant's duties assigned in the employer's permit space program

Authorized Entrant - A trained worker authorized by their company to enter a permit Space. Only authorized individual(s) can enter the confined space that have received necessary training prior to or changed in assigned duties.

Confined Space - a space that is/has:

- ✓ large enough and so configured that a worker can bodily enter and perform assigned work limited or restricted means of entry or exit (for example, ladders, etc.)
- ✓ ready access or egress for the removal of a suddenly disabled employee is difficult due to the location and or size of the opening(s)
- ✓ not designed for continuous worker occupancy
- ✓ existing ventilation is insufficient to remove dangerous air contamination, oxygen enrichment and /or oxygen deficiency, which may exist or develop

Emergency - Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants

Entry -The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

CONFINED SPACE ENTRY POLICY

Entry Permit (Permit) - The written or printed document provided by the employer to allow and control entry into a permit space

Entry Supervisor - The person (such as the Superintendent, General Foreman, Responsible Crew Lead who have been previously trained for this role) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry should conditions within the space become unhealthful or the work is completed.

Hazardous Atmosphere - An atmosphere that may expose workers to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), injury or acute illness from one or more of the following causes:

- ✓ flammable gas, vapor or mist in excess of 10 percent of its lower flammable limit (LFL) or lower explosive limit (LEL)
- ✓ airborne combustible dust at a concentration that meets or exceeds its LFL or LEL (this concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less)
- ✓ atmospheric oxygen concentration below 19.5 percent or above 23.5 percent
- ✓ atmospheric concentration of any substance for which a dose or a permissible exposure limit may be exceeded as published in Appendix A, T8 CCR (5155 Control of Hazardous Substances) / Permissible Exposure Limits
- ✓ an atmospheric concentration of any substance that is not potentially capable of causing death, incapacitation, and impairment of ability to self-rescue, injury or acute illness due to its health effects is not covered by this provision

Immediately Dangerous to Life or Health (IDLH) - Any condition that poses an immediate or delayed threat to life, cause irreversible adverse health effects or interfere with an individual's ability to escape unaided from a permit space. When IDLH is being performed, emergency services must be on-site for emergency rescue.

Isolation - The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes or ducts; a double block and bleed system; lockout or tag-out of all sources of energy; or blocking or disconnecting all mechanical linkages

Non-Permit Confined Space T8 CCR (5158 Other Confined Space Operations)- Often is new construction but is a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen Deficient Atmosphere - An atmosphere containing less than 19.5 % oxygen by volume

Oxygen Enriched Atmosphere - An atmosphere containing more than 23.5 % oxygen by volume

CONFINED SPACE ENTRY POLICY

Permit-Required Confined Space (Permit Space) - A confined space that has one or more of the following characteristics:

- ✓ contains or has a potential to contain a hazardous atmosphere, where control cannot be guaranteed
- ✓ contains a material that has the potential for engulfing an entrant
- ✓ has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section
- ✓ contains any other recognized serious safety or health hazard

Permit System - The written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry

Retrieval System - The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate and a lifting device or anchor) used for non-entry rescue of persons from permit spaces

Testing Means - The process in which hazards that may confront entrants of a permitted space are identified and evaluated for workers safety. Testing includes specifying the tests that are to be performed in the permit space.

Responsibilities

Authorized Entrant

- ✓ Can recognize and effectively respond to hazards that they may face during entry, including information on the chemical and physical hazards, routes of entry into the body, signs or symptoms of overexposure, and consequences of the exposure.
- ✓ Must follow safety precautions, rules, work procedures as discussed prior to entry.
- ✓ Must always follow instructions for proper use of equipment, tools, materials, safety apparatus, and personal protection
- ✓ Must communicate with the attendant, when attendant is standing by as will be the case during initial evaluations processes.
- ✓ Must quickly exit the space any time the attendant orders evacuation, the monitoring device sounds an alarm, a prohibited condition is encountered, conditions change causing the space to be unhealthy or unsafe.

Attendant

- ✓ Knows the hazards that may be faced during entry.
- ✓ Always remains outside the permit space during entry operations until relieved by another responsible attendant.

- ✓ Will only monitor one entry operations at a time. Monitoring more than one entry location will not be allowed at any given time.
- ✓ Is aware of possible behavioral effects of hazard exposure and communicates with the entrants, monitoring their responses and work and behaviors, looking for signs of unhealthy exposures. Alerts entrants of the need to evacuate the space when required.
- ✓ Monitors and documents frequent atmospheric testing.
- ✓ Monitors activities inside and outside the space to determine if it is safe for entrant(s) to remain in the space and orders the authorized entrant(s) to evacuate the permit space immediately under any of the following conditions:
  - o If the entrant detects a prohibited condition.
  - o If the attendant detects the behavioral effects of hazard exposure in an authorized entrant(s).
  - o If the attendant detects a situation outside the space that could endanger the authorized entrant(s).
  - o If the attendant cannot effectively and safely perform all the duties required.
- ✓ Summons rescue and other emergency services
- ✓ Takes the following actions when unauthorized person(s) approach or enter a permit space while entry is underway:
  - o Warn the unauthorized person(s) that they must exit immediately if they have entered the permit space.
  - o Informs the authorized entrant(s) and the entry supervisor if unauthorized person(s) have entered the permit space.
- ✓ Performs non-entry rescues as specified in a pre-arranged and pre-approved rescue procedure.
- ✓ Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrant(s)

Entry Supervisor

- ✓ Provides training to all employees assigned to confined space entry / Re-train employee prior to change in duties assigned. All training will be documented by Supervisor and submitted to Safety Manager for tracking.
- ✓ Conducts pre-entry meetings with all involved parties prior to entry, and reviews and ensures the entry permit is accurate and complete.

- ✓ Coordinates between employers who potentially have employees entering a particular permit space simultaneously and determines who will be the controlling employer. Typically, this is the host employer. ***There should be no doubt, by any permit space entrant, and entry supervisor regarding who the controlling employer is and whose policy and permit space practices are to be followed.
- ✓ Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- ✓ Verifies that the appropriate entries have been made on the permit.
- ✓ Verifies that rescue services are available and that the means for summoning them are operable.
- ✓ Removes unauthorized individuals who enter or who attempt to enter the permit space.
- ✓ Determines that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

Entry Procedures

Before a worker enters the space, the internal atmosphere must be tested, with a calibrated 3 or 4 gas direct-reading instrument, for the following conditions, in the order given:

- ✓ Oxygen content
- ✓ Flammable Gases and Vapors
- ✓ Hydrogen Sulfide
- ✓ Potential toxic air contaminants
- ✓ The absence of hazardous atmosphere within the space whenever any worker is inside the space

Air Monitoring Guide

1) Calibrate Instrument
2) Inspect Instrument
    - Check physical condition of instrument (case, meter, attachments, and hoses for cracks)
    - Review instructions to insure you know how to use the device and interpret results.
3) Perform Function Test
    - *Oxygen Sensor:* Breathe into sampling device to reduce the oxygen level below 19.5%. The oxygen alarm should sound.

- *Combustible Gas Sensor:* Remove cap of solvent magic marker or open a cigarette lighter without a flame near the sampling device until it reaches a 10% reading. The gas sensor should sound.
- Always perform a function test in the filed before use.
- Never perform a function test in the suspected atmosphere.

4) Pre-Test Space:

- Zero instrument in know fresh air.
- Test entire space, top to bottom, every four feet and in the direction of travel.
- Order of tests:
  - ◇ Oxygen
  - ◇ Flammability
  - ◇ Toxicity

5) Monitor the Space:

- If Continuous monitoring is required, position the instrument near the workers breathing zone.

Continuous forced air ventilation should be used as follows:

- A worker may not enter the space until the forced air ventilation has eliminated any and all hazardous atmospheres
- The forced air ventilation should be so directed as to ventilate the immediate areas where a worker is or will be present within the space and should continue until all workers have left the space
- The air supply for the forced air ventilation should be from a clean source and may not increase the hazards in the space

The atmosphere within the space should be tested as frequently as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

If a hazardous atmosphere is detected during entry:

- Each worker will leave the space immediately
- The space will be evaluated to determine how the hazardous atmosphere developed

- Measures will be implemented to protect workers from the hazardous atmosphere before any subsequent entry takes place.

The Entry Supervisor will verify that the space is safe for entry and complete the confined space entry permit, including signature.

Note that in the case of entry into a permit space by multiple contractors at the same time, or in the case where work is being performed by other trades on the site that could impact the entry operations, the Controlling Contractor is required to work with the Entry Contractor to coordinate operations. The best practice would be to limit permit-required space entry to one contractor at a time. The so-called stacking of trades is typically not a good idea out in the open and it is rarely a good idea inside of a confined space. When conditions dictate entry by multiple trades, proper preparation and coordination by the Controlling Entity is critical to ensure the safety of the entrants. By stating that the Controlling Entity must coordinate activities when multiple employers are entering a space simultaneously, 29 CRF 1926.1203 (h) (4) has the effect of ensuring that the general contractor is actively involved in the process. They do not have the option of just leaving it to the subcontractors to work it out among themselves.

The completed permit, and detailed pre-task plan, should be posted in the immediate area.

When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the space should be re-evaluated and, if necessary, reclassify as a permit-required confined space

NON-PERMIT ENTRY

When the Superintendent, Project Manager, General Foreman, Responsible Crew Lead, or Safety Manager has reviewed the work space and determined that it can be classified as a non-permit entry space, the following operational procedures will be followed:

- ✓ Competent Person will complete pre-entry evaluation and hazard assessment; results will be discussed with all employees participating in the confined space entry.
- ✓ Pre-entry air testing & frequent follow up air quality testing, at least every hour (documented on our entry form)
- ✓ Pre-entry inspection of the space, observing water, debris, rust, or other conditions that my affect the air quality of the space. Documenting results and instructing employees accordingly.
- ✓ Documentation of the hazards and potential hazards associated with the space and with the work tasks to be performed and review and comment as needed of surrounding area to avoid hazards such as drifting vapors, exhaust or other hazards that could affect the conditions inside the workspace, making it unsafe or unhealthy for the entrant(s).
- ✓ Documentation will include brief description of the work to be performed, hazards that may be encountered, rescue procedures and safety discussion with entrants, attendants, and entry supervisor.

- ✓ Inspection of emergency equipment, ventilation fans and supply tubes to make sure they are operable and readily available for set up and use.

- ✓ Attendant and stand by person, when needed, will be trained in the hazards and related effects, and conditions and behaviors to be on the lookout for.

- ✓ Prior to entry lines which may convey flammable, injurious, or incapacitating substances into the space will be disconnected, blinded, or blocked off by other positive means to prevent the development of dangerous air contamination, oxygen enrichment and/or oxygen deficiency within the space. Planning and placement of disconnections or blinds will be done in a way that will prevent inadvertent reconnection of the line or unintended removal of the blind.

- ✓ Prior to entry, the air will be tested with an appropriate device or method to determine whether dangerous air contamination, oxygen enrichment and/or an oxygen deficiency exist. A written record of such testing results will be made and kept at the work site for the duration of the work. Affected employees and/or their representative will be afforded an opportunity to review and record the testing results. The device will be intrinsically safe for the environments being tested.

- ✓ In the event initial testing shows alarm conditions the space will be emptied, flushed, purged or ventilated to remove flammable vapors or injurious gases and improve oxygen levels to safe conditions for entry. The air supply for the forced air ventilation will be form a clean source and will not increase the hazards in the space.

- ✓ Forced air ventilation will be maintained during the completion of the work tasks; unless it is determined that the air quality remains safe.

- ✓ The forced air ventilation will be so directed as to ventilate the immediate areas where a worker is or will be present within the space and will continue until all workers have left the space.

- ✓ When spaces to be entered are interconnected, such as oil, sand, and grease separators; each space will be tested, and the results recorded. The safety precautions and classifications of the space will be based on the most hazardous condition found.

- ✓ If dangerous air contamination, oxygen enrichment and/or oxygen deficiency does not exist within the space, as demonstrated by tests performed, entry into and work within the space will proceed.

- ✓ Air Monitoring will, when possible, be continuous at the work location but, when constant monitoring is not possible, testing will be conducted with sufficient frequency to ensure that the development of dangerous air contamination, oxygen enrichment and/or oxygen deficiency does not occur during the time work tasks are being conducted.

- ✓ If testing indicates dangerous air contamination, oxygen enrichment and/or an oxygen deficiency has developed during the work process the entrant(s) will be immediately evacuated and the cause for the change evaluated. Reclassification to a permit required space will occur.

- ✓ Existing ventilation will be augmented by appropriate means and if air quality becomes safe, work will be allowed to proceed when it can be shown that no uncontrolled events such as leaks, seepage, unexpected releases, are causing the change in air quality. If safe air quality can be maintained by this ventilation the space will remain a non-permit space.

- ✓ No source of ignition will be introduced into the confined space until appropriate testing demonstrates that dangerous air contamination due to oxygen enrichment, flammable and/or explosive substances does not exist.

- ✓ In the event that oxygen-consuming equipment such as plumbers' torches, salamanders, or furnaces, and the like, are to be used, measures will be taken to ensure adequate combustion air and exhaust gas venting is in place.

- ✓ To the extent feasible, provision will be made to permit ready entry and exit from the space. Access and ladder ways will remain clear and unobstructed.

- ✓ Where it is not feasible to provide for ready exit from spaces equipped with automatic fire suppression systems employing harmful design concentrations of toxic or oxygen-displacing gases, or total foam flooding, such systems shall be deactivated. Where it is not practical or safe to deactivate such systems, the provisions for use of respiratory protective equipment will apply during entry into and work within such spaces.

PERMIT REQUIRED ENTRY

Operations within Confined Spaces When Non- Permit Conditions Cannot Be Maintained the following operational procedures will be followed:

- ✓ All employees must be trained and re-trained prior to entry of confined space. If employee is re-assigned to a new duty must be re-trained.

- ✓ Permit Only entry procedures will be followed whenever an atmosphere free of dangerous air contamination, oxygen enrichment and/or oxygen deficiency cannot be ensured through the implementation of provisions discussed above, or whenever emergency situation exists, and it is not feasible to ensure safe air quality.

- ✓ Tanks, vessels, or other confined spaces with side and top openings will be entered from side openings when practicable and ventilated from the top. Side openings considered safe for access will only include those that are located within 3.5 feet from the bottom of a tank, vessel, vault, etc.

- ✓ Appropriate, approved respiratory protective equipment, in accordance with T8 CCR Section 5144 (Respiratory Protection Standard) will be provided and worn.

- ✓ An approved safety belt with an attached line will be used for emergency retrieval unless results of our pre planning show the rescue apparatus will cause more danger due to obstruction, internal hazards, or other. When rescue apparatus is used, the free end of the line will be secured outside the entry

CONFINED SPACE ENTRY POLICY

- ✓ At least one employee (Attendant) will stand by on the outside of the confined space ready to give assistance in case of emergency. At least one additional employee who may have other duties will be within sight or call of the standby employee(s) and available for immediate assistance in the event of an emergency.

- ✓ The standby employee will have appropriate, approved, respiratory protective equipment, including an independent source of breathing air, which conforms with Section 5144(i), available for immediate use.

- ✓ The standby employee shall have appropriate, approved, respiratory protective equipment, including an independent source of breathing air, which conforms with T8 CCR Section 5144(i) (Respiratory Protection Standard), available for immediate use.

- ✓ A standby employee (or employees) will only be allowed to enter a confined space with permit requirements in an emergency situation and only when the employee is protected from the hazards within the space.

- ✓ The stand by person and other rescue responders can only enter the space in case of emergency after initiating emergency 911 call and alerting at least one additional employee outside of the confined space of the existence of an emergency and of the standby employee's intent to enter the confined space.

- ✓ Signs will be posted outside of all permit spaces that will be entered by employees. "DANGER – PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" will be posted. When Intech Mechanical identifies permit spaces that will not be entered by employees, effective training and measures will be taken to make sure that no employee enters these spaces. Signs, training, and supervision will be implemented to keep employees out of these dangerous workspaces.

- ✓ When entry must be made through a top opening of a permit required confined space, a full body safety harness that will suspend a person upright, with D Ring at mid back, between the shoulder blades will be required. A hoisting device or other effective means will be provided for lifting an injured worker out of the space.

- ✓ We will not allow work to proceed that requires flame, arc, spark, or other source of ignition within a confined space (or any adjacent space having common walls, floor, or ceiling with the confined space), which contains, or is likely to develop, oxygen enrichment or dangerous air contamination due to flammable and/or explosive substances.

- ✓ Only approved lighting and electrical equipment that meets the Low-Voltage Electrical Safety Orders will be used in confined spaces which are determined to be subject to oxygen enrichment or to contain dangerous air contamination by flammable and/or explosive substances.

- ✓ Measures will be taken to protect the area around a permit required work workspace; keeping unauthorized employees out of the work space and clear of the area.

CONFINED SPACE ENTRY POLICY

Emergencies Involving Work in Confined Spaces

At least one person trained with current certifications in first aid and cardiopulmonary resuscitation (CPR) will be immediately available to respond in an emergency situation.

An effective means of communication between employees inside a confined space and a standby employee will be provided and used whenever the conditions inside the confined space require the use of respiratory protective equipment or whenever employees inside a confined space are out of sight of the standby employee(s). All affected employees will be trained in the use of such communication system and the system shall be tested before each use to confirm its effective operation.

Members of the rescue team will be trained to properly use the required Personal Protection and rescue equipment necessary for making rescues from permit spaces.

Each member of the rescue team will be assigned specific tasks.

At least one practice rescue will be done before any employee enters a permit-required workspace.

Whenever possible, the local fire department will be notified ahead of time that a permit required confined space will be entered. We will provide the number of entrants and a brief description of the work tasks and possible health and safety risks associated with entering the workspace.

Retrieval systems, including wrist tethers, body harnesses, ankle tethers etc. will be considered for use by entrants of confined spaces that are permit only spaces.

Each authorized entrant will use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level or above the entrant's head

Wristlets may be used in lieu of the chest or full body harness when it is demonstrated that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative

The other end of the retrieval line will be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary

A mechanical device will be used to retrieve personnel from vertical type permit spaces more than 5 feet deep

In an event that there be the potential for contact with injurious substances in the confined space, appropriate SDS's will be on site and immediately available for use by emergency responders.

Templates for Confined Space Permits and Space Evaluation Forms can be found at the back of this program.

ELECTRICAL SAFETY PROGRAM

Purpose and Scope

Intech Mechanical is committed to providing a safe and healthy work environment and to protecting employees from injury or death caused by uncontrolled electrical hazards in the workplace. The purpose of this Electrical Safety Program is to establish work policies, practices and procedures to train employees in basic electrical hazard recognition and safe work practices. This program applies to qualified and non-qualified employees who are exposed to electricity as part of their job.

Definitions

Approach Distances - Must be established whenever work is to be conducted on electrical systems or components not in an electrically safe work condition.

Flash Protection Boundary - Distance beyond which appropriate flash protection equipment is required to prevent incurable 2nd degree burns.

Limited Approach Boundary - Shock protection boundary designed to keep non-qualified persons at a safe distance away from exposed electrical components. Only qualified workers are allowed within this boundary.

Restricted Approach Boundary - Secondary shock protection measure whereby accidental movement can put a body part or conductive object in contact with live parts. Approach distances listed in Table 1 represent minimum distances required between energized parts to an unprotected person or equipment. Only qualified personnel with proper protective equipment is allowed within this boundary.

Disconnecting Means - A device by which the conductors of a circuit can be disconnected from their source of electrical supply. As an energy isolation control, it shall have the capability of being locked out.

Enclosure - A case or housing of apparatus surrounding an installation to prevent personnel from accidentally contacting energized parts. If the enclosure is conductive it must be grounded or bonded to a grounding system.

Exposed - Capable of being inadvertently touched or approached nearer than a safe distance by a person. Not insulated.

Ground - A conducting connection to the earth.

Guarded - Covered, shielded, fenced, enclosed to otherwise protected by means of suitable covers, casings, barriers, rails, screens, mats or platforms to remove the likelihood of approach to a point of danger or contact by persons or objects.

Isolated - Not readily accessible to persons unless special means for access are used.

Non-Qualified Employee/Worker - One who is not exposed to hazards and will not approach exposed parts of electric circuits operating at 50 volts or more to ground.

Outlet - A point on the wiring system at which the current is taken to supply utilization equipment.

Qualified Employee/Worker - One who has demonstrated an understanding of construction and operation of the equipment and has a full understanding of the associated hazards.

Responsibilities

Intech Mechanical is responsible for providing safety training and clearance distances for all employees, qualified and non-qualified, who may have exposure to electricity through, inspection, testing, troubleshooting installation of equipment, operation of switches, controllers, lock-out procedures, power supply installations, or maintenance with direct exposure to energized parts.

Employees are responsible for immediate reporting of electrical safety hazards, for not working on electrical equipment without the proper training and/or authorization, and for inspecting equipment prior to using it.

Selection and Use of Safe Work Practices

Safety-related work practices shall be employed to prevent electric shock or other injuries resulting in electrical contacts.

A thorough inspection of all equipment shall be done to evaluate for potential hazards. Ensure the integrity of all enclosures and insulation.

Live parts to which an employee may be exposed shall be de-energized by a qualified worker as specified in the Lock-Out/Tag-Out Program before the employee works on or near them unless a greater hazard is introduced. Only qualified workers are allowed to complete tasks such as testing, voltage measuring, and troubleshooting within the limited approach boundary. The qualified worker shall ensure that the previously energized part is de-energized using a UL listed meter rated for the voltage being tested. Testers shall be verified in good condition by testing before and after the test at a known source. Conductors and parts of the electrical equipment that have been de-energized but not been locked or tagged out shall be treated as live parts.

If it is not feasible to de-energize exposed live parts, other safety-related work practices shall be used to protect the exposed employees. Only qualified personnel are allowed to work where exposed to energized equipment. Procedures utilized to perform this work shall include special precautionary techniques such as use of personal protective equipment, insulating and shielding materials or insulated tools.

No work on or near exposed live parts or the entering of spaces containing energized parts is permissible without proper illumination that enables employees to work safely.

Employees working in confined or enclosed spaces shall de-energize or effectively barricade with protective shields or barriers any exposed live parts. Doors or hinged panel shall be secured to prevent swinging freely.

Conductive materials shall be handled in such a manner that will prevent them from encroaching clearances as specified in Table 1. Only ladders with non-conductive side-rails are allowed for use near energized and non-energized parts.

Conductive apparel such as chains, watches or rings shall not be worn while working within the limited approach boundary unless the items are rendered non-conductive by covering, wrapping, or other insulating means.

Interlocks shall not be bypassed unless a qualified person (see definitions) is temporarily working on equipment rated at less than 600 volts. For equipment rated at more than 600 volts, interlocks shall NEVER be bypassed.

Working on energized parts rated at 50-600 volts shall only be performed by qualified personnel who have had specific training on the particular parts and equipment to be worked on.

Work on exposed energized systems greater than 600 volts is not permitted unless specifically trained. Two qualified workers are required to open/close, rack out/in, test, and install temporary grounds on medium voltage equipment. Before grounding and working on medium voltage parts as de-energized, the parts must be tested using a proper tester rated for the voltage with a hot stick only.

Unqualified personnel are restricted from access to exposed energized parts of voltages greater than 50 volts. Qualified personnel shall place a barricade, guard energized parts, or have an attendant to prevent unqualified personnel from encroaching the limited approach or flash protection boundary, whichever is greater.

Blind reaching is prohibited in any electrical panels or equipment.

All Troubleshooting (and or) Testing above 50 volts, require voltage insulating gloves and other appropriate PPE.

Inform the host employer if a hazardous condition is introduced or identified including corrective measures taken or required to make the condition safe.

All personnel, both qualified and unqualified, shall maintain a minimum of 10 feet clearance when working under or around overhead power lines unless de-energized and grounded. This includes handheld equipment, mechanical equipment, when elevated and with all vehicles or machinery. (see table 1 limited approach listed in Table 1)

Table 1. Approach Boundary to Live Parts for Shock Protection

VOLTAGE RANGE Phase to Phase	LIMITED APPROACH BOUNDRY	RESTRICTED APPROACH BOUNDRY	MIN. FLASH PROTECTION BOUNDARY
0 - 50	Avoid Contact	Avoid Contact	N/A
51 - 250 volts	3 ft. 6 in. (1 m)	Avoid Contact	4 ft. (1.2 m) *
251 - 750 volts	3 ft. 6 in. (1 m)	1 ft. 0 in. (.3 m)	10 ft. (3.3 m) *
751 - 15,000 volts	5 ft. 0 in. (1.5 m)	2 ft. 2 in. (.7 m)	10 ft. (3.3 m) *

*** If an arc flash study has been completed, the arc flash boundary shall be as indicated on the arc flash label.**

ELECTRICAL SAFETY PROGRAM

Safeguards for Personal Protection

Includes the use of personal protection equipment (PPE). Selected employees will be furnished with and shall use PPE at all times. The level of PPE used is determined by conducting a hazard assessment and choosing a level of protection that significantly reduces or eliminates the risk of injury related to the hazard. Conducting a job briefing and consulting the information in the program prior to work will determine the hazards associated with the job. This process in conjunction with the information on the tables within this program will assist in determining the level of protection needed to work with or near electrical apparatus. See the table below to determine hazard risk classifications and PPE requirements. A simplified program is used as follows:

- ✓ If the task is identified by a hazard risk category of 1 or 2, the qualified employee shall wear HRC 2 protect equipment.
- ✓ If the task is identified by a hazard risk category of 3 or 4, the qualified employee shall wear HRC 4 protective equipment.

Table 2. Hazard Risk Category Classification

TASK	RATING
Electrical work on systems rated 240 volts or less including: Operate circuit breakers or fused switches and disconnects with doors closed, cable trough or tray cover removal, work on control circuits 120 volts or less.	0
Working on electrical systems rated at 240 volts or less including: removal of bolted covers on control circuit enclosures and voltage testing.	1
Working on or near exposed energized parts rated at 600 volts or less where exposed to electrical parts where the arc flash hazard is determined to be less than 8 cal/cm² and no physical work is performed that may cause a serious arc flash and that is not listed in	2
Working on or near exposed energized parts rated at 600 volts or less including removing bolted covers on exposed 480-volt cabinets where the hazard risk category is greater than 8 cal/cm² or unknown, open cover to exposed parts of an ATS, racking in or out 480-volt generator breakers on an energized bus.	3
Work on exposed parts rated greater than 25 cal/cm² including energized parts of pad-mounted 480-volt transformers, main switchgear bus, racking in or out medium voltage breakers and transfer switches, phasing or other energized work, testing and grounding	4

Note 1: Table 2 may be use where available fault current is less than 25,000 amps. If fault current exceeds 25 kA an engineering study must be performed to determine the arc flash hazard.

Note 2: The hazards may be identified on an equipment label where an arc flash study has been conducted. This data will take precedence over information in Table 2.

ELECTRICAL SAFETY PROGRAM

Personal Protective Equipment

Personal Protective Equipment shall be used to protect from electrical hazards that have not been eliminated by de-energizing or guarding. All personal protective equipment shall be inspected prior to each day's use and immediately following any incident.

- ✓ *Eye Protection* – Plastic rimmed safety glasses with side shields meeting Z87 standards shall be used at all times while working on or near exposed live parts. (HRC 0-4)

- ✓ *Face Protection* – A tinted arc shield with a balaclava-style hood shall be worn when working where there is a danger of flying objects from an electrical arc for HRC 1 or 2 hazards. Safety glasses shall be worn in conjunction with the shield. A full FR hood (beekeeper style) shall be used for high incident energy levels on category 3 or 4.
    - (Hazard Rating 1-4)

- ✓ *Head Protection* – Non-conductive hard hats shall be worn where employees are exposed to electrical conductors that could contact the head such as open bus work. (Hazard Rating 0-4

- ✓ *Hearing Protection* – Arc-rated hearing protection is required for all electrical switching of devices or where exposed to energized electrical parts rated greater than 50 volts.

- ✓ *Insulated Equipment*

  Rubber gloves rated for the voltage shall be worn when working within the restricted approach boundary on exposed parts with voltages over 50 volts. Rubber gloves shall be air tested before each day's use and dielectrically tested every 6 months (or every month if used in mine facilities governed my MSHA, Title 30 of the code of Federal Regulations). Class 0 rubber gloves may be used on voltages up to 750 volts (or 1000 volts DC). Class 2 rubber gloves are required for voltages greater than 750 volts but less than 15,000 volts, however direct contact with energized parts using rubber gloves with voltages exceeding 750 volts from a ground position is prohibited. (Hazard Rating 0-4)

  Insulated barriers (rolled rubber material) approved for use on energized equipment may be used to isolate the employee from the energized parts in lieu of using rubber gloves to avoid contact on lower voltages. Rubber gloves shall be used to install barrier material. (Hazard Rating 1-4)

- ✓ *Clothing* – Only natural fiber clothing (cotton or wool) shall be used at a minimum while working near exposed live parts including undergarments. In addition, if conditions dictate that an arc flash hazard exist, arc-rated (AR) clothing may be required. (See Table 2 for HRC levels and Table 3 for calorie/cm² ratings)

The Control of Hazardous Energies Procedures Checklist template can be found at the back of this manual.

LOCK-OUT/TAG-OUT PROGRAM

Purpose and Scope

The purpose of this procedure is to establish minimum requirements for lockout of energy sources that could cause injury to personnel. The written procedures are intended to protect employees/maintenance workers who are servicing powered machinery from possible injuries caused by the unexpected energizing or start-up of equipment. These procedures are required for maintenance, setup, or other work processes that requires an employee to place a part of their body in the point of operation or where danger exists due to pressurized pipes or moving or energized parts.

Responsibility

Superintendents, Foremen, Department Supervisors, and Responsible Crew Leads are responsible for making sure that exposed employees under their supervision are properly trained in these Lock-Out/Tag-Out procedures. Superintendents, Foremen, Department Supervisors, and Responsible Crew Leads are responsible for training of their employees and for enforcing these Lock-Out/Tag- Out procedures. This training is to be provided to each new or transferred employee. Employees will need to be re-trained when there is a change in job assignments, in machines, a change in the energy control procedure, or if a new hazard is introduced.

At minimum, this training will include:

- ✓ Review of this policy and definition of what equipment, Lock-Out, Block-Out, and Tag-Out means.
- ✓ Process for determining when lockout is required (use of procedures checklist.)
- ✓ Method for detailing the energy sources for each machine and identifying appropriate and effective lockout methods.
- ✓ Process for procuring the lock and lockout equipment.
- ✓ Sequence for notification, de-energizing, and lockout, verify lockout, clearance, release, and start-up.
- ✓ Requiring that portable power tools, including welders, drills, saws, grinders are unplugged before an employee engages in repair, adjustment, blade or wheel replacement.
- ✓ Training of contractors working on site.
- ✓ Procedures for Group Lock-Out/Tag-Out

Lock-Out/Tag-Out Procedures

The control of hazardous energy in the workplace will be accomplished through strict adherence to the Lock-Out/Tag-Out procedures. Specific Lock-Out/Tag-Out procedures are determined by conducting a Lock-Out/Tag-Out analysis of each piece of equipment, identifying the energy sources, and developing methods for effective disconnect and de-energizing. We will use the Control of Hazardous Energies Procedure Checklist. Owners, Owner Representatives, or Building Maintenance Engineers should always be notified prior to locking out systems for service work at customer locations.

LOCK-OUT/TAG-OUT PROGRAM

This Control of Hazardous Energies Procedure Checklist can be found in the back of this manual.

Preparation for Lock-Out/Tag-Out

Employees authorized to perform lockout will be certain as to which switch, valve, or other energy isolation devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, hydraulic, pneumatic, or other) may be involved. The employees will clear any questionable identification of sources with their supervisors, building owners, owner representatives, or building maintenance engineers. When necessary, job authorization will be obtained from the department supervisor before lock-out commences.

Sequence of Lock-Out & Block Procedure

Notify all affected employees, building owners, owner representatives, or building maintenance engineers that a lock-out is going to be utilized and the reason. If there are any questions on the proper lock-out procedure for a specific piece of equipment, verify the procedures with your supervisor or the building maintenance engineer at a customer location.

If the equipment is in operation, shut it down by the normal stopping procedure (stop switch, open toggle switch, etc.)

Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, pneumatic, and other) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, or otherwise specified for the particular piece of equipment.

Lock-Out and Block-Out the energy isolating device(s) with assigned individual locks, tags, or blocks. All Lock-Out Tags must have employee information affixed to tag for future inquirers. If multiple employees are performing work on the same Lock-Out/Tag-Out device all employees must affix their own personal Lock-Out/Tag-Out tag to device. The supervisor in charge of the device shall not remove any tags until all employees in the group have removed their personal tag from the device. For crew/shift changes new tags should be affixed to the device and documented.

After ensuring that no personnel are exposed and as a check on having disconnected the energy sources disconnected, operate the push button or other normal operating controls to make certain the equipment will not operate.
Always return operating controls to neutral "safe" or "off" position after this test.

The equipment is now considered effectively locked or blocked-out.

When equipment design and performance limitations make established lock-out procedures not feasible, an alternative worker protection process will be developed and enforced.

For machinery that must be capable of movement in order to perform a maintenance task such as a cleaning operation, workers are required to use extension tools such as extended swabs, brushes, scrapers, etc. to protect themselves from injury.

LOCK-OUT/TAG-OUT PROGRAM

Restoring Equipment Back to Service

After the setup, servicing or maintenance and/or when the job is complete and equipment is ready for testing or normal service, the following steps will be followed:

- ✓ Remove all non-essential items from the work area, including tools, materials, supplies, parts, etc.
- ✓ See that all equipment components are operationally intact, including guards and safety devices.
- ✓ Repair or replace defective guards before removing lock-outs devices.
- ✓ Remove each lock-out device using the correct removal sequence.
- ✓ Make a visual check before restoring energy to ensure that everyone is physically clear of the equipment.
- ✓ Operate the energy isolation devices to restore energy to the machine or equipment.
- ✓ Check the equipment area to see that no one is exposed.
- ✓ When equipment is clear, remove all locks. The energy isolating devices may be operated to restore energy to equipment.

Group Lock-Out/Tag-Out Procedures

In some cases, servicing or maintenance work is performed using a group or groups of employees. The Lock-Out/Tag-Out standard has specific requirements for Lock-Out or Tag-Out operations involving more than one employee.

Whenever servicing and/or maintenance is performed by a group of employees, the employer must develop and implement an energy control procedure that provides authorized and affected employees with the same level of protection as a personal Lock-Out or Tag-Out device.

Servicing and maintenance operations performed by a group of employees are often more complex than servicing or maintenance performed by an individual. As a result, group Lock-Out or Tag-Out operations typically require more coordination and communication than personal Lock-Out or Tag-Out operations. Greater coordination between employees is particularly important when more than one Craft or department must be involved to complete the task.

Under the standard's group Lock-Out/Tag-Out requirements, a single authorized employee must assume the overall responsibility for the control of hazardous energy for all members of the group while the servicing or maintenance work is in progress.

LOCK-OUT/TAG-OUT PROGRAM

The authorized employee with the overall responsibility must implement the energy control procedures, communicate the purpose of the operation to the servicing and maintenance employees, coordinate the operation, and ensure that all procedural steps have been properly completed. In such operations, it is critical that each authorized employee involved in the group Lock-Out/Tag-Out activity be familiar with the type and magnitude of energy that may be present during the servicing and maintenance work.

In addition, each employee must affix his/her personal Lock-Out or Tag-Out device to the group Lock-Out device, group lock-box, or comparable mechanism, before engaging in the servicing and maintenance operation. This enables the authorized employee to have control over his/her own protection and verify that the equipment has been properly deenergized. Additionally, the lockout or tagout device will inform other persons that the employee is working on the equipment, and as long as the device remains attached, the authorized person in charge of the group Lock-Out or Tag-Out knows that the work has not been completed and that it is not safe to reenergize the equipment.

The servicing employee will continue to be protected by his/her Lock-Out or Tag-Out device until it is removed. The authorized employee in charge of the group Lock-Out or Tag-Out must not remove the group Lock-Out or Tag-Out device until each employee in the group has removed his/her personal device, indicating that he/she is no longer exposed to the hazards from the servicing operation.

When the activities involving group Lock-Out or Tag-Out extend into another work shift, or there is a change of authorized employees, the provisions for shift or personnel changes must also be followed.

Review of Lock-Out/Tag-Out

Review of the Lock-Out/Tag-Out procedures will be performed annually. This will be performed by the Safety Manger. The review will include the following:

- ✓Procedures are being performed per the requirements.
- ✓Training/Re-Trainings are being performed & documented.
- ✓Verifying employee performing the Lock-Out/Tag-Out
- ✓Final review documenting review findings including date, equipment, employee & inspector.

RESPIRATORY PROTECTION PROGRAM

Respiration Protective Devices

Scope

This policy applies to all Intech Mechanical employees and staff who work in irritating or hazardous atmospheres and are required to use a respirator. An irritating and hazardous atmosphere is one that contains levels of dust, smoke, fog, fumes, mists, vapors or gases which meet or exceed level that are causing irritations or are considered to create adverse health effects by the Occupational Safety and Health Administration (OSHA).

This information within covers the selection, use, care, training for employees issued a respirator. Requirements for medical evaluations and fit testing for those required to wear a respiratory protective device to safely work are also covered.

Its often more protective, less trouble, and even cheaper to eliminate or reduce the respiratory hazard through various ways like exhaust ventilation, changes in process, or enclosure of the process. Sometimes the use of a hazardous chemical itself can be eliminated. Engineering and administrative controls should be considered prior to respirator usage. When there is no alternative, a respirator will be issued to protect employees from adverse health effects of exposure to chemicals in the air above their permissible exposure limits.

Respirators are typically used in three different situations – routine or regular exposure to processes or activities involving chemicals, infrequent, but predictable occasions where there is chemical exposure, or emergencies where there is a chemical leak or spill. Intech foremen or team leaders must generate a **Job Hazard Analysis Form (JHA)** prior to directing workers to use a respirator that identifies the specific reasons for usage. Intech workers should not be working in IDLH (Immediately Dangerous to Life and Health) environments.

To provide proper protection, respirators must be the right type, must be worn correctly at all times, and must be maintained properly. They are prone to leakage, depending on the correct behavior of individual employees and may require much maintenance and management oversight. This is why they are considered as a last resort to protect employees from airborne chemical hazards.

Employees must immediately leave an area where respirators are required if any of the following are experienced when using their respirator:

- ✓ Need for the replacement of filters or cartridges.
- ✓ If they smell or taste a chemical inside the respirator.
- ✓ If they notice a change in breathing resistance.
- ✓ Need to adjust their respirator.
- ✓ Need to wash their face or their respirator.
- ✓ If they become ill.

- ✓ If they experience dizziness, nausea, weakness, breathing difficulty, coughing, sneezing vomiting, fever, or chills.

A template for the Job Hazard Analysis Form can be found in Section 21 at the back of this manual.

Medical Evaluations and Device Fit Testing

All employees who are required wear a respirator will be provided with a medical evaluation and fit testing by a licensed medical provider before they are allowed to use the device or issued a new one. Fit testing will be repeated annually and will also be performed when a different respirator facepiece is chosen, when there is a physical change in an employee's face that would affect fit, or when our employees or medical provider notify us that the fit is unacceptable. No beards, mustaches, sideburns or stubble beard growth which cross the respirator sealing surface to the face will be allowed for those wearing tight-fitting respirators. Employees must be clean shaven to test for a respirator.
If corrective glasses or other personal protective equipment are to be worn, they must not interfere with the seal of the facepiece to the face.

Training

All Intech employees that are required to wear a respirator will have training which will be renewed annually. Training will also be done when an employee uses a different type of respirator or workplace conditions affecting respiratory hazards or respirator use have changed.
Training will cover the following topics:

- ✓ Why the respirator is necessary.
- ✓ The respirator's capabilities and limitations
- ✓ How improper fit, use or maintenance can make the respirator ineffective.
- ✓ How to properly inspect, put on, seal check, use, and remove the respirator.
- ✓ How to clean, repair and store the respirator.
- ✓ How to use a respirator in an emergency situation or when it fails.
- ✓ Medical symptoms that may limit or prevent respirator use.

Records of Intech employee's fit testing results and training will be kept with by Intech Safety Manager but will be kept confidential. Employees will have access to their own records upon request.

Device Care, Cleaning and Storage

Employees will inspect all parts of their devices for damage, deterioration or improper functioning before and after each use. Users of respirators will notify his/her supervisor when problems are discovered so devices can be repaired and replaced as needed.

Respirators will be cleaned daily and before each usage. Cartridges should replaced per to the manufacturer's instructions or when they become visibly soiled. Employees should use the manufacturer's instructions for how to properly clean their specific devices.

After cleaning, respirators should be stored in a non-porous, air-tight container, sealing package, or a Ziplock bag to avoid collecting dust and then marked with the employee's name. Respirators should be put away as soon as they are fully dry from cleaning. Face pieces and valves should be stored in a manner that does not distort the shape and in an area with no exposure to the sun or heat.

Voluntary Use

Some employees may wish for additional protection against ambient materials that are not producing exposures at or near threshold limit values or wish to minimize nuisance levels of ambient materials and therefore choose to wear a respirator. This is considered voluntary use of a respirator.

Lead Awareness

On some job sites, employees may have potential occupational exposure to lead while performing their job function if precautionary steps noted below are not taken. Possible locations of lead containing materials include leaded paints, leaded solders, pipes, batteries, circuit boards, cathode ray tubes, leaded glass, and demolition/salvage materials. Undisturbed, lead is perfectly safe.

Employees will abide by warning signs/labels/assessment reports and will not disturb lead containing materials.

Exposure above the Action Level (employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30µ/m³) calculated as an 8-hour time weighted average (TWA) could result in detrimental acute lead poisoning health effects which could include:

- ✓ Loss of appetite
- ✓ Nausea
- ✓ Vomiting
- ✓ Stomach cramps
- ✓ Constipation
- ✓ Difficulty sleeping
- ✓ Fatigue
- ✓ Moodiness
- ✓ Headache

- ✓ Joint or muscle aches
- ✓ Anemia.

Chronic overexposure could result in severe damage to the blood-forming, nervous, urinary, and reproductive systems.

Lead awareness training is required for any employees who work in areas that contain or may contain lead.

Lead training must be documented. The documentation will contain the dates of training, the employee's name, and the trainer's name. Training must be given by a competent person.

Additional steps to avoid lead exposure are as follows:

- ✓ Under no circumstances will lead containing material or material presumed to be containing lead be disturbed during work activities.
- ✓ If you believe the materials you will be working with contain lead, contact your supervisor. Intech will then remove all employees from the affected area until the exposure is confined and assessed.
- ✓ If contact with lead wash face and hands immediately.
- ✓ When working on multi-contractor worksites follow the following procedures:
    - o All Employees shall use personal protective equipment and appropriate respiratory devices that have been fit to the employee to protect from any lead exposure.
    - o Working adjacent to an abatement activity and where employees could be exposed, all employees will be removed from worksite area and assessed for symptoms of exposure.
    - o Employees will not return to exposed area until area is cleared and the lead is contained.

Training

Lead awareness training is required before any assignments where lead exposure is possible and for those who may be in contact with lead containing materials but do not disturb the material during their work activities.
Refresher training must be given annually.

Lead awareness training shall be documented which includes the dates of training, location of training, employee/s names and trainer name.

Training will include the health effects of lead, how to report suspected locations of lead containing materials and methods to not to disturb any possible lead containing material.

Training records shall be provided upon request to regulatory agencies and shall include all materials relating to the employee training program.

Asbestos Awareness

Purpose

To establish awareness for employees who may come in contact with Asbestos.

What is Asbestos?

Asbestos is a naturally occurring mineral fiber. It was used in numerous building materials and vehicle products for its strength and ability to resist heat and corrosion before its dangerous health effects were discovered. Individual asbestos fibers cannot be seen by the naked eye, which puts workers at an increased risk.
In the construction industry, asbestos is found in installed products such as sprayed-on fireproofing, pipe insulation, floor tiles, cement pipe and sheet, roofing felts and shingles, ceiling tiles, fire-resistant drywall, drywall joint compounds, and acoustical products.
Materials are presumed to contain asbestos if installed before 1981 unless a piece of the material is sent to a reputable laboratory to be analyzed.

Because very few asbestos containing products are being installed today, most worker exposures occur during the removal of asbestos and the renovation and maintenance of buildings and structures containing asbestos.

No Intech workers will disturb any materials known to contain asbestos unless they are fully trained and are wearing appropriate PPE to mitigate the hazards of handling the material.

Health Risks

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, a cancerous tumor that spreads rapidly in the cells of membranes covering the lungs and body organs; and gastrointestinal cancer. The symptoms of these diseases generally do not appear for 20 or more years after initial exposure.

Permissible Exposure Limits (PEL)

Employers must ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 f/cc as an 8-hour time-weighted average (TWA). In addition, employees must not be exposed to an airborne concentration of asbestos in excess of 1 f/cc as averaged over a sampling period of 30 minutes.

Regulated Areas

A regulated area is a marked-off site where employee's work around asbestos, including any adjoining areas where debris and waste from asbestos work accumulates or where airborne concentrations of asbestos exceed, or can possibly exceed, the PEL.

All work areas, or any other operations where airborne asbestos exceeds the PEL, must be performed within regulated areas. Only persons permitted by an employer and required by work duties to be present

in regulated areas may enter a regulated area. A designated competent person supervises all asbestos work performed in this area. Employers must mark off the regulated area in a manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne asbestos. You may use critical barriers (i.e., plastic sheeting placed over all openings to the work area to prevent airborne asbestos from migrating to an adjacent area) or negative pressure enclosures to mark off a regulated area.

Warning signs must be posted demarcating the area and must be easily readable and understandable. The signs must bear the following information:

- ✓ DANGER ASBESTOS
- ✓ CANCER AND LUNG DISEASE HAZARD
- ✓ AUTHORIZED PERSONNEL ONLY
- ✓ RESPIRATORY AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

Employers must supply a respirator to all persons entering regulated areas. Employees must not eat, drink, smoke, chew (tobacco or gum), or apply cosmetics in regulated areas.

Control

An employer performing work in a regulated area must inform other employers onsite of the following:

- ✓ Nature of the work
- ✓ Regulated area requirements
- ✓ Measures taken to protect onsite employees.

The contractor creating or controlling the source of asbestos contamination must abate the hazards.
All employers with employees working near regulated areas, must daily assess the enclosure's integrity or the effectiveness of control methods to prevent airborne asbestos from migrating.
General contractors on a construction project must oversee all asbestos work, even though they may not be the employer of the designated competent person. As supervisor of the entire project, the general contractor determines whether asbestos contractors comply with the standard and ensures that they correct any problems.

All Intech employees performing work on a project or site containing identified asbestos hazards will abide by all warning signs or labels. No controlled area will be entered unless the worker has been fully trained, is wearing appropriate PPE, and has the permission of the controlling general contractor and the designated competent person.

Who is responsible for reporting Asbestos?

The communication of asbestos hazards is vital to prevent overexposure. Most asbestos-related construction involves previously installed building materials.

Building/facility owners often are the only or best source of information concerning these materials. Building/facility owners, as well as employers of workers who may be exposed to asbestos hazards, have specific duties under the standard.

Before work begins, building/facility owners must identify all thermal system insulation at the worksite, sprayed or troweled-on surfacing materials in buildings, and resilient flooring material installed before 1981. They also must notify the following persons of the presence, location, and quantity of asbestos containing material (ACM):

- ✓ Prospective employers applying or bidding for work in or adjacent to areas containing asbestos.
- ✓ Building owners' employees who work in or adjacent to these areas.
- ✓ Other employers on multi-employer worksites with employees working in or adjacent to these areas.
- ✓ All tenants who will occupy the areas containing ACM.

Employers discovering ACM on a worksite must notify the building/facility owner and other employer's onsite within 24 hours regarding its presence, location, and quantity.

Training

Intech will provide training for any employees who are likely to be exposed in excess of a PEL and for all employees performing work where asbestos is determined to be present. Employees must be trained prior to or at initial assignment and at least annually thereafter.

Personal Protective Equipment (PPE)

Intech will provide PPE for employees that are working in areas that are suspect or determined to contain asbestos. This should include:

Half-Mask Purifying Respirators - Other than disposable respirators and that are equipped with high efficiency filters. This will include:

- ✓ Procedures for selecting respirators for use in the workplace.
- ✓ Fit testing procedures for tight-fitting respirators.
- ✓ Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations.
- ✓ Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and maintaining respirators.

Protective Clothing - Such as coveralls or similar whole-body clothing, head coverings, gloves, and foot coverings.

Benzene Awareness

Purpose

To establish awareness for employees who may come in contact with Benzene.

What is Benzine?

Benzene, a hydrocarbon, is a colorless to light-yellow liquid with a pleasant/sweet odor. It is known as a "aromatic hydrocarbon". Benzene is flammable and can accumulate static electricity. Benzene vapors are heavier that air and may travel to a source of ignition and flash back. The vapors are readily dispersed by wind movement and/or air currents. Liquid benzene tends to float on water and may travel to a source of ignition and spread fire. Benzene is highly reactive with no oxidizing materials.

Benzene is formed from both natural processes and human activities.

Benzene is a component of gasoline, both in the manufacturing process and found naturally in crude oil. Benzene is produced naturally by volcanoes and forest fires. In homes, benzene may be found in glues, adhesives, cleaning products, paint strippers, and tobacco smoke. Most benzene in the environment comes from our use of petroleum products.
Benzene is widely used in the United States. It ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals that are used to make plastics, resins, and nylon and synthetic fibers. Benzene is also used to make some types of lubricants, rubbers, dyes, detergents, drugs, and pesticides.

Exposure

How can I be exposed to benzene?

Outdoor air contains low levels of benzene from tobacco smoke, gas stations, motor vehicle exhaust, and industrial emissions.
Indoor air generally contains levels of benzene higher than those in outdoor air. The benzene in indoor air comes from products that contain benzene such as glues, paints, furniture wax, and detergents.
The air around hazardous waste sites or gas stations can contain higher levels of benzene than in other areas.
Benzene can leak from underground storage tanks or from hazardous waste sites which can contaminate well water.
People working in industries that make or use benzene may be exposed to the highest levels of it.

Health Risks

Benzene is one of the most hazardous of all petroleum products because of its adverse health hazards and high flammability.
It is also a recognized carcinogen and is a cancer-causing agent in humans. All contact should be reduced to the lowest possible level. Skin contact may also cause overexposure.

Benzene poisoning occurs primarily through inhalation of its vapors. Although benzine can penetrate the skin, intact skin does not easily absorb benzine into the body.

The following adverse health effects are important to remember where there may be a potential exposure to benzene:

Acute: Acute poisoning refers to exposure to a high level of benzine in a short period of time. At high concentrations (1000 PPM) Benzene has an acute effect on the central nervous systems causing headaches, dizziness, drowsiness, unconsciousness, and possible death. Acute exposure can also cause breathlessness, irritability, and giddiness.

Chronic: Chronic poisoning refers to exposure to a low level of benzine over a long period of time. Benzene has the chronic exposure effect on bone marrow (aplastic anemia leukemia).
Chronic exposure can also cause convulsions, liver damage, heart damage, blood diseases (aplastic anemia), and cancer (leukemia). These symptoms can take months or years to surface and can develop without physical or visible indications.

Repeated skin contact leads to irritant contact dermatitis (rash); as with any petroleum solvent (which Benzene is also classified as), it will leach the natural oils out of the skin. Direct contact with the skin can cause erythema and/or blistering.

Benzene is irritating to eyes and mucous membranes.

Benzine is highly flammable with even low levels of vapor quantity in air.
It is also highly explosive. Having a very low flash point, it is dangerous to have any open flame, spark, or source of ignition when vapors are present. All sources of ignition should be kept away from areas known to contain benzine.

Permissible Exposure Limits (PEL)

The permissible exposure limit (PEL) was set by OSHA at one part per million (ppm) of benzine in the air. The standard calls for a 15-minute short-term exposure limit (STEL) of 5 ppm.
When levels of 0.5 ppm of benzine are detected, additional actions are required that could include personal protective equipment, employee monitoring, medical surveillance, medical removal protection, hazard communication, regulated areas and record keeping.

Regulated Areas

In the event that Intech employees are working in an area where levels of benzine are determined to exceed the PEL, a regulated area must be established that limits access to all un-authorized persons.

Personal Protective Equipment (PPE)

Any Intech employee working in an area determined to have levels of benzine above the PEL will be appropriately fit tested and must wear respiratory protection rated for airborne concentrations of benzine. Additional protective clothing and equipment shall be worn where appropriate to prevent eye contact and limit dermal exposure.

RESPIRATORY PROTECTION PROGRAM

Protection from Wildfire Smoke

Intech Mechanical has implemented this policy to protect its employees from Wildfire Smoke causing the Air Quality Index (AQI) to reach 100 or greater for PM2.5 regardless of the AQI for other pollutants.

Employees working in the following conditions or spaces are exempt:

- ✓ In enclosed buildings or structures in which the air is filtered by a mechanical ventilation system and the employer ensures that windows, doors, bays, and other openings are kept closed to minimize contamination by outdoor or unfiltered air.
- ✓ Those in enclosed vehicles in which the air is filtered by a cabin air filter and the employer ensures that windows, doors, and other openings are kept closed to minimize contamination by outdoor or unfiltered air.
- ✓ Employees exposed to a current AQI for PM2.5 of 100 or greater for a total of one hour or less during a shift.

Intech shall determine employee exposure to PM2.5 for worksites covered by this section at the start of each shift and periodically thereafter.

Intech will inform its employees as early in their shift as possible that the air is unhealthy for sensitive people and will provide respirators or protective measures upon request.

Respirators will be provided after medical evaluations and fit testing and shall be NIOSH-approved devices that effectively protect the employee from inhalation of PM2.5. These can include devices such as N95 filtering facepiece respirators which shall be cleaned or replaced as appropriate.
All respirators shall be stored and maintained so that they do not present a health hazard to users.
Note: Respirator use is not required if the employer demonstrates that the employees are exposed to arc flash hazards and that arc-rated face shields, or hoods worn over a respirator, would create a greater hazard to the employee than exposure to PM2.5 without a respirator.

Intech Mechanical reserves the right to end work and shut down jobsites when the AQI rises to levels deemed unhealthy.

Intech employees have the right to obtain medical treatment without fear of reprisal.

If the current AQI for PM2.5 is 151 or greater. Intech will implement additional protective methods. They may include the following:

- ✓ Locating work in enclosed structures or vehicles where the air is filtered.
- ✓ Changing procedures such as moving workers to a place with a lower current AQI for PM2.5.
- ✓ Reducing work time in areas with unfiltered air.
- ✓ Increasing rest time and frequency and providing a rest area with filtered air.
- ✓ Reducing the physical intensity of the work to help lower the breathing and heart rates.

- ✓ End work and shut down jobsites when the AQI rises to levels deemed unhealthy.

Definitions

Current Air Quality Index (Current AQI) - The method used by the U.S. Environmental Protection Agency (U.S. EPA) to report air quality on a real-time basis. Current AQI is also referred to as the "NowCast" and represents data collected over time periods of varying length in order to reflect present conditions as accurately as possible.
The current AQI is divided into six categories as shown in the table below:

Air Quality Index (AQI) Categories for PM2.5	Levels of Health Concern
0 to 50	Good
51 to 100	Moderate
101 to 150	Unhealthy for Sensitive Groups
151 to 200	Unhealthy
201 to 300	Very Unhealthy
301 to 500	Hazardous

NIOSH - The National Institute for Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention. NIOSH tests and approves respirators for use in the workplace.

PM2.5 - Solid particles and liquid droplets suspended in air, known as particulate matter, with an aerodynamic diameter of 2.5 micrometers or smaller.

Wildfire Smoke - Emissions from fires in "wildlands," as defined in Title 8, section 3402, or in adjacent developed areas.

How can Wildfire Smoke affect my health?

Although there are many hazardous chemicals in wildfire smoke, the main harmful pollutant for people who are not very close to the fire is "particulate matter," These are the tiny particles suspended in the air.
Particulate matter can irritate the lungs and cause persistent coughing, phlegm, wheezing, or difficulty breathing. Particulate matter can also cause more serious problems, such as reduced lung function, bronchitis, worsening of asthma, heart failure, and early death.
People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects.
The smallest—and usually the most harmful—particulate matter is called PM2.5 because it has a diameter of 2.5 micrometers or smaller.

How can I obtain the current Air Quality Index (AQI) for PM2.5?

The easiest way to find the current and forecasted AQI for PM2.5 is to go to www.AirNow.gov and enter the zip code of the location where you will be working. The current AQI is also available from the U.S. Forest Service at https://tools.airfire.org/ or a local air district, which can be located at www.arb.ca.gov/capcoa/dismap.htm.

Training

Intech will provide employees with training that will include the harmful effects that wildfire smoke poses to employees.

RESPIRABLE CRYSTALLINE SILICA

What is Crystalline Silica?

Crystalline Silica means quartz, cristobalite, and/or tridymite and is a common mineral found in many naturally occurring materials and used in many industrial products and at construction sites. Materials like sand, concrete, stone and mortar contain crystalline silica.

Crystalline silica is also used to make products such as glass, pottery, ceramics, bricks, concrete, and artificial stone. Industrial sand used in certain operations such as foundry work and hydraulic fracturing (fracking), is also a source of crystalline silica exposure.

Amorphous silica, such as the material found in electronics packaging silica gel packets, is not crystalline silica.

How can exposure to Crystalline Silica affect my health?

Inhaling very small ("respirable") crystalline silica particles can potentially cause multiple diseases including silicosis, an incurable lung disease that can lead to disability and death. Respirable crystalline silica also causes lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease.

The following written exposure control plan has been written to protect employees and others who may come in contact with respirable silica during the course of work.

OSHA Regulation 1926.1153 (T8 CCR 1532.3) - What does this regulation mean?

Operations that may exposure workers to respirable crystalline silica will comply with 1926.1153 (T8 CCR 1532.3) - Any worker drilling, sawing, grinding, cutting, crushing, or otherwise working with materials such as stone, rock, concrete, brick, block, mortar, industrial sand, etc. except where employee exposure will remain below 25 micrograms (25µG/m3) as measured in an 8-hour time weighted average (TWA) will now be required to use engineering methods such as hepa-vacs or wet methods to control dust (Respirable Silica).

25 micrograms (25µG/m3) is the action level to where protective control methods must be implemented.

The regulation reduces the Permissible Exposure Limit (PEL) to 50 micrograms (50µG/m3) over an 8-hour period. Dust control measures must be used to protect workers from exposure beyond this point.

Respirators alone will no longer be an acceptable method for primary protection.

Respirators will only be allowed when engineering and work practice controls cannot maintain exposures at or below the PEL and then will be in-addition-to.

See OSHA Table 1 on the following page for various related tasks and acceptable methods for protection and compliance.

RESPIRABLE CRYSTALLINE SILICA

Any visible dust from activities noted above most likely will be a violation of the regulation.

Foremen, Project Leaders, and Supervisors overseeing projects, work, tasks, or otherwise need to be trained as a Competent Person.
A Competent Person is an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has the authority to take prompt corrective measures to eliminate or minimize them.
The competent person must have the knowledge and ability necessary to fulfill the responsibilities set forth in this section.

All employees with possible exposure to Respirable Crystalline Silica shall be trained to know the health hazards with silica exposure. This will include how to identify work tasks that could expose themselves and others in the immediate area, protective measures including engineering controls, alternate work practices, and respiratory protection. Supervisors shall complete a Silica Exposure Control Plan found in Section 21 of this manual prior to assigning tasks with exposure risks.

No cost medical exams, including chest x-rays and lung function tests will be available every (3) three years for workers who are required by the standard to wear a respirator for (30) thirty of more days per year.

Isolation/Separation for those nearby should be considered for applicable tasks to minimize exposure. Dust barriers such as plastic sheeting should be installed to minimize exposure to others in areas of work.

Housekeeping tasks, such as sweeping, that expose workers to silica should be modified to be performed during hours where traffic is minimal, by using sweeping compound, or by wetting areas down. Methods using compressed air are prohibited.

Performing tasks or using equipment not noted on Table 1 will require exposure monitoring from a certified respirable hygienist and implementation of necessary controls based on monitoring results.

Specific tasks not typically performed by Intech Mechanical workers are in grey fields within Table 1 on the following pages. These tasks could still be a source of exposure for Intech employees when being performed in the immediate ares by other trades and care should be followed to mitigate these hazards.

Respirable Silica exposure concerns or hazards to any Intech employee being generated by another trade should be reported to your supervisor, job foreman, or Safety Manager immediately.

Specific information about equipment and tools issued by Intech Mechanical such as manufacturer's suggested maintenance, features, and options relative to this policy will be issued with the tools and should always be followed. Additional copies can be obtained from the Tool and Equipment Coordinator.

RESPIRABLE CRYSTALLINE SILICA

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	*Engineering and Work Practice Control Methods*	*Required Respiratory Protection and Minimum Assigned Protection Factor (APF)*	
		≤ 4 hours /shift	*> 4 hours /shift*
Stationary Masonry Saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Handheld Power Saws (any blade diameter) 	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	When used outdoors	**None**	**APF 10**
	When used indoors or in an enclosed area	**APF 10**	**APF 10**
Handheld Power Saws for cutting fiber- cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available 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.	None	None
Walk-Behind Saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	When used outdoors	None	None
	When used indoors or in an enclosed area	APF 10	APF 10
Drivable Saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None

RESPIRABLE CRYSTALLINE SILICA

Rig-Mounted Core Saws or Drills 	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	**None**	**None**
Handheld and Stand-Mounted Drills (including Impact and Rotary Hammer Drills) 	Use drill equipped with 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**
Dowel Drilling Rigs for Concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10
Vehicle-Mounted Drilling Rigs for Rock and Concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. Operate from within an enclosed cab and use water for dust suppression on drill bit. **OR** Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None

RESPIRABLE CRYSTALLINE SILICA

Jackhammers and handheld Powered Chipping Tools 	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.		
	When used outdoors	**None**	**APF 10**
	When used indoors or in an enclosed area	**APF 10**	**APF10**
	OR Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide air flow recommended by tool manuafcturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.		
	When used outdoors	**None**	**APF 10**
	When used indoors or in an enclosed area	**APF 10**	**APF 10**
Handheld Grinders for Mortar Removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25
Handheld Grinders for uses other than Mortar Removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
	OR Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
	When used outdoors	None	None
	When used indoors or in an enclosed area	None	APF 10

RESPIRABLE CRYSTALLINE SILICA

Walk-Behind Milling Machines and Floor Grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. **OR** Use machine equipped with dust collection system recommended by the manufacturer.Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None
Small Drivable Milling Machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
Large Drivable Milling Machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. For cuts of four inches in depth or less on any substate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. **OR** Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None None None	None None None

Crushing Machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyors, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
Heavy Equipment and Utility Vehicles used to abrade or fracture silica- containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab.	None	None
	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
Heavy Equipment and Utility Vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials 	Apply water and/or dust suppressants as necessary to minimize dust emissions.	**None**	**None**
	OR		
	When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	**None**	**None**

BLOODBORNE PATHOGEN PROGRAM

Purpose

This program is for all employees of Intech Mechanical who may possibly be exposed to blood or body fluids in the conduct of their job. The plan includes requirements for personal protective equipment, training, and general procedures.

Hazards

Unprotected exposure to body fluids presents the possible risk of infection from a number of Bloodborne Pathogens notably Hepatitis and HIV.

Responsibilities

The Safety Manager will administer the Bloodborne Pathogen Program and maintain records of any training and/or inspections as required.

Definitions

Biological Hazard - The term biological hazard or biohazard is taken to mean any viable infectious agent that presents a risk or a potential risk to the well-being of humans.

Medical Wastes/Infectious Wastes - All waste emanating from human or animal tissues, blood or blood products or fluids. This includes used first aid bandages, syringes, needles, sharps, material used in spill cleanup and contaminated PPE or clothing.

Universal Precautions - Refers to a system of infectious disease control that assumes that every direct contact with body fluids is infectious and requires every employee exposed to be protected as though such body fluids were infected with blood-borne pathogens. All infectious/medical material must be handled according to Universal Precautions.

Administrative Controls - Prevention of exposure to Bloodborne Pathogens by Administrative Controls includes universal precautions such as assignment of PPE, employee training, use of spill kits specifically designed for blood and body fluids and waste disposal procedures.

Record Keeping

Any reports required by OSHA will be maintained by the Intech's Safety Manager. All reports of occupationally contracted HBV or HIV will be recorded on the OSHA 300 Log of Occupational Injuries and Illnesses as an illness.

Training

All employees assigned duties that have a potential exposure to Bloodborne Pathogens will receive training on the Bloodborne Pathogen Program.

The content of the training program will include:

- ✓ Specific Job Site Policy

BLOODBORNE PATHOGEN PROGRAM

- ✓ Types & Transmission of Bloodborne Pathogens.
- ✓ Universal Precautions
- ✓ Use of Personal Protective Equipment
- ✓ Documentation of training shall be done by the Safety Manager.

General Procedures

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a potential for exposure to any health hazard.

Employees must wash their hands immediately, or as soon as possible, after removal of gloves or other personal protective equipment.

All personal protective equipment must be removed immediately upon leaving the work area It must be placed in an appropriate area or container for storage, washing, decontamination, or disposal.

Contaminated clothing must not be worn in clean areas or outside the building.

Personal Protective Equipment (PPE)

Protective suits, hand protection and other PPE may be required for an employee working in conditions where the exposure to Bloodborne Pathogens is possible. Masks and eye protection are required when contact of mucosal membranes (eyes, mouth or nose) with body fluids is possible.

CONTAMINATED SOIL PROGRAM

Purpose and Scope

Construction work often involves development of sites, both large and small, that have been contaminated by various substances. Contamination can be a health risk to both site workers and others living, working or passing nearby, if the risks are not controlled.

This plan applies to all types of construction sites during any stages of construction, including excavation and demolition. Its purpose is to:

- ✓ Raise awareness of potential worker health risks at construction sites with contaminated soil or water.
- ✓ Provide general guidance for risk assessment relating to contaminates.
- ✓ Provide guidance on controlling risks of exposure.

Definition of a Contaminated Site

A contaminated site has had one or more certain substances added to it exceeding background levels (naturally-occurring concentrations of substances in the local area of the site) which may be a risk to human health or the environment.

These substances can be chemicals such as heavy metals or solvents, or other contaminants such as medical waste.

Contamination may be the result of:

- ✓ Industrial processes once carried out on the site.
- ✓ Older buildings and construction methods from the pre-50's, 60's, and 70's.
- ✓ Materials stored or dumped on the site.
- ✓ Some agricultural processes on the site, such as sheep dip or where farm chemicals were mixed for application.
- ✓ Contaminants in imported fill.
- ✓ Demolition.

Where is Contamination found?

A site may have contamination:

- ✓ On the surface of the soil or in fill material.
- ✓ Deeper in the soil (covered by soil or fill and not exposed until excavation starts.)
- ✓ In surface water

- ✓ In ground water
- ✓ In the air
- ✓ Taken up by vegetation growing on the site.
- ✓ As a result of substances released from existing buildings or plant during demolition (e.g. asbestos)

Contaminants in soil are usually a greater risk to health than those in ground water or surface water because workers are more frequently in contact with soil.

Contaminants may be present in different amounts, in different locations on any site.

Usually contaminants are in the top 0.5 -1 m soil layer, although rain or water infiltration may carry contamination across a site. In some cases, wastes may be buried at deeper levels, especially if:

- ✓ Natural hollows in the site were previously filled with imported materials.
- ✓ The site was used as a waste storage depot or tip.
- ✓ If an underground storage tank or other underground structure existed.

Obvious signs that a site is contaminated include:

- ✓ Discolored soil, or slimy or oily patches.
- ✓ Distinctive odors from the soil.
- ✓ Foul smelling/discolored surface water.
- ✓ Buried drums or other containers.
- ✓ Other waste material (may include asbestos or clinical waste)
- ✓ Poorly growing or deformed vegetation.
- ✓ Geotextile marker layer material.

Examples of Contaminants

Some common contaminants can be found on any site. Others depend on previous site use. The main types of contaminants that may be harmful to workers' health are:

- ✓ Metals (e.g. Lead)
- ✓ In-organic compounds (e.g. Cyanide Compounds)
- ✓ Oils and Tars

- ✓ Pesticides
- ✓ Other Organic Compounds (e.g. Benzene, Toluene, Polychlorinated Biphenyls (PCBs).
- ✓ Toxic, Explosive or Asphyxiant Gases (e.g. Methane)
- ✓ Combustible Substances (e.g. Petrol)
- ✓ Fibers (e.g. Asbestos, Synthetic Mineral Fibers)
- ✓ Putrescible or Infectious Materials (e.g. Medical Wastes)
- ✓ Radioactive Waste
- ✓ Other harmful Waste (e.g. Unexploded Ordinance, Syringes)

Potential Health Affects

Short or long-term health effects to people exposed to contaminants depend on:

- ✓ The type of contaminants at the site.
- ✓ The quantity of contaminants present.
- ✓ The amount of time a person is exposed.

Exposure to contaminants in soil and/or water or fumes in the air can cause harm quickly (acute effects) or cause illness long after exposure (chronic effects).
Adverse health effects caused by certain chemicals can include:

- ✓ Headaches and Nausea
- ✓ Skin Rashes
- ✓ Breathing difficulties
- ✓ Liver or Kidney problems
- ✓ Some types of Cancer in the long term

DO NOT ignore the symptoms of possible exposure such as skin irritation or nausea. If you develop such symptoms and have been working on a site that is or may be contaminated, report it to your employer and discuss it with your doctor.

Employees can be exposed when the body absorbs chemicals mainly by:

- ✓ Direct contact with the skin or eyes (includes exposure to dust)
- ✓ Penetration through the skin (either damaged skin or intact skin)

- ✓ Breathing in particles, dust, fibers or fumes and vapors
- ✓ Swallowing soil particles or contaminated water
- ✓ Contaminated food or drinking water

Site Assessment

Many chemicals that are considered contaminants are present in soil on most sites at some level either naturally or introduced by some former industrial process. In small amounts, these contaminants should not present a health risk; at higher levels there may be a health risk and precautions may be necessary. (Exact levels for each chemical that may be a risk to health will depend on each situation.) On any site where contamination is, or may be present, a site assessment should be carried out as part of the process of identifying any risks to health and safety and determining control measures needed before construction work begins. Have a site history indicating there may be contamination. A site assessment involves checking the site's history, and if previous land use indicates that contaminants may be present (or there are obvious signs of contamination), taking soil samples to analyze them and identify what contaminants are present and at what concentrations. Site assessments should be undertaken by a competent person with skill, knowledge, training and contaminated site experience using measures to protect against possible exposure. In most cases, specialist advice will be required to assist with taking soil samples during a site assessment, interpret test results and carry out risk assessments reflecting information provided by the site assessment.

Risk Assessment

If the site assessment indicates contaminants are present, risks to the health of workers and others in the area should be assessed. A risk assessment should be carried out by a competent person and may require additional specialist advice. The risk assessment should consider the:

- ✓ Type of contaminant present
- ✓ Working conditions
- ✓ Tasks to be carried out
- ✓ Routes of exposure (the way substances get into the body)
- ✓ Level of exposure (e.g. hours of working in those conditions)

The level of contaminants that may pose a workers' health risk can vary from site to site depending on the type of contaminant and jobs performed. Each site will need an individual assessment. Information from a risk assessment will determine appropriate control measures for workers on the site. These measures should be included in any health and safety plan and the Job Safety Analysis (JSA) for any work involving contaminant exposure.

CONTAMINATED SOIL PROGRAM

Unexpected Contamination and "Hotspots"

Sometimes site contamination is not expected and is detected after work commences. Excavations may uncover buried drums, other materials containing contaminants, or a geotextile 'marker layer'. This geotextile layer indicates that the site may have been contaminated and partially cleaned up previously. In other situations, a site may have been tested for contaminants at several locations, but some contamination "hotspots" may have been missed. Unexpected contamination or hotspots on a site should be considered for any site health and safety plan. Precautions should be included in the plan, including workers trained to recognize potential contamination and danger signs e.g. odors or soil discoloration.

Precautions should be taken if signs of unexpected contamination or hot spots are found such as:

- ✓ Stop work
- ✓ Report signs to the site supervisor immediately
- ✓ Isolate the area with a physical barrier
- ✓ Assume the area is contaminated until an assessment proves otherwise
- ✓ Assess the area to identify contaminants in the soil or spoil

Personal Protective Equipment (PPE) and Clothing

Work on contaminated sites usually requires using a range of personal protective equipment and clothing (PPE). PPE includes clothing e.g. overalls, boots and gloves, and eye protection, and may also include breathing protection, such as dust masks or respirators.
PPE should only be used where it is not reasonably practical to eliminate hazards or isolate people from them.
The use of PPE can lead to other dangers i.e. heat stress, and working difficulties such as restricted vision, lack of mobility and communication problems. Consider these factors when selecting the appropriate equipment. Further risk assessments may be necessary to determine PPE impact on other tasks at the site.
Selection of appropriate levels of PPE is based on the:

- ✓ Type and amount of the contaminants on site
- ✓ Nature of the work
- ✓ Expected or potential exposure levels
- ✓ Route of entry of the contaminants into the body
- ✓ Actual performance of PPE

Workers should be trained and instructed in the correct use of specialized PPE (such as breathing protection).

PPE must be regularly cleaned, maintained and inspected to ensure it remains effective. The Safety Manager may need to consult an occupational hygienist for advice on the selection of specialized PPE, training and the supervision for staff using this equipment.

TOOLS AND EQUIPMENT

Portable Tools and Equipment

The following section applies to all portable and plug-connected tools and equipment and the electrical tools, equipment and systems to operate them.

The following general requirements apply to all portable and/or plug-connected tools and equipment:

- ✓ Where wet /damp conditions exist, tools and equipment will be GFCI protected (including double insulated tools).
- ✓ The non-current carrying metal parts of portable and/or plug-connected equipment will be grounded
- ✓ Portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded; where such an approved system is employed, the equipment will be marked by the manufacturer.
- ✓ Each tool, cord and plug, and any equipment connected by cord and plug should be visually inspected before each day's use for external defects and indication of possible internal damage.
- ✓ Tools and equipment found damaged or defective should be removed from service and not used until properly repaired.
- ✓ Tools should not be carried by their power cord.
- ✓ Electric powered tools and equipment should not be used in hazardous locations unless intrinsically safe.
- ✓ All tools and equipment shall be unplugged or de-energized by removing the batteries prior to performing any alteration, maintenance or servicing operation such as cleaning and changing blades, bits or accessories.
- ✓ Appropriate guarding of all tools and equipment will be provided and must be maintained and used as per manufacturer's guidelines.
- ✓ Where tools are used which present a "flying debris" hazard (grinding operations, threading operations, chop saws, drilling overhead, powder actuated, chain saws, etc.), employees will use proper eye protection including goggles, safety glasses, and/or protective face shields.

Extension Cords

Only heavy duty, three-wire ground extension cords should be used with portable electric tools and appliances.

Minimum acceptable size of electrical cords is 12-gauge, 3 wire, heavy duty and must have illuminated plugs.

Cords will be protected from damage by doors, aerial lifts, mobile equipment, traffic, chemicals, top track etc.

TOOLS AND EQUIPMENT

Cords should not be run down the middle of passageways, in stairwells and other paths of travel.

Whenever possible, all cords and cables should be elevated above the floor/ground a minimum of seven feet (7'). When elevating cords and cables, non-conductive fasteners will be used. Plastic S-style cord hangers are preferred.

Cords should be inspected daily before use for external defects such as deformed or missing pins or insulation damage and potential internal damage

Damaged or defective equipment will be immediately removed from service and destroyed. Repaired cords are prohibited from Intech projects and shops.

Ground Fault Circuit Protection (GFCI)

Ground fault circuit protection is the preferred method of assured grounding on our job sites. Ground fault circuit protection is required at all branch circuits throughout the length of the construction project. Ground fault circuit interrupters (GFCIs) should be inspected and tested prior to use and at minimum monthly for continuity and proper functioning. Where construction tools and/or equipment will be plugged directly into "house" power, a GFCI adaptor should be used between the construction tool/equipment and "house" power.

In some cases, an Assured Equipment Grounding Conductor Program may also be established on the construction site. An Assured Equipment Grounding Conductor Program will also meet all, state, local and federal requirements and will cover all cord sets, receptacles that are not part of the permanent wiring of the building or structure and equipment connected by cord and plug, which are available for use or used by all workers.

Portable Saws, Threading Machines, Pipe Benders, Etc.

Appropriate guarding at the point of operation, will be installed and used.

Guards and other protective devices will not be removed, rendered ineffective or inoperable.

Power will be disconnected or the tool de-energized by battery removal prior to all cleaning, clearing, maintenance or servicing of equipment.

Power will be disconnected or the tool de-energized by battery removal prior to changing blades, bits, guides, dies, and when cleaning and oiling etc.

Ensure that the cutting blades and benders are rated for the material being cut or worked on.

Power cords on Saws will be limited to (6') six foot as provided by the manufacturer. Longer cords that prevent disconnecting from the point of operation will not be allowed.

Ensure that that cutters and blades are sharp and not damaged.

Ensure that two hands are utilized at all times. Vices and bench clamps are to be used when cutting with band saws. Do not attempt to hold the pipe with your foot or leg while cutting.

TOOLS AND EQUIPMENT

Ensure that material is properly secured prior to cutting.

Ensure that appropriate guarding or barriers are used to guard yourself and others in the immediate area against flying debris.

Powder Actuated Tools

The following general requirements apply to all powder actuated tools:

- ✓ Only trained employees should operate powder-actuated tools. Trained operators will carry valid authorization cards.
- ✓ Operators of powder-actuated tools will be trained in safe operation and specific to the tool being used.
- ✓ All powder-actuated tools will be inspected daily before use Any damaged or defective equipment should be removed from service and repaired prior to use.
- ✓ The operator will inspect the condition of materials to be shot into, avoiding very hard/brittle materials, or hollow materials.
- ✓ Tools should not be loaded until immediately before use and if the work is interrupted the tool should be immediately unloaded.
- ✓ Loaded tools should not be left unattended.
- ✓ Loads should be kept in separate and secure metal containers and labeled "EXPLOSIVES – Authorized Personnel Only."
- ✓ Do not leave empty cartridges on the floor. Pick up and discard appropriately.
- ✓ Spent loads and misfires should be placed in water containment for at least 24 hours prior to disposal.
- ✓ Signs will be posted in areas where powder-actuated tools are in use and promptly removed when no longer needed.
- ✓ In the event of misfires, the tool should be held against the work surface for 30 seconds before attempting another shot.
- ✓ Ensure that all people within (25') twenty-five feet of the operation are wearing appropriate eye protection and the operator is wearing eye, face, and hearing protection.

TOOLS AND EQUIPMENT

Lasers

The following general requirements apply to all lasers used:

- ✓ Only trained employees are allowed to operate lasers.
- ✓ Employees should wear proper eye protection where there is a potential exposure to laser light greater than 0.005 watts (5 milliwatts).
- ✓ Beam shutters or caps should be utilized, or the laser turned off when laser transmission is not actually required.
- ✓ Lasers should be turned off if they are to be left unattended for a substantial period of time.
- ✓ All attempts should be made to set up lasers at a height sufficient to reduce exposure to other works in the area & signs should be posted in areas where lasers are in use.

Grinders

- ✓ Use and inspection of wheels and equipment must follow the manufacturer's guidelines.
- ✓ Appropriate guards on all hand and bench grinders will be provided and used.
- ✓ Guards and other protective devices will not be removed or rendered ineffective or inoperable.
- ✓ Power should be disconnected or the tool de-energized by battery removal prior to wheel changes, cleaning, maintenance, or servicing of any grinder, etc.
- ✓ Ensure that the wheel is properly rated and sized for the tool and material being cut or ground.
- ✓ Ensure that material is adequately secured prior to grinding or cutting.
- ✓ Ensure that two hands are utilized at all times. Removal of secondary manufacturer supplied handles is prohibited.
- ✓ Appropriate eye/face and hearing protection must be used at all times.
- ✓ No dry grinding of concrete until acceptable safe method for dust control is determined or Table 1 of Respirable Crystalline Silica Policy is followed (Section 15 of this manual).

Drills, Screw Guns and Impact Guns

Ensure bits and sockets are inspected and replaced routinely and as they become damaged.

Ensure tools are not forced beyond capacity.

Ensure the appropriate bit is selected for the task.

TOOLS AND EQUIPMENT

Appropriate protective measures should be taken to protect against flying debris for overhead operations.

Ensure tools and material are adequately secured.

Appropriate eye/face and hearing protection will be required.

Pneumatic Tools

The following general requirements apply to all pneumatic or air powered tools on our projects:

- ✓ All pneumatic tools should be secured to the hose in a positive manner to prevent accidental disconnection. All other hose connections should be secured to prevent accidental disconnection.
- ✓ All air tools must be disconnected prior to altering, performing maintenance, cleaning, servicing, changing bits or accessories, etc.
- ✓ Pneumatic Nail Guns will be disconnected when not in use and when not being supervised.
- ✓ Install and maintain safety clips or retainers on pneumatic impact tools to prevent attachments from being accidentally disconnected.
- ✓ All hoses and pneumatic equipment must be inspected regularly and before each use.
- ✓ All damaged hoses and pneumatic equipment must be removed from service and repaired to prevent failure.
- ✓ All hoses exceeding 1/2 inch inside diameter require safety devices at the source of supply to reduce pressure in case of hose failure.
- ✓ Hoses should be protected from damage by doors, equipment, traffic, chemicals etc.
- ✓ Compressed air used for cleaning purposes should not exceed 30 psi, and then only in conjunction with effective chip guarding and personal protective equipment.
- ✓ Compressed air is prohibited from use for cleaning out holes or other work performed in masonry products suck as block, brick or concrete. Refer to Respirable Crystalline Silica Policy - Section 15 of this manual.
- ✓ When using compressed air (or water) in cleaning operations or other operations which present "flying debris" hazards (blowing off pan decks, power washing etc.), operators should use double eye protection, e.g., goggles or a face shield with safety glasses.
- ✓ The use of compressed air to clean yourself or other workers is not permitted.
- ✓ Appropriate eye, face, and hearing protection will be required for typical work tasks.

TOOLS AND EQUIPMENT

Hand Tools

Only appropriate tools will be used for the job.

Appropriate personal protective equipment (PPE) must be used at all times.

Individuals must inspect hand tools prior to use.

Faulty or damaged tools must be removed from service immediately.

Impact tools must be maintained free of mushroomed heads

Proper body positioning and ergonomics should be maintained at all times.

Wooden tool handles must be kept free of splinters or cracks.

Tools must be routinely inspected to assure a tight connection between the tool head and the handle.

Wheelbarrows should not be pushed with handles in an upright position.

Wheelbarrows should have manageable loads and tires properly inflated at all times.

Pointed tools such as chisels and screwdrivers, should never be carried point-up in any pocket, nor should they be carried point-down in a front pocket; they should be hand-carried with the sharp edge or point away from the body, in a toolbox, bag, pouch, or special tool belt.

Tools should never be carried in a way that interferes with a worker's ability to use both hands while climbing a ladder or structure. Tools should be raised or lowered by rope or by using a bucket if possible.

Tools will not be dropped, thrown, or tossed to one another. They must be handed off carefully.

Refer to the Excavation Policy – Section 10 of this manual, for further guidelines regarding hand tools and hand digging around utilities and services.

Files

A file should never be cleaned by striking it against a metal object.

Files should be equipped with handles.

Files must not be used to punch or pry.

Gloves and eye protection must be used at all times when using a file.

Knives

Knives should be kept sharp to avoid the use of excessive force.

Knives should always be carried with the blade away from the body.

Knives are not to be used as screw drivers, pry bars or picks.

Sheathed knives should be carried above the hip or in back, never in front.

Intech employees must wear gloves and eye protection when using any type of knife.

Sledges and Hammers

Hammers should be replaced when the hammer-head begins to mushroom.

Hammers should only be swung only as hard as is necessary and safe.

Hit the target straight on. Never at an angle

A hammer should never be used to strike another hammer. A soft mallet should be used instead to prevent chipping.

Before each use, inspect all handles for cracks, splinters and looseness.

Claw-hammers whose handles are not designed for continuous pulling should not be used for prying. Use a nail puller, 'cat's claw' or pry bar for this work.

Sledges and hammers should be sized for the user.

Intech employees must wear gloves and eye protection when using any type of sledge or hammer.

Shovels

Proper lifting techniques should be utilized when using a shovel.

Twisting the spine should be avoided. The legs, rather than the arms, shoulders, and back should be used.

Use the ball of the foot instead of the arch to push the shovel.

Inspect shovels before each use for cracked, splintered or otherwise damaged handles.

Ensure shovels are sharp to avoid excessive force being applied.

Ensure the right type of shovel is used for the task.

HOT WORK POLICY

Welding and Torch Work General Information

Welding and torch cutting work involves the generation of temperatures at which metals melt. Proper precautions must be taken to protect workers from heat, intense light rays, gasses, and fumes that are generated. Fire prevention procedures must be carried out for the protection of workers and property. In electric arc welding, the danger of electric shock is a hazard and must be dealt with. In gas torch cutting, the handling and storage of compressed gas cylinders present additional hazards which workers must be protected from.

Fire Prevention

Welding and torch cutting operations present a severe fire hazard. When practical, combustibles in the vicinity of the welding or torch-cutting work must be moved to a safe place. If the piece being worked on and the combustibles cannot be separated by moving one or the other, then suitable barriers such as screens or fire blankets must be placed to separate the two. If work cannot be moved to a safe location where sparks, slag or fire hazards confined then welding/cutting should not be performed.

In areas where the floors, walls or ground cover are combustible, these areas must be protected by spraying them with water, spreading damp sand, laying sheet metal or by equivalent protection. Adequate precautions must also be taken near floor and wall openings where people and combustibles are hidden from view.

In cases where a serious fire might quickly develop, a fire watch should be assigned to the area. Fire extinguishing equipment must be readily available (within (10') ten feet) and all employees must be trained in its use. A fire watch must be required to remain in the area where welding or torch cutting operations have taken place for a period of time (minimum (60) sixty minutes) after welding or torch-cutting operations have ceased due to the possibility of smoldering materials which could later ignite.

When torch cutting, the use of flammable fuel gases and oxygen pose additional fire hazards. Pure oxygen is extremely dangerous; it will react with any hydrocarbons (oil or grease) and even explode without a flame or spark. Therefore, oxygen regulators and fittings must never be oiled, greased, or cleaned with oily rags.

Oxygen must never be used as a substitute for compressed air.
It must never be used for the following:

- ✓ In pneumatic tools
- ✓ In oil preheating burners
- ✓ To start internal combustion engines
- ✓ To blow out pipelines
- ✓ To blow dust from clothing (nor should compressed air)
- ✓ To create pressure
- ✓ To be used for ventilation.

HOT WORK POLICY

Fuel gases can be just as dangerous as oxygen. At pressures above 15 psi, or in certain mixtures with oxygen, acetylene can spontaneously explode.

All torches will be equipped with anti-flashback devices.

Appropriate rated-fire extinguishers will remain close and readily available.

In addition to fire and explosion hazards, welders and cutters may also be exposed to health hazards in the form of intense light rays and toxic fumes. The intense flame at the tip of the torch, or the electrode, emits light rays of three types: visible, Infrared and ultraviolet. Infrared light rays produce erythema (sunburn) on exposed skin surfaces. Intense ultraviolet rays can cause "welder's flash", a burn to the eyes. To prevent this, goggles, welding hoods or face shields must be worn in addition to the safety glasses. The outer protection must be tinted appropriately for the specific job.

Tinted lenses of the degree necessary to protect the eyes from the intensity of the light reduce visibility and must only be worn while actually cutting or welding. Face shields are required when there is a chance that slag will splash in the worker's face, which is almost always. To eliminate skin damage, workers must wear proper protective clothing. Synthetic fabrics should not be worn because they may melt when struck by hot slag. Cuffs and open pockets catch burning metal and should be avoided. Flame-resistant gloves and jacket and safety shoes must always be worn while cutting or welding. Clothes must be kept free from oil and grease because they present a fire hazard both from sparks and from potential oxygen leaks.

Fire Watch

Hot work operations that may create a fire hazard will require appropriate fire watch personnel for the duration of the task and for a minimum of (60) sixty minutes following the conclusion of these tasks. Fire watch personnel will be trained and provided with adequate fire protection devices.

Where there exists a possibility of sparks falling to another level or location, fire watch personnel will be posted in a manner to adequately protect these areas. Fire Watch training will occur as needed, and on the job, prior to the commencement of welding or torching operations.

Fire Watch Guidelines

Fire watch personnel should be trained on usage of the fire extinguishers and know the meaning of "P-A-S-S":

- ✓ Pull the pin
- ✓ Aim at the base of the fire
- ✓ Squeeze the handle
- ✓ Sweep side to side

Fire Watch personnel must have a fully charged extinguisher, be aware of the hazards in the work area, and ensure that the extinguisher is within (10') ten feet of the work area and fire watch area at all times.

Fire watch personnel should have no other duties assigned while the hot work is in progress.

HOT WORK POLICY

Fire watch personnel should be able to communicate with workers performing hot work.

Fire watch personnel are authorized to stop work if necessary and restore safe conditions within the hot work area.

Fire watch personnel should remain in the hot work area for at least 60 minutes after completion of the hot work. For all welding operations a fire watch is to be posted for four hours at completion of work.

Fire watch personnel, if unable to extinguish fire in the areas exposed to the hot work, activate the alarm, and evacuate the building.

A template for the Monthly Portable Fire Extinguisher Inspection Sheet can be found at the back of this manual.

Fumes and Gasses

Hazardous fumes and gasses can be released into the air as seen in the table below. Some of these are released regardless of the material being cut. Others depend on the type of metal or its coating. The two hazards considered most dangerous are torch cutting through lead-based paint and torch cutting in the presence of degreasers. Lead-based paint must be properly removed by a certified company before cutting. Torch-cutting materials, which have been cleaned with a degreaser or even in the vicinity of a degreasing operation, can produce deadly phosgene gas. Adequate ventilation must be ensured before starting any flame-cutting job.

Toxic Fumes and Gases Produced by Cutting Torches	
Source	**Chemical Produced**
Cutting	Carbon Monoxide
Cutting and Welding	Ozone
Welding Rods	Fluorides
Chrome-coated fixtures	Chromates
Cadmium	Cadmium
Lead pipe or lead-based paint	Lead Oxide
Degreasers	Phosgene Gas

Hot Work Permits

Hot work is defined to be any operation that involves an open flame or produces and/or sparks. Hot Work Permits will be issued as required by contract or job site policy for any hot work activities. The Hot Work Permit will be posted or readily available at the location of the hot work. Permits will have all signatures in place prior to initiating hot work and prior to leaving the site.

Foreman, Department Supervisor, Crew Lead or the Safety Manager will determine the necessity of a permit based on the activities being performed. Hot Work Permits will be re issued each day and considered valid for the duration of the date specified on the permit, up to a maximum of one week. Upon completion of the work, Hot Work Permits will be filed in the job file or turned into the general contractor, according to worksite requirements. **A template for the Hot Work Permit can be found at the back of this manual.**

HOT WORK POLICY

Hot work procedures require a walk of the work area to be conducted prior to issuance of the Hot Work Permit.

Items to be evaluated during this walk include:

- ✓ Flammable or combustibles within (35') thirty-five feet are clear or protected.
- ✓ A fire extinguisher is available within (10') ten feet of hot work to be performed.
- ✓ If fire protection systems are installed, they must be on-line in the work area.
- ✓ Emergency procedures are clearly defined and communicated.
- ✓ Proper ventilation is provided for the control of potential fume or smoke exposures.
- ✓ Fresh air/return air intakes in close proximity to work area that should be closed or sealed.
- ✓ Welders screens, and welding blankets shall be installed as needed.
- ✓ Need for fire watch is evaluated and when necessary the appropriate locations are noted.

Ventilation

Torch cutting in enclosed spaces such as in tanks, tunnels, or small closed rooms, demand particular attention to worker safety. A hazardous situation can develop because gases or toxic fumes can easily replace oxygen. Mechanical ventilation such as a smog hog, fume educator (an exhaust fan attached to vent tubing located near the torch or welding operation) will be used whenever possible and when general ventilation is determined to be inadequate to move fume plume away from the employee. Care will be exercised to determine a safe location to exhaust the gases and fumes. If adequate mechanical ventilation cannot be provided, workers will be equipped with respirators.

Compressed gas cylinders must be kept outside the enclosed space, and gases must be shut off at the cylinder when work stops for more than a few minutes. A leaky hose or fitting in an enclosed space can easily result in an explosive and/or oxygen-deficient atmosphere.

Containers That Have Held Combustibles

Welding and torch-cutting work on containers that have held combustible materials including their residual fumes and dusts can result in fire or explosion hazards. It is important that a rigorous cleaning process be undertaken and that instructions for cleaning be rigidly followed. Containers which have held any of the following materials are considered dangerous, and hot work must not be started before they are properly cleaned:

- ✓ Flammable liquids including gasoline, kerosene, solvents, or light oils.
- ✓ Acids which react with metal and produce explosive hydrogen gas.
- ✓ Heavy oils, tars, or solids which release combustible gases when exposed to heat.

- ✓ Finely divided particles of combustible solids that may form an explosive dust.

A general rule is that any container which has held combustibles must be considered unsafe until proven otherwise by a competent person.

Safe Use of Cutting Torches

Pressurized cylinders must never be dropped, dragged, or struck in any way. Pry bars and hammers must never be used on any part of the cutting torch system. Cylinders must always be kept in an upright position and secured, especially while being transported by vehicle. When cylinders are transported or moved at the job site while connected for use, the cylinder valves must be in the closed position and the cylinders secured in place. Valve protection caps must be in place when cylinders are not connected for use. When cylinders are hoisted (by crane, forklift, etc.) they must be secured in an approved cradle or platform. Cylinders must never be lifted by their valve protection caps or with electromagnets.

Separate areas must be set aside for the storage of fuel gas and oxygen (oxidizer) cylinders. These areas are to be a minimum of (20') twenty feet apart or be separated by a ('5) five-foot high, fire-rated wall that is outside the range of falling debris and away from heavy traffic areas. Storage areas must be kept clear of combustibles including fuels and be designated as "NO SMOKING" areas. Cylinders must not be placed where they might become part of an electrical circuit such as near radiators and piping systems that may be used for grounding electrical equipment such as arc welding machines.

Empty cylinders must be treated the same as full cylinders. Empties must be stored in a designated area after the following procedures have been completed.

- ✓ Cylinder marked "EMPTY" or "MT"
- ✓ Valve Closed
- ✓ Valve protection cap replaced
- ✓ Cylinder secured.

Setting up a cutting torch requires careful attention to detailed procedures. Only persons fully trained and recognized as a 'competent person' in gas welding shall set up any rig.

After removing the valve protection cap, the worker must stand to the side of the cylinder valve opening and "crack the valve". "Cracking" refers to quickly opening and closing the valve to remove any dust particles from the opening. Cracking should not be done near other welding, cutting or other operating equipment.

Next, the regulator must be attached according to the procedures outlined by the manufacturer. Pressure regulators must be serviced and tested for accuracy on a regular basis. Only regulators that are approved by either Factory Mutual or Underwriters Laboratories should be used. It is important that regulators are used only for those gases listed on the regulator. Oxygen and fuel gas fitting are equipped with right- and left-hand threads to prevent accidentally switching. To avoid confusion, oxygen, acetylene, and other fuel gases should be called by their proper names, and not by "air" or "gas".

HOT WORK POLICY

Once the regulator is in place, the hoses (red for fuel, green for oxygen) are connected to the anti-flashback device, and the torch is attached. Fittings should not be forced. Any sign of wear means a hose must be repaired or replaced at once. Friction tape can be used to bind the hoses together, but not more than 4 of 12 inches of hose shall be taped. Hoses which are kept neatly coiled are less likely to become kinked, tangled, or get run over.

Only those torches and gas mixers approved by Factory Mutual or Underwriters Laboratories may be used. Torch-cutting valves and fittings should not be oiled or greased. Cutting torches should be treated with the respect deserving a fine tool. They should never be used as a slag hammer or tool.

Leak Test

A leak test should be performed to assure that fittings and valves are correctly seated. The test involves pressurizing the lines and applying soapy water on each fitting and valve. Leaks, which show up as bubbles, should be repaired. If, when the valve on a fuel gas cylinder is opened, there is a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this action does not stop the leak the use of the cylinder shall be discontinued and it shall be properly tagged and removed from the work area. If the fuel gas should leak from the cylinder valve and cannot be shut off, the cylinder shall be tagged and removed from the work area. If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder may still be used. If a leak develops at a fuse plug or other safety device, the cylinder shall be removed from the work area.

Set-Up Procedures

The correct procedure for opening valves and lighting a cutting torch is as follows:

- ✓ Prior to opening either cylinder valve, the regulator adjusting valves should be closed.
- ✓ The fuel gas shall be opened between ¾ and 1 turn. If a detachable wrench is required to open the valve, the wrench must be left in place whenever the valve is open. That way, the fuel gas can be shut off quickly in an emergency.
- ✓ Standing away from the face of the regulator, the operator should open the oxygen cylinder valve all the way. This prevents leakage around the valve stem.
- ✓ The working pressures on the regulators should be adjusted. After moving away from the cylinders, the operator should open the fuel valve on the torch ¼ turn, then light the torch with a friction lighter. Serious injury can result from lighting torches with matches or cigarette lighters.
- ✓ The oxygen valve on the torch is then adjusted to set the flame.

CAUTION

A squealing sound means that gasses have flashed back into the torch. This fire could burn back into the hoses. Torch valves and cylinder valves must be quickly closed, and the cause of the flashback remedied before relighting the torch. Common causes of flashbacks are: improper pressures, kinked hoses and loose, clogged or over heated tips. Anti-Flashback devices installed between the torch and the torch hose will prevent flashbacks.

Shut-Down Procedures

During short breaks, only the torch valves need to be shut down. When the worker leaves the area, cylinder valves should be shut off as well. At the end of the shift, the following shut-down procedure should be followed:

- ✓ Torch valves should be closed, fuel gas first.
- ✓ Cylinder valves should be closed next, fuel gas cylinders first.
- ✓ The torch valves should be opened, and then closed to relieve pressure.
- ✓ The regulators, hoses, and torch should be removed and stored properly.
- ✓ Valve protection caps should be replaced on cylinders and cylinders secured in their respective racks.
- ✓ The torch head should be inspected and cleaned if warranted.

Arc Welding

The hazards encountered in electric arc welding are similar to those encountered in torch cutting, with compressed gas hazards being replaced by those of electricity. The dangers of fly sparks must be guarded against, particularly near floor and wall openings where other workers or combustibles may be hidden from view. Personal protective equipment requirements are identical, except that arc welders are required to wear a welding helmet, and usually wear leather apron and sleeves as opposed to a flame-retardant jacket. The higher intensity of the light rays emitted require that arc welding be shielded by screens or curtains which will protect any person in the vicinity.

Electric Shock

The avoidance of electric is, in most cases, within the control of the welder. Therefore, it is particularly important that they be aware of and observes safe work practices. Printed rules and instructions covering the safe operation of the equipment must be made available to the worker. Supervisors must ensure that these are strictly followed. All equipment should be stored and located in safe place and blocked to prevent accidental movement.

Although the voltages used in arc welding are considered low, they can be quite dangerous under certain conditions. Mild shocks can cause an involuntary contraction of muscles that might cause workers to fall from their work platforms. Damp skin from perspiration or wet working conditions may be conductive enough to cause a violent muscular contraction. Careful adherence to these safe work practices will minimize the dangers of electric shock to the welder and to other workers.

An arc-welding machine is basically an air-cooled transformer that converts commercial power for electric arc welding. They should be inspected periodically for loose or damaged connections and blown out with clean, dry, compressed air to allow proper ventilation. All welding machines should be set up outside of a confined space. When welding machines are used outside, they should be protected from rain and snow in such a way that ventilation is not impaired. Welding machines should be stored in a clean, dry area. Performing welding in wet or humid conditions, additional protective equipment (rubber boots or pads) is required to protect against shock.

HOT WORK POLICY

Welding Cables

Cables should be inspected regularly for wear and damage. Those with damaged insulation, conductors or connections must be repaired or replaced

Damage to insulation to the ground cable can be repaired with rubber and electrical tape, except within (10') ten feet of the connection ends. Heat shrink material or splicing insulation must be used for any damage within (10') ten feet of a connector. Any insulation damage to the electrode cable must be repaired with either heat shrink material or splicing insulation regardless of where on the cable the insulation is damaged. Cables should always be kept dry and free from oil and grease.

Since lengths of cable produce heat when in use, cables should be neatly uncoiled before using to prevent damage to the insulation. When the distance from the machine to the work varies considerably, the cable can be broken into lengths using connectors intended for this purpose. When work is at a distance from the welding unit, cables should be supported overhead at least (7') seven feet above the ground. Special care must be exercised when cable is strung in traffic ways of heavy equipment. When this is impractical, they should be laid on the ground and protected from damage or the likelihood of causing an accident. When in use, cables should be kept away from other power supplies or high voltage conductors.

Welding Grounds

The safe and effective use of arc welding equipment requires careful attention to setting up proper electrical circuits. The following two types of grounds are used in describing welding circuits.

The Safety Ground - Through which the current passes only when the system experiences failure. All ground connections shall be checked to see that they are mechanically strong and electrically adequate for the current.
The frame of the welding machine should be solidly connected to a safety ground. It is advisable to connect the piece being worked on to a safety ground as well. The work can be safely grounded by locating it on a grounded metal surface, connecting it to a grounded building frame, or grounding the work lead at or near the welding machine. Care should be taken to avoid "double grounding", where the current returns through the safety ground instead of through the work lead.

The Common Ground – Welding current should be returned to the welding machine by a single work lead from the work to the appropriate connector on the machine. The "work lead" is used to complete this circuit. This ground should be attached within (10') ten feet of the electrode or "stinger". The reason is this minimizes the potential of accidental ground contact by other employees working in the area, and also reduces the chance of damaging any sensitive control circuits. In some cases, however, it may be necessary to pass the return current through a conductor or structure on which the piece rests or to which the piece is connected. In these cases, it shall be determined that the required contact exists at all joints in the material. The generation of an arc, sparks, or heat, at any point, should cause rejection of that material as a return circuit. Pipelines containing gases or flammable liquids or conduits containing electrical wiring will not be used as ground returns. Chains, wire ropes, cranes, hoists, and elevators will never be used to carry a welding current.

HOT WORK POLICY

To minimize the danger of electric shock, suitable guards will be placed so as to prevent persons from accidentally contacting live electric circuits on the welding machines. Whenever the machine is moved, the welder leaves the equipment, or the work is stopped for an appreciable length of time, the power supply will be disconnected. When an electrode holder is to be left unattended, the electrode will be removed, when possible and the holder positioned to prevent accidental electrical contact with persons or conductive objects. Electrode holders will never be dipped in water for cooling purposes. Performing welding in wet or humid conditions, additional protective equipment (rubber boots or pads) is required to protect against shock.

The welder must protect himself from electrical contact with his work or other grounded structures at all times. This is particularly important when they are in the prone or sitting position when the potential for large area contact is high. Similarly, the welder must never permit the live metal parts of an electrode or its holder to touch his bare skin or damp clothing. Cables that are draped over or wrapped around a worker's body can transmit dangerous amounts of current. Therefore, draping or wrapping around an employee is prohibited.

MECHANICAL LIFTING PROGRAM

Lifting and Moving

Lifting and moving of objects must be done by mechanical devices rather than by manual effort whenever this is practical. The equipment used must be appropriate for the lifting or moving task. Lifting and moving devices must be operated only by personnel trained and authorized to operate them. Employees must not be required to lift heavy or bulky objects that overtax their physical condition or capability.

Inspections

Each mechanical lifting or moving device must be inspected daily. Records of these inspections shall be documented on the **Daily Equipment Inspection Form that can be found at the end of this manual.** Each lifting device must also be inspected before lifting a load near its rated capacity. Defective equipment must be removed from service and repaired before it is used. The rated load capacity of lifting equipment must never be exceeded.

Powered Industrial Lift Trucks (Reach Forks/Forklifts)

Purpose

It is the policy of Intech Mechanical to permit only trained and authorized personnel to operate powered industrial lift trucks. This policy is applicable to both daily and occasional use operators in the shop and field.

The powered industrial lift truck used at Intech Mechanical includes a counterbalanced, straight mast forklift in the shop and extended reach forklifts in the field.

Pre-Operation Procedures

Intech Mechanical requires operators to perform pre-operational equipment checks on powered industrial trucks prior to beginning of each shift in which the truck will be used. Operators are to complete the **Daily Equipment Inspection Form that can be found at the end of this manual.** Completed forms are to be filed in an associated binder.

Fill out the checklist completely. Use the comment section to accurately reflect any operational or visual defects so the fleet manager can arrange repairs to the problem before the truck becomes unsafe to operate or breaks down.

If the lift truck is safe to operate:

- ✓ Place the completed checklist form on the holder provided on the vehicle. The checklist must remain on the vehicle for the duration of the shift. This serves as a visual notice to all operators that this piece of equipment was inspected at the beginning of the shift and may be used during the shift without another inspection.

If the lift truck is unsafe to operate:

- ✓ Note the condition and safety discrepancies on the inspection checklist.

- ✓ Remove the key from the lift truck and place a **"Danger Do Not Operate"** tag on the steering wheel or control levers. The shop Manager, superintendent, project manager, general foreman, foreman or Responsible Crew Lead must make sure that the key is secured to prevent the forklift from being used.

- ✓ The completed check sheet must be sent to the Fleet Manager to inform them of the problem. A service provider will be contacted. Once the repairs have been made, the corrections will be noted in the inspection binder, all drivers will be notified, and the forklift will be placed back into operation.

- ✓ It is against company policy for anyone to operate a defective lift truck or one that has a "Danger Do Not Operate" tag placed on the steering wheel or control levers. Appropriate disciplinary action will be taken.

Operating Procedures

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

All body parts (hands, arms, head, feet, legs, etc.) are prohibited outside the operator compartment of the truck, between the uprights of the mast or with-in the reach mechanism or other attachments of the truck.

Passengers are not allowed to ride on any part of the lift truck.

Operators shall not block access to fire or emergency exits, stairways, fire equipment or electrical panels.

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

Stunt driving and horseplay is prohibited.

The operator must slow down for wet and slippery floors.

Running over loose objects on the floor is prohibited.

The operator is responsible for cleaning up all fluid leaks (oil, hydraulic, transmission, water, etc.) from the floor. All leaks must be identified and reported on the inspection checklist and to the responsible person (Fleet Manager, Superintendent, Project Manager, General Foreman, Foreman, and Responsible Crew Lead.)

Operators are required to report ALL lift truck accidents involving personnel, building structures and equipment to department management.

The operator shall handle loads only within the capacity of the rating of the truck.

Lift trucks will not be used for any purpose other than what they were designed.

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

Lift trucks shall not be started or any of its functions or attachments operated from any position other than from the designated operator's position.

If the industrial truck is equipped with seat belts or other restraint, the operator will use this safety device.

The operator will look 360 degrees before traveling with a forklift truck, especially when backing up.

The operator shall observe all traffic regulation and under normal traffic condition, keep to the right.

A safe distance of (3) three truck lengths will be maintained when following another lift truck and the operator will keep his lift truck under control at all times.

The operator shall not pass another truck traveling in the same direction.

The operator shall yield the right of way to pedestrians at all times.

Operators shall slow down and sound audible warning device (horn) at cross aisles and other locations where vision is obstructed.

The operator must keep clear view of the path of travel and observe for other traffic, personnel and safe clearances. If the load being carried obstructs forward view, travel with the load trailing (in reverse).

When the forks are empty, the operator will travel with the forks at a negative pitch, as low to the floor as practical. (3" to 6" inches). The operator is responsible for adjusting the height of the forks to a safe level when the operating terrain is uneven.

When traveling with a load on the forks, the operator will travel with the load as low to the floor as practical with the load tilted back slightly for improved stability.

When ascending or descending a grade or incline, the operator shall:

- ✓ Proceed slowly and with caution.
- ✓ Drive with the load positioned upgrade or uphill when the truck is loaded.
- ✓ Tilt or raise the forks and attachments only as far as necessary to clear the road surface.
- ✓ Sound the horn before ascending or descending east and west ramps to an annex.

At no time are lift trucks allowed to be parked on inclines, ramps, or dock plates.

An industrial lift truck is considered to be ATTENDED when the operator is less than (25') twenty-five feet from the truck and which remains in his view. Before leaving the operator's position, the operator will:

- ✓ Bring the truck to a complete stop.

- ✓ Place directional controls in neutral.
- ✓ Apply the parking brake.
- ✓ Lower the forks or attachments fully until resting on the floor. When lowering unloaded forks, the forks will be tilted forward first, and then lowered to the ground until the tips of the forks come in contact with the ground.

An industrial fork truck is considered to be UNATTENDED when the operator is more than (25') twenty-five feet from the truck which remains in his view, or whenever the operator leaves the truck and it is not in view regardless of distance from the truck. Before leaving the operator's position in this instance, the operator will:

- ✓ Stop the engine and turn off the controls.
- ✓ Follow the remaining procedures in previous rule.

No smoking is allowed in charging or refueling areas.

To change an LP gas tank, the operator will:

- ✓ Put on protective leather work gloves and goggles.
- ✓ Disconnect lift truck valve from the empty LP cylinder.
- ✓ Replace the LP cylinder.

Note: The law requires that the pin located on the tank-securing cradle of a lift truck must fit into the cut-out hole(s) provided on the LP cylinder.

- ✓ Strap in the cylinder and re-connect the truck valve securely to the cylinder outlet, avoid cross threading this coupling.
- ✓ Open cylinder valve and listen for leaks.
- ✓ If leaking, close cylinder valve and slowly uncouple the fuel valve. Try to re-connect. If still leaking, try a different cylinder and notify department management of faulty cylinder.

Never operate a lift truck with a leaking fuel system.

Operators will use the following backup procedure and sequence:

- ✓ Pivot at the waist and inspect the area of operation in the rear of the fork truck watching for obstructions and pedestrians.
- ✓ Blow the horn to alert any pedestrians that may or may not be visible.
- ✓ Engage the directional lever to the reverse position.

- ✓ Concentrate on the removal of the fork from the load to avoid any load disturbance, as you back the fork truck out of the load.
- ✓ Stop the truck 18" to 24" from the load's resting location and lower the forks to the proper travel height and angle.

During load placement, the operator will:

- ✓ Square the fork truck with the load resting location.
- ✓ Stop the fork truck 18" to 24" away from the load's resting location.
- ✓ Raise the load to the proper entry height.
- ✓ Drive forward with the load and position the load over its resting location.
- ✓ Lower the load to a height within 4" of its resting position if possible.
- ✓ Lift the load forward to a level position.
- ✓ Lower the load to its resting platform.
- ✓ Back the unit up using the proper back-up procedure discussed above.

During load retrieving, the operator will:

- ✓ Square the fork truck with the load resting location.
- ✓ Stop the fork truck 18" to 24" away from the load resting location.
- ✓ Raise the forks to eye level and level the forks to a horizontal position.
- ✓ Raise the forks to the proper entry height.
- ✓ Enter the load and maintain the clearance around the forks to avoid load disturbance.
- ✓ Raise the load so it is completely suspended from its resting platform.
- ✓ Tilt the load back.
- ✓ Visually inspect the rear area of the fork truck to ensure no pedestrians are behind or around the unit.
- ✓ Backup the unit using the proper back up procedures and sequence.
- ✓ Back up the fork truck 18" to 24" and stop.
- ✓ Lower the load to the proper travel height.

MECHANICAL LIFTING PROGRAM

Training Program

It is the policy Intech Mechanical to not allow an employee to operate an industrial forklift until he/she has successfully completed an applicable forklift operation training program. This includes all new operators regardless of claimed previous experience.

The Training program at Intech Mechanical includes a combination of instruction, practical training, written tests and evaluation of the operator's performance on a forklift. A competent person will do training and testing. Information will include the following:

- ✓ Operating instruction, warnings and precautions for the types of forklift the driver will be authorized to operate.
- ✓ The difference between a lift truck and an automobile.
    - 3-Point Suspension & effect on stability
    - No shocks
    - Wide Rear Steer and swing
    - Often handles unstable loads
- ✓ Truck controls and instrumentation - Where they are located, what they do, and how they work.
- ✓ Engine or motor operation.
- ✓ Steering and maneuvering characteristics of the forklift and areas of the warehouse and outside the warehouse where caution needs to be taken; (pavement, traffic, pedestrians, blind corners, ramps etc.)
- ✓ Visibility and load stability issues including blind corners, isles, load obstructions, uneven terrain, ramps, etc.
- ✓ Fork and attachment adaptation - Operation and use limitations.
- ✓ Vehicle capacity, vehicle stability & operating limitations.
- ✓ Vehicle inspection requirements and documentation formats.
- ✓ Safety Procedures for refueling.
- ✓ Operating limitations.
- ✓ Other operating instructions, warnings, or precautions listed in the operator's manual for the lift truck the operator is being trained to operate.

Workplace Related Topics

The following items specific to the jobsite or workplace should always be discussed and reviewed prior to operation of a forklift:

- ✓ Surface conditions where the vehicle will be operated.
- ✓ Composition of loads to be carried; load stability, weight, handling precautions, typical use of attachments, fork extensions, etc.
- ✓ Load manipulation, stacking, and unstacking.
- ✓ Pedestrian traffic in areas where the vehicle will be operated.
- ✓ Narrow aisles, low ceilings, doors, and other restricted places were the vehicle could be operated.
- ✓ Ramps and other sloped surfaces that could affect the vehicle's stability.
- ✓ Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a build-up of carbon monoxide or diesel exhaust.
- ✓ Other unique or potentially hazardous condition in the workplace that could affect safe operation.

Refresher training will be provided every 3 years and when any of the following events occurs.

- ✓ An operator is observed operating the vehicle in an unsafe manner
- ✓ The operator is involved in an accident or near-miss incident
- ✓ A condition in the workplace changes in a manner that could affect the safe operation of the lift truck.
- ✓ A new piece of equipment is introduced into the workplace.

Certificates will be issued following successful completion of the training, written test, and practical test. The certificate will identify the operator, date of training, date of evaluation, and identify the person performing the training/performance evaluation.

MECHANICAL LIFTING PROGRAM

Rigging

Planning for safe rigging and lifting must begin at the design stage and lifting procedures must be developed for assembly and installation. The lifting procedure should be developed and discussed with the rigging crew supervisor.

Riggers are responsible for final rigging and for carrying out whatever moves have been designated. Before any movement takes place, however, each representative must approve the rigging and other procedures associated with the intended move. Each must respect the responsibility and authority of the other to prevent or terminate any action he or she judges to be unsafe or otherwise improper.

The supervisor must make certain that personnel know how to move objects safely by hand or with mechanical devices in the operations normal to the area and must permit only those employees who are formally qualified by training and certification to operate a fork truck, crane, or hoist. The supervisor must enforce the use of safe lifting techniques and maintain lifting equipment in good mechanical condition. The supervisor must always verify that he rigging equipment is being used in accordance with manufactures requirements.

Employees are required to observe all established safety regulations relating to safe lifting techniques.

Slings, Guy Lines, and Load lines

Do not overload slings.

Do not drag slings along the ground or floor.

Inspect cables and slings frequently and prior to any use of equipment. Before inspecting, clean surface dirt from the sling to reveal any hidden nicks, gouges, or other damage. If, during inspection, or at any other time, you notice that a sling is defective, remove it from service and label it as "Defective Sling - Do Not Use" and give it to your superintendent for destruction.

Never jerk the load, jerking can overload the equipment

Hands and fingers should be clear of the sling and its load while being tightened. Sling shouldn't be pulled from under a load when load is in resting on the sling.

When wrapping around sharp corners or picking heavy loads with corners use softeners or other pads.

When slings are not in use, pick them up and store them appropriately in a rolled-up fashion.

Check slings to make sure that the length marked on them corresponds to the actual length. If the sling is longer than marked, it may have been overloaded.

Do not use a sling in good condition beyond its rated capacity provided by the manufacturer on the identification marking (prenatally affixed to sling). Allow for an extra safety factor for a sling in only fair condition. Do not use a sling in poor condition. Nylon web slings should be removed from service if they are burned by heat, acids, or caustics, if the stitches are broken or worn, if fittings are distorted, if the webbing is snagged, punctured, or torn, or cut, or if any other defect that night affect the strength of the sling is observed.

Wire rope slings should be removed from service if any of the following is observed:

- ✓ Six randomly distributed broken wires in one rope lay, or three broken wires in one strand of rope lay.
- ✓ Wear or scaping of one-third of the original diameter of outside individual wires.
- ✓ Kinking, crushing, bird caging, or any other damage resulting in the distortion of the wire rope structure.
- ✓ Evidence of heating or electric arc damage.
- ✓ End attachments that are cracked, deformed, or worn to the point where the rated capacity is reduced.
- ✓ Corrosion that is of such severity or extent as to reduce the rated load capacity or the rope end attachment.

Do not make temporary repairs on a sling, turn it over to your superintendent for destruction. Do not shorten any sling that will be used.

When guy lines or load lines are unrigged or taken down, they should be inspected. Defective or damaged rope or cable should be destroyed to prevent further use.

Lines for hoists or cranes should be long enough that at least two full wraps will be left on the drum at any point in their operation.

Guy lines should be flagged at all locations where they cross paths used by foot or vehicle traffic.

Before you make the first pick with a particular rigging, be sure to have a qualified person inspect all parts of the rigging and perform testing to ensure that the equipment can hold 125 percent of the rated load prior to use.

Mark all slings and shackles with affixed & legible markings provided by the manufacturer to indicate the recommended safe load.

Tag lines (long ropes attached to the load) will be used to prevent loads from swinging into objects around it or into power lines. By swinging, this creates hazards to personnel on the ground. Tag lines allow ground personnel to pivot the load as it swings on the crane's hook, so that it doesn't collide with objects around it. NOTE: While the use of tag lines is helpful, no employee or any other traffic shall ever be allowed under a suspended load.

Ropes

Turn in old, worn, or damaged rope to your superintendent for replacement or removal from service. Damaged rope should be cut into short lengths to keep it from being used again.

On wire rope, use the number of clamps specified in the following table:

Rope Diameter in Inches	Number of Clamps per Eye		Rope Diameter in Inches	Number of Clamps per Eye
3/16	2		1 1/8	5
1/4	2		1 1/4	5
5/16	2		1 3/8	6
3/8	2		1 1/2	6
7/16	2		1 5/8	6
1/2	3		1 3/4	7
5/8	3		2	8
3/4	4		2 1/8	8
7/8	4		2 1/4	8
1	4			

Attach a wire rope clamp as follows:

- ✓ Place the U-bolt on the "dead" short side of the rope, and the saddle on the "live" or long side. Remember the phrase "Never saddle a dead horse"
- ✓ Attach the clamp farthest from the eye first. Tighten it.
- ✓ Place the clamp nearest the eye next. Don't tighten it.
- ✓ Place any other clamps in position loosely.
- ✓ Minimum spacing of clamps is six times the rope diameter.
- ✓ Place a light load on the rope to stretch it and equalize tension.
- ✓ Tighten all clamps. Be careful not to tighten the clamps so much that they unduly distort the rope.

Do not use manila rope close to welding operations or other sources of heat. If any rope has been exposed to high heat, check its condition carefully before using it again.

Keep manila rope as dry and clean as possible. Protect it from acid, fumes and chemicals. Inspect the center strands frequently for rotting or other damage.

Avoid overloading and shock loading.

Protect all rope from sharp edges and sharp bends with softeners or other padding. Protect rope from chafing and kinks.

Coil or uncoil wire rope by rolling and unrolling it as if it were a roll of tape, this helps prevent twisting and kinking of the rope.

Shackles & Hooks

All shackles and hooks will have permanently affixed, and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load.

Shackles and hooks shall not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer.

No shackle or hook shall be used if manufacturer identification markings containing safe working loads are missing or are illegible. These should be destroyed and discarded.

Loads shall be applied to the throat of the hook. Loading the point overstresses and bends or springs the hook.

Hooks shall be inspected periodically to see that they have not been bent by overloading. Bent or sprung hooks shall not be used. Any damaged or bent hook or shackle will not be used and should be destroyed and discarded.

All hooks used will have a permanent, spring loaded latch in good operating condition to prevent potential hook throat opening. Hooks with damaged or missing latched will be destroyed and discarded.

Crane Pick Safety

Training

Training will be provided to all Intech employees who work jobsites where Cranes may be encountered and will be instructed how to recognize and avoid the hazards associated.
This applies to all power-operated equipment used in construction work that can hoist, lower and horizontally move a suspended load.

Crane Types

Intech Mechanical employees working on jobsites typically work around the following types of Cranes:

Mobile Cranes – These include crawler mounted, wheel-mounted, rough terrain, all-terrain, commercial truck-mounted, and boom truck cranes.

Tower Cranes - Including those with a fixed jib (i.e."hammerhead boom"), those with a luffing boom, and self-erecting tower cranes.

Articulating Cranes - Cranes such as knuckle-boom cranes. These types of cranes are sometimes used to deliver material to a construction site.

Personal Protective Equipment (PPE)

All Intech employees working on a crane pick are required to wear the following PPE at all times:

- ✓ Hard Hat

- ✓ Gloves
- ✓ Safety Glasses or Eye Protection
- ✓ Safety Boots
- ✓ Class II Safety Vest

Crane company employees who are working as a direct subcontractor to Intech Mechanical are not excluded.

Pick Plan

Prior to any crane pick, regardless of size, a pick plan should be developed.
This plan will include the following and in-many-cases will be generated with help from the crane subcontractor.

- ✓ Information or "cut sheet" of the equipment or materials being lifted. This should include weights, dimensions and may include specific rigging information from the manufacturer.
- ✓ Information about the pick area noting obstacles, power lines, buildings and other items that could pose a danger.
- ✓ Information specific to the crane being used including boom height, weight capacities, swing circumference information, etc.
- ✓ Date and hours specific to the pick.
- ✓ Traffic control plans including the methods used to eliminate conflicts with pedestrians, etc.

Overhead Power Lines

Keeping a safe distance from power lines is the key to preventing power line accidents. The first step you must take when planning to operate a crane on a site where a power line is present is to identify the crane's work zone and use that work zone to determine how close it could come to the power line.
If you determine that no part of the crane, load, or load line could get closer than (20') twenty feet to a power line, no further precautions are required.
Note: If a power line's voltage is over 350,000 volts, a (50') fifty-foot, rather than (20') twenty-foot, minimum clearance must be maintained.

Pre-Lift Meeting

A pre-lift meeting must be held before the trial lift to review the applicable requirements of the pick plan and the procedures that will be followed. The meeting must be attended by the equipment operator, signal person (if used for the lift), employees working the pick, and the person responsible for the task to be performed such as the foreman or superintendent.
Attendance of this meeting must be documented and signed by all in attendance. This documentation should be submitted to the safety manager for record keeping. **The Crane Pick/Pre-Pick Meeting Sign-In Sheet can be found at the back of this manual.**

Signal Persons

A crane operator often needs a second set of eyes, in the form of a signal person, to be able to operate safely.
In each of the following situations, a signal person must be used:

- ✓ When the point of operation, meaning the path the load travels or the area where the load is placed, is not in full view of the operator.
- ✓ When the point of operation, meaning the path the load travels or the area where the load is placed, is not in full view of the operator.
- ✓ When, due to site-specific safety concerns, either the operator or the person handling the load determines that it is necessary.

During operations requiring signals, the ability to transmit signals between the operator and signal person must be maintained. If that ability is interrupted at any time, the operator must safely stop operations until signal transmission is reestablished and a proper signal is given and understood.

Hand, voice, and audible signals are allowed. The type of signals used and means of transmitting the signals to the operator (such as direct line of sight, radio, etc.), must be appropriate for the site conditions. All directions given to the operator by the signal person must be given from the operator's perspective.

Each signal person must meet the following qualification requirements:

Know and understand the type of signals used.

Be competent in the application of the type of signals used.

Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom-deflection from hoisting loads.

Know and understand the relevant requirements of the sections of the standard dealing with signals and be able to demonstrate that he/she meets these requirements through a certification process.

Crush By/Struck By/Pinch-Point Dangers

Employees and pedestrians who work or are in an area near a crane must be protected from being struck or crushed by the crane's rotating superstructure. To prevent employees from entering an area where they could be struck/crushed, you must:

- ✓ Train each employee assigned to work on or near the equipment in how to recognize struck-by and pinch/crush hazard areas posed by the rotating superstructure.
- ✓ Erect and maintain control lines, warning lines, railings, or similar barriers to mark the boundaries of the hazard areas.

Before a worker goes to a location in the hazard area that is out of view of the operator, the worker (or someone instructed by the worker) ensures that the operator is informed that he/she is going to

that location. When the operator knows that an employee went to such a location, the operator must not rotate the superstructure until the operator is informed in accord with a pre-arranged system of communication that the employee is in a safe position.

Hoisting routes that minimize the exposure of employees, pedestrians, and bystanders to hoisted loads must always be used.

While the operator is not moving a suspended load, no employee may be within the fall zone, except for workers performing the following tasks:

- ✓ Those engaged in hooking, unhooking, or guiding the load.
- ✓ Those engaged in the initial attachment of the load to a component or structure.

When workers in the fall zone are engaged in hooking, unhooking, or guiding the load, or are connecting a load to a component or structure, the following criteria must be met:

- ✓ The materials being hoisted must be rigged to prevent unintentional displacement.
- ✓ Hooks with self-closing latches or their equivalent must be used.
- ✓ The materials must be rigged by a qualified rigger.

Employees must always keep their hands, fingers, and all other parts of their body clear of any load to avoid Pinch Points and injuries.
Pry Bars, Lever Dollies (Johnson Bars) or other devices should always be used to eliminate the potential for crushed body parts.

Fall Protection

Appropriate personal fall protection must always be worn by workers involved with a crane pick whenever employees will be working closer than (6') six feet to any leading edge.

Intech Mechanical strictly prohibits the use of cranes for elevating or hoisting employees.

CONFINED SPACE ENTRY FORM

<u>Certification</u>: The entrant and attendant certify by their signature in the space(s) below that they have read, understand and will follow the protocol for entering <u>non</u>-permit required confined spaces.

General description of space(s) to be entered & work to be performed.		
Sampling Equipment/Entry Equipment/Rescue Equipment	Authorized Entrants	Authorized Attendants

Atmospheric Testing Data

Location_____ Date/Time_____

	Tester/Name		Oxygen	LEL/HC	H2S	Other
Pre-Entry		***Top***				
Pre-Entry		***Mid-Level***				
Pre-Entry		***Bottom***				
Follow up #1						
Follow up #2						
Follow up #3						
Follow up #4						
Follow up #5						
Pre-Entry		***Top***				
Pre-Entry		***Mid-Level***				
Pre-Entry		***Bottom***				
Follow up #1						
Follow up #2						
Follow up #3						
Follow up #4						
Follow up #5						

Additional Comments / Work Task Procedures / Emergency Procedures / Safety Procedures

_____

Entry Supervisor/Date

Note: Air sampling MUST be performed prior to each entry and re-entry.
Only trained personnel are to enter confined spaces or use sampling equipment.

KEEP POSTED ON JOB UNTIL WORK IS COMPLETED CONFINED SPACE ENTRY PROCEDURE.

CONFINED SPACE ENTRY PERMIT

General Permit Information

Job Name:	Entry Date:
Location on Site:	Entry Start Time:
Purpose for Entry:	Entry End Time

*Description of Activity*_____

_____

Required Signatures

	Name (Print):	Signature:	Training Completed:	Date:
Entry Supervisor			Y N	
Qualified Attendant			Y N	
Qualified Entrant 1			Y N	
Qualified Entrant 2			Y N	
Qualified Entrant 3			Y N	
Qualified Entrant 4			Y N	

Air Monitoring Log

Instrument Used, Including Model Number & Calibration Date:

Tested by:_____

Date:	**Time:**	**Top**					**Middle**					**Bottom**				
		OXY	**LEL**	**CO**	**H_2S**	**Other**	**OXY**	**LEL**	**CO**	**H_2S**	**Other**	**OXY**	**LEL**	**CO**	**H_2S**	**Other**

Action Levels

Percent Oxygen *<19.5% or >23.5%*
Percent LEL *Any % over 10*
Hydrocarbon / Volatile *5 ppm*
Carbon Monoxide *30 ppm Cal OSHA*
H_2S or Sulfur Dioxide *5 ppm*
Ammonia *25 ppm*
Dust *At or above PEL or LEL*

CONFINED SPACE ENTRY PERMIT

Hazards of the Permit Space

Hazard Description	Yes	No	N/A	Hazard Description	Yes	No	NA
Lack of Oxygen	▪	▪	▪	Temperature	▪	▪	▪
Combustible Gases	▪	▪	▪	Engulfment	▪	▪	▪
Combustible Vapors	▪	▪	▪	Entrapment	▪	▪	▪
Combustible Dusts	▪	▪	▪	Pressure Systems	▪	▪	▪
Toxic Gases	▪	▪	▪	Welding/Burning/Open Flame	▪	▪	▪
Toxic Vapors	▪	▪	▪	Dehydration / heat Exhaustion	▪	▪	▪
Chemical Contact	▪	▪	▪	Falls	▪	▪	▪
Electric Hazards	▪	▪	▪	Unknown or Spilled Liquids	▪	▪	▪
Mechanical Exposures	▪	▪	▪	Other	▪	▪	▪

Methods for Abating Hazards

Purge / Flush & Vent	▪	Buddy System	▪	Goggles	▪
Ventilation	▪	Evacuation Alarm	▪	Gloves	▪
Lockout/Tagout	▪	Lifelines & Escape Harnesses	▪	Hearing Protection	▪
Inerting	▪	Emergency Egress Procedure	▪	Protective Clothing	▪
Blanking, Blocking, Bleeding	▪	Tripod Escape Unit	▪	Other:	▪
External Barricades	▪	Fire Extinguishers	▪		▪
Signage	▪	Respirator	▪		▪
Shields/Barriers	▪	Supplied Air/SCBA	▪		▪
Lighting	▪	Fall Protection	▪		▪
Resuscitator	▪	Fall Protection	▪		▪

Additional Permits Required
Hot Work ▪ Other ▪

Has Fire Department Been Notified
Yes ▪ No ▪

Emergency Numbers

*Fire / Rescue ( )_____ or (**911**)*
Hospital ( )_____
Other ( )_____

Acceptable Entry Conditions:

_____
_____

Other Health and Safety Considerations:

_____
_____

CONTROL OF HAZARDOUS ENERGIES PROCEDURE CHECKLIST

Equipment ID: Mfgr., Model #, ID # _____
Equipment Location(s)_____ Date Performed:_____
Task(S) To Be Performed:_____
Name of Person Performing Assessment:_____

Energy Form (check all that apply)

Electrical:
- ❑ Voltage
- ❑ High Current

Chemical:
- ❑ Solvent
- ❑ Coating / Paint
- ❑ Epoxy
- ❑ Flammable
- ❑ Corrosive

Pressure:
- ❑ Pneumatic
- ❑ Hydraulic

Mechanical:
- ❑ Capable of Crushing
- ❑ Pinching
- ❑ Cutting
- ❑ Striking
- ❑ Snagging

Stored Energy:
- ❑ Flywheels
- ❑ Springs
- ❑ Differences in Elevation
- ❑ Elevated parts
- ❑ Capacitors
- ❑ Batteries

Basic Procedures:	***Specific Procedure:***
Lockout Procedure ❑ Notify all affected personnel of Lock-Out/Tag-Out. ❑ Turn off power as disconnect points / as identified. ❑ LOTO or tag each energy control point / disconnect points. ❑ Dissipate / disconnect stored energy / see specific Procedures. ❑ Block any mechanical parts and remove any mechanical links. Lock blocking in place (2 physical blocks are to be used to break and secure any gas/ liquid lines.). ❑ Verify personnel are clear of hazards. ❑ Verify no hazardous energy. Use circuit tester / meter if electricity is involved. ❑ Attempt to re-start machinery or re-energize equipment. ❑ Perform work. ***Procedure to Return Equipment to Operation:*** ❑ Verify Danger Zone is clear of equipment, workers, tools, and test equipment. ❑ Unlock and remove any blocking devices; remove linkages. ❑ Reposition any safety devices. ❑ Warn workers to stay clear of area. ❑ Remove all locks and tags from energy control points. ❑ Re-Start / Re-energize the equipment. ❑ Notify all affected and other persons that the lock-out has been cleared.	Specific Lockout Location(s): 1. 2. 3. 4. 5. Dissipate Stored Energy at These Points: 1. 2. 3. 4. 5. Block These Parts/Remove Linkages: 1. 2. 3. 4. 5. Verify No Residual Energy By These Methods: 1. 2. 3. 4. 5.

*** Shift Changes:** If this procedure lasts more than one work shift the relief will apply their locks and tags before the departing shift removes their locks and tags, following specific written department procedures.

CRANE PICK/PRE-PICK MEETING SIGN-IN SHEET

Location/Project Name:_____

Meeting Date: _____ Meeting Conducted by:_____

Details of Pick to be Discussed:_____
(Attach Handouts, Pick Plans, etc.)

Specific Hazards/Dangers: _____

ATTENDEES:

Name (Print):	Company:	Signature:

DAILY PRE-TASK PLAN

INTECH MECHANICAL

DATE: _____

JOBSITE/LOCATION: _____

TASK DESCRIPTION: _____

TOOLS & EQUIPMENT

Do I have the PPE necessary for this task?

Do I have the proper/required tools for this task?

Have I checked required tools for proper working condition?

PPE		EQUIPMENT	
	HARD HAT		HAND TOOLS
	SAFETY GLASSES/GOGGLES		POWER TOOLS (Need GFCI)
	REFLECTIVE SAFETY VEST		POWDER ACTUATED TOOLS
	CHEMICAL GLOVES		PROPER RIGGING
	WORK GLOVES		TRUCKS/CARTS
	INSULATED GLOVES		MOTORIZED EQUIPMENT
	FACE SHIELD		TRIPOD MAN LIFT
	HEARING/EAR PROTECTION		WELD SOLDER
	BODY HARNESS		BARRICADES
	RESPIRATOR DUST MASK		CAUTION DANGER TAPE
	NOMEX/TYVEK SUIT		LADDERS (PROPER LENGTH)
	VOLTAGE TESTER		SCAFFOLD
	OTHER		CRANE
	OTHER		OTHER

PLANNING	MUST CHECK Y/N	
Have the appropriate people been notified for shut downs or high risk tasks?	Y_____	N_____
I have proper SOP for drilling & floor deck penetrations?	Y_____	N_____
Has client been notified?	Y_____	N_____
Will strong odors be generated?	Y_____	N_____
Shutdown Supply/Exhaust Fans?	Y_____	N_____
Are HVAC Intakes covered?	Y_____	N_____
Smoke/IR/UV detectors disabled/covered?	Y_____	N_____
Does task require competent person?	Y_____	N_____
Does task require 2nd watch person?	Y_____	N_____
Familiar with emergency procedures?	Y_____	N_____

ARE SAFETY DATA SHEETS (SDS)....?		
	NECESSARY?	
	AVAILABLE?	
	REVIEWED?	

NOTES/COMMENTS

HIGH RISK WORK OR PERMITS			
	SOP/MOP REVIEWED		LOCK-OUT/TAG-OUT
	HOT WORK/BURN PERMIT		DIAGRAM
	HARD DEMO		OTHER
	CRANE RIGGING PERMIT		OTHER
	CONFINED SPACE PERMIT		
	JOB HAZARD ANALYSIS (JHA)		
	EXCAVATION		
	ELEVATED WORK OVER 6'		

EMERGENCY EQUIPMENT	
	EVACUATION ROUTE/PLAN
	FIRST AID KIT
	FIRE EXTINGUISHER
	EYE WASH STATION
	SAFETY SHOWER
	PERMIT DISPLAYED
	OTHER
	OTHER

TENENTS OF OPERATION
Always operate within design and environmental limits.
Always operate a safe and controlled condition.
Always ensure safety devices are in place and functioning.
Always follow safe work practices and procedures.
Always meet or exceed client requirements.
Always maintain integrity of dedicated systems
Always comply with all applicable rules and regulations.
Always address abnormal conditions.
Always follow written procedures for high-risk or unusual situations.
Always involve the right people in decisions that affect procedures, equipment, and people.

My signature verifies that I fully understand the task(s), I have the training, knowledge, tools, and PPE required to perform the job safely.

Print Name:	Signature:	Company:	Date:

Approved by:	Signature:	Company:	Date:

DAILY EQUIPMENT INSPECTION SHEET

UNIT:		***MODEL:***	
MODEL:		***SERIAL#:***	

DAY OF THE WEEK:	***SATURDAY***			***SUNDAY***			***MONDAY***			***TUESDAY***			***WEDNESDAY***			***THURSDAY***			***FRIDAY***		
DATE:																					
INSPECTION ITEM:	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A
Oil & Coolant Levels																					
Horn & Back-Up Alarms																					
Belts & Hoses																					
Tires/Wheels																					
Hydraulic/Other Leaks																					
Emergency Lowering Systems																					
Decals/Manuals Present																					
Harness/Lanyards (as rqrd.)																					
Handrails/Guardrails																					
Batteries/Charger																					
Filters																					
Platform, Deck, & Ladder																					
Steering																					
Hydraulic Fluid Levels																					
Fire Extinguisher Present																					
Wiring & Instrument Panel																					
Lights																					
Mirrors																					
Mast/Forks																					
Lift Chains																					
Hydraulic Cylinders																					
Seat & Seat Belt																					
Carriage/Boom																					
Outriggers																					
Brakes/Parking Brake																					
Forward/Reverse Travel																					
Lift Control																					
Side Shift/Tilt Controls																					
Unusual Noises																					
INSPECTED BY:																					

REPAIRS NEEDED:	REPORTED TO:	REPAIRED/DATE:

EMPLOYEE REPRIMAND/CITATION

Employee Name: _____ Time:_____ Date:_____

Location/Project: _____

It is necessary to warn you of the following:

( ) Absence without permission

( ) Abuse of equipment, materials

( ) Breaking Company Safety Rule(s)

( ) Alcohol/Drug Use

( ) Fighting/Horseplay

( ) Failure to report injuries before shift end

( ) Leaving work without permission

( ) Malicious Behavior

( ) Poor work performance, Willful neglect

( ) Refusal to obey work order(s)

( ) Tardiness

( ) Improper use of Personal Fall Protection / Tie-Off

( ) Improper Inspection, set up, securing or use of ladders

( ) Failure to use proper Personal Protection Equipment

( ) Removing or Defeating machine, tool or equipment guards

( ) Failure to use Lock-Out, Block-Out, and Tag-Out procedures

( ) Creating hazards for others

( ) Improper inspection, selection, or use of proper rigging, when hoisting materials, equipment, or tools

( ) Hot Work Permit Violations/No Permit

( ) Other, Explained below

Facts of the Offense:

All employees are responsible for being compliant with Intech Mechanical Safety Program Rules and Code of Safe Practices.
Further violation of this or any other company policy could result in additional disciplinary action up to and including termination.

Action Taken:

Signature of Supervisor: _____ Date: _____

Signature of Employee: _____ Date: _____

General Information		
Date/Time of Damage:	Reported by:	Job #, Job Name, Work Order, Project Name, etc (whatever makes sense for your company)
One call ticket created: (yes/no)	One Call Ticket #:	Did you capture pictures of the damage? (yes/no)
Date/Time of Damage:	City:	Address:
Customer:	Owner of damaged facility:	Did you get witness statements? (yes/no), if no explain why
Project Manager:	Foreman:	Those involved:

Damage Information		
Affected Facility (Gas, Water, Telecommunications, Electric, etc.):	Affected Facility Type (Service/Drop):	What was the depth of the utility?
Downtime (Work Interruption):	Duration of Service Interruption:	Where (Private, Public – Street, Highway, etc.):

Incident Information		
What tools/equipment were used?	Was the utility marked?	Were there location marks for this owner's facilities at this particular job site?
Were location marks incorrect, inaccurate, misplaced, etc.?	Does the owner of the damaged facility participate in the one-call process?	Did the damage occur within the tolerance zone? (Please specify depth/width)
Was damage associated with a previous improper installation? (Not properly protected, lack of ducts, shallow buried, etc.)	Did damage occur during removal of strata (existing roadway, sidewalk, hardscape)?	Were injuries involved?
Description of incident:		
What was the root cause of damage?		
Were there any inappropriate actions? (Unsafe act/acts that resulted in the incident)		
Conclusion:		
I hereby verify that the statements contained in this Incident Report are true and correct to the best of my knowledge, information and belief. Signature: _____ Date: _____		

Witness Statement Form

(To be completed by the witness)

Location of Incident:

Date of Incident: Time of Incident:

Your Name:

Home Address:

Phone:

Your Company Name:

Your Job Title: Your Supervisors Name

PLEASE PRINT. Give a factual statement of YOUR actions & observations, preceding, during and following the occurrence. Use additional pages if needed.

DO NOT SPECULATE WHY, DESCRIBE (IN DETAIL) WHAT HAPENNED ONLY.

Names of others with knowledge of occurrence:

Signature: Date:

PROJECT NAME:

PROJECT NUMBER:

MONTHLY PORTABLE FIRE EXTINGUISHER INSPECTION SHEET

LEGEND: UNIT OK - **X**
ITEM NEEDS ADDRESSED - **F**

MONTH:	JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
DATE INSPECTED:																																																
INSPECTED BY:																																																
EXTINGUISHER # OR LOCATION:	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.	VISUAL	P. GAUGE	PIN-KEEPER	ANNUAL CERT.

SPECIFICS NEEDING ADDRESSED/NOTES FROM ABOVE

FALL PROTECTION INSPECTION LOG

ALL EQUIPMENT TO BE INSPECTED DAILY AND BEFORE USE - DISCARD IF UNIT SHOWS ANY SIGNS OF WEAR OR DAMAGE

EQUIPMENT:	MANUFACTURER:	SERIAL #:	UNIT#:	LST INSP DT:	DISCARD:

HAZARD ASSESSMENT, NEAR MISS, AND CORRECTION REPORT

DATE: _____ **REPORTING PERSON:** _____

DATE & TIME OF _____ **INCIDENT LOCATION/JOBSITE:** _____

EMPLOYEE/S INVOLVED: _____

UNSAFE CONDITION, WORK PRACTICE, OR NEAR MISS:

ROOT CAUSE:

CORRECTIVE ACTION TAKEN:

UNRESOLVED ISSUES/TRAINING NEEDS:

POTENTIAL LOSS EVALUATION:

1. Was equipment or property damaged? ☐ Yes _____ ☐ No
2. Did incident result in loss of production? ☐ Yes _____ ☐ No

SUBMITTED BY: _____ **DATE:** _____

SIGNATURE

SAFETY MANAGER: _____ **DATE:** _____

SIGNATURE

HOT WORK PERMIT

Hot Work Permits are required for temporary operations involving open flames or production heat and /or sparks. Permit is to be posted in the work area with appropriate signage. Hot work includes but is not limited to: Brazing, Soldering, Welding, Cutting, Grinding, and Chop Saw Use.

General Information

Location _____ Permit Start Date: _____

Nature of the Work _____ Expiration Date: _____

Name of Person(s) Performing Hot Work_____

Fire Prevention and Protection Check List

Fire Systems:

- ❑ Available sprinklers, hose streams, and extinguishers are in service / operable.
- ❑ Suitable fire extinguisher or fire prevention system provided specific for hot work is within 10 feet of work.

Area Preparation:

- ❑ Flammable liquids, dust, lint, and oily deposits removed/cleaned.
- ❑ Welding screens installed.
- ❑ Explosive atmosphere in area eliminated.
- ❑ No flammable chemicals or liquids within 35 feet of Hot Work.
- ❑ Floors are swept clean and combustible floors are wet down, covered with damp sand, fire protective tarp or other protection.
- ❑ Remove all combustibles where possible. If not possible, ensure all combustibles are protected with fire-resistant sheets or tarps or metal shields.
- ❑ All wall and floor openings covered to prevent falling sparks.
- ❑ Fire-resistive tarps suspended beneath work.
- ❑ Work coordinated with other trades in area.
- ❑ Hot Work equipment is in good repair.

Personal Protective Equipment:

- ❑ Proper eye and face protection – hood, tinted glasses etc.
- ❑ Proper shroud, gloves, gauntlets, etc. used.
- ❑ Proper protective clothing.

Work on Enclosed Equipment or Spaces:

- ❑ Enclosed equipment or space cleaned of all combustibles.
- ❑ Containers purged of flammable liquids/vapors.
- ❑ Work does not create hazardous gas or potential for buildup (argon, welding fumes etc.)

Hot Work on Walls, Ceilings or Upper Decks/Floors:

- ❑ Construction material is noncombustible.
- ❑ Construction material is covered with noncombustible covering or insulation.
- ❑ Combustibles on other side of walls moved away.
- ❑ All areas and floors below have been examined for combustibles.

Fire Watch/Hot Work Area Monitoring:

- ❑ Fire watch will be provided during and for 30 minutes after work, including any coffee or lunch breaks.
- ❑ Fire watch is supplied with suitable extinguishers, charged small hose and is trained in the use of this equipment.
- ❑ Fire watch is in communication with hot work activities.
- ❑ Separate fire watch may be needed for other floors, behind walls or other areas.
- ❑ Fire monitor has no other responsibilities other than fire watch.

Other Precautions Taken:

Responsible Foreman/Supervisor:_____

Person Doing the Work:_____

By signing above, you verify that the hot work has been completed for the day and the work area and all adjacent areas to which sparks or heat may have spread were inspected during the fire watch period and were found safe.

Fire Watch Monitor:_____

By signing above, you verify that the work area and all adjacent areas were monitored for 1/2 hour following the Hot Work and were found safe.

IMDEMNIFICATION AGREEMENT

THIS AGREEMENT is entered into between Intech Mechanical Company, LLC. who is located at 7501 Galilee Road, Roseville CA 95678, and _____ ("Contractor") whose address is _____ effective this day of _____, _____.

WHEREAS, Contractor has requested that it be able to use the Intech's equipment, described as _____on an existing job located at _____: and,

WHEREAS, Contractor acknowledges that: it uses the Equipment at its own risk, and it shall indemnify and hold harmless Intech Mechanical Company, LLC for any actual or threatened liability relating to any injuries, damages, costs, including but not limited to attorney's fees and costs, or the like, which are incurred by Intech Mechanical Company LLC as a result of allowing Contractor to use Intech's Equipment.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. The undersigned Contractor does hereby indemnify, defend and hold harmless Intech Mechanical Company, LLC and any of its respective officers, partners, shareholders, directors, agents, servants, employees, attorneys, subsidiaries and affiliates, if any, from any and all actual or threatened claims, debts, liabilities, demands, suits and causes for action, known or unknown, in any way relating to the Contractor's use of Intech's Equipment, for any reason whatsoever.

2. Contractor agrees to add Intech Mechanical Company LLC to its general liability insurance and its workman's comp insurance as an additional insured and shall provide proof of such action in writing, if so requested by Intech Mechanical Company, LLC.

3. This agreement shall be construed and enforced under the laws of the state of California.

4. In the event that legal action is brought regarding this Agreement or the subject of this Agreement, the prevailing party therein shall be entitled to recover all costs and expenses, including reasonable attorney's fees.

CONTRACTOR: _____

BY: _____

TITLE: _____

DATED: _____, _____

INTECH MECHANICAL
"Performance Through Planning"

7501 Galilee Road, Roseville, CA 95678
Phone: (916) 797-4900 Fax: (916) 797-4901 www.intech-mech.com Lic. #998149 CA

JHA (Job Hazard Analysis)

Standard Form #4

Project: _____ Date: _____ Contractor: _____ Page _____ of _____

Description of Work: _____ JSA# _____

_____ Prepared By: _____

Safety and Health Considerations – Circle Yes or No

Falls From Elevation:	**Yes**	**No**	**Underground Utilities:**	**Yes**	**No**	**Energized Systems/LOTO:**	**Yes**	**No**
Confined Space(s):	**Yes**	**No**	**Line Breaking:**	**Yes**	**No**	**Health Hazards:**	**Yes**	**No**
Respiratory Protection:	**Yes**	**No**	**High Voltage Work:**	**Yes**	**No**	**Scaffolding/Arial Lifts:**	**Yes**	**No**
Excavating/Trenching:	**Yes**	**No**	**Work Permits**	**Yes**	**No**	**Asbestos and/or Lead:**	**Yes**	**No**
Public Exposure:	**Yes**	**No**	**MEP Issues:**	**Yes**	**No**	**Hazardous Materials/Waste:**	**Yes**	**No**
Hot Work:	**Yes**	**No**	**Cranes/Rigging:**	**Yes**	**No**	**Working Over Water:**	**Yes**	**No**

Description of Steps to be Performed	Hazards Associated with Each Step	Required to Eliminate or Control the Hazard

JHA (Con't)		
Description of Steps to be Performed	**Hazards Associated with Each Step**	**Required to Eliminate or Control the Hazard**

Review Signatures and Date

Originator	Date
Contractor Superintendent/Engineer	Date
Contractor Superintendent/Engineer	Date

INSTRUCTIONS FOR COMPLETING THE JOB HAZARD ANALYSIS FORM

Job hazard analysis (JHA) is an important accident prevention tool that works by finding hazards and eliminating or minimizing them before the job is performed, and before they have a chance to become accidents. Use JHA for job clarification and hazard awareness, as a guide in new employee training, for periodic contacts and for retraining of senior employees, as a refresher on jobs which run infrequently, as an accident investigation tool, and for informing employees of specific job hazards and protective measures.

Set priorities for doing JHA's: jobs that have a history of many accidents, jobs that have produced disabling injuries, jobs with high potential for disabling injury or death, and new jobs with no accident history.

Select a job to be analyzed. Before filling out this form, consider the following: The purpose of the job--What has to be done? Who has to do it? The activities involved--How is it done?

In summary, to complete this for you should consider the purpose of the job, the activities it involves, and the hazards it presents. If you are not familiar with a particular job or operation, interview an employee who is. In addition, observing an employee performing the job or "walking through" the operation step by step may give additional insight into potential hazards. You may also wish to videotape the job and analyze it.
Here's how to do each of the three parts of a Job Hazard Analysis:

Description of Steps To Be Performed	Hazards Associated With Each Step	Required to Eliminate or Control the Hazard
Examining a specific job by breaking it down into a series of steps or tasks, will enable you to discover potential hazards employees may encounter. Each job or operation will consist of a set of steps or tasks. For example, the job might be to move a box from a conveyor in the receiving area to a shelf in the storage area. To determine where a step begins or ends, look for a change of activity or change in direction or movement. Picking up the box from the conveyor and placing it on a hand truck is one step. The next step might be to push the loaded hand truck to the storage area (a change in activity). Moving the boxes from the truck and placing them on the shelf is another step. The final step might be returning the hand truck to the receiving area. Be sure to list all the steps needed to perform the job. Some steps may not be performed each time; an example could be checking the casters on the hand truck. However, if that step is generally part of the job, it should be listed.	A hazard is a potential danger. The purpose of the Job Hazard Analysis is to identify ALL hazards, both those produced by the environment or conditions and those connected with the job procedure. To identify hazards, ask yourself these questions about each step: Is there a danger of the employee striking against, being struck by, or otherwise making injurious contact with an object? Can the employee be caught in, by, or between objects? Is there potential for slipping, tripping, or falling? Could the employee suffer strains from pushing, pulling, lifting, bending, or twisting? Is the environment hazardous to safety and/or health (e.g. toxic gas, vapor, mist, fumes, dust, heat, or radiation)? Close observation and knowledge of the job is important. Examine each step carefully to find and identify hazards -- the actions, conditions, and possibilities that could lead to an accident. Compiling an accurate and complete list of potential hazards will allow you to develop the recommended safe job procedures needed to prevent accidents.	Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the hazards that could lead to an accident, injury, or occupational illness. Begin by trying to: 1) engineer the hazard out; 2) provide guards, safety devices, etc.; 3) provide personal protective equipment; 4) provide job instruction training; 5) maintain good housekeeping; 6) insure good ergonomics (positioning the person in relation to the machine or other elements in such a way as to improve safety). List the recommended safe operating procedures. Begin with an action word. Say exactly what needs to be done to correct the hazard, such as, "lift using your leg muscles". Avoid general statements, such as, "be careful". List the required or recommended personal protective equipment necessary to perform each step of the job. Give a recommended action or procedure for each hazard. Serious hazards should be corrected immediately. The JHA should then be changed to reflect the new conditions. Finally, review your input on all three columns for accuracy and completeness. Determine if the recommended actions or procedures have been put in place. Re evaluate the job hazard analysis as necessary.

LONE WORKER HAZARD ASSESSMENT/CHECK-IN LOG

Date:_____Name of Employee:_____Employee Contact Info: _____

Contact Person:_____ Back-up Contact Person: _____

Time Out:_____AM_____PM Time In:____AM_____PM

Employee will Check-In: ☐ In Person ☐ Telephone ☐ Other Method

Employee will Check-In: ☐ Every 30 minutes ☐ Every Hour ☐ Every 2 hours ☐ At End of Shift

Brief Description of Lone Worker Activity:

Hazard Identification (Identify all hazards specific to Lone-Workers activity):

Hazard Control Measures (I.E. Alternative Work Methods, Training, Supervision, PPE):

Equipment Specifics (Manual Handling, Emergency Shutdown Controls, Gas Equipment, etc):

Individual Worker Specifics: (Medical Condition, Young, Inexperienced, Disabilities, etc.):

Work Pattern (Alone all day, Alone at night, Isolated Area, etc.):

Supervision (Identify level of supervision required):

Supervisor's Name (print): _____

Supervisor's Signature: _____

Employee's Name (print): _____

Employee's Signature: _____

PROJECT DAILY SAFETY INSPECTION

PROJECT:		***LOCATION:***	
FOREMAN:		***WEEK OF:***	

DAY OF THE WEEK:	***SATURDAY***			***SUNDAY***			***MONDAY***			***TUESDAY***			***WEDNESDAY***			***THURSDAY***			***FRIDAY***		
DATE:																					
INSPECTION ITEM:	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A	OK	**NOT OK**	N/A
Bulletin Board with Required Postings Present:																					
Emergency Contacts/First Aid Procedures Posted:																					
IIPP & SDS Book Readily Available:																					
Gas Cylinders are Safely Stored:																					
Fire Extinguishers are Current and Appropriately Stored:																					
Flammable/Hazardous Liquids & Materials are Appropriately Stored:																					
Heat Illness Prevention/Water Available:																					
Housekeeping:																					
Equipment Daily Inspections Performed:																					
Power Tools Guarded:																					
First Aid Kits Present, Current, and Stocked:																					
Appropriate PPE is Being Utilized:																					
Ladder Labels Present and Units in Acceptable Condition:																					
Electrical Cords are Safely Routed																					
Floor/Roof/Shafts Appropriately Guarded:																					
Job Site Safe Access:																					
INSPECTED BY:																					

ACTION ITEMS:	REPORTED TO:	REPAIRED/DATE:

INTECH MECHANICAL

SCAFFOLD INSPECTION CHECKLIST

DATE: _____ **PROJECT NAME/NUMBER:** _____

CMPLTED. BY: _____ **SCAFFOLD LOCATION:** _____

SAFETY CHECK:	YES:	NO:	COMMENTS:
SCAFFOLD COMPONENTS, PLANKING, DECKING IN GOOD CONDITION?			
ARE THE PLANKS RATED FOR SCAFFOLD USE?			
ALL SCAFFOLD COMPONENTS IN PLACE AND NO DEFECTS?			
COMPETENT PERSON IN CHARGE OF ERECTION?			
SCAFFOLD OWNER COMPETENT PERSON PERFORMING THE DAILY INSPECTION?			
MUD SILLS PROPERLY PLACED AND ADEQUATE SIZED WHEN REQUIRED?			
SCREW JACKS BEING USED TO LEVEL AND PLUMB SCAFFOLD WHEN REQUIRED?			
BASE PLATES AND/OR SCREW JACKS IN FIRM CONTACT WITH MUDSILLS AND FRAME?			
SCAFFOLD IS LEVEL AND PLUMB?			
SCAFFOLD LEGS BRACED, WITH BRACES PROPERLY ATTACHED?			
GUARD RAILING IN PLACE ON ALL OPEN SIDES AND ENDS?			
VISUAL CHECK TO VERIFY CLAMPS SECURED IN PLACE?			
SCAFFOLD SECURED TO STRUCTURE TO PREVENT MOVEMENT?			
BRACKETS, TUBE AND CLAMP, AND ACCESSORIES PROPERLY PLACED WITH WEDGES TIGHTENED?			
AREA AROUND SCAFFOLD HAS BEEN SECURED/ROPED OFF?			
PLANKS HAVE MINIMUM 12" OVERLAP AND EXTEND 6" BEYOND SUPPPORTS?			
TOE BOARDS PROPERLY INSTALLED WHEN REQUIRED?			
PROPER ACCESS TO GET ON AND OFF THE SCAFFOLD? LADDER SECURED IN PLACE?			
SCAFFOLD CONTROL TAG HAS BEEN SIGNED AND APPROVED FOR USE?			
IF INSPECTION DEEMS SCAFFOLD IS UNSAFE FOR USE, UNIT HAS BEEN RED-TAGGED/DANGER-TAPED AT ALL ACCESS POINTS?			

SIGNATURE: _____ **DATE:** _____

SILICA EXPOSURE CONTROL PLAN

******COMPLETION OF THIS PLAN SHOULD BE IN CONJUNCTION WITH OSHA TABLE 1***

PROJECT INFORMATION:

DATE: _____ ***COMPETENT PERSON:*** _____

JOB #: _____ ***JOB NAME:*** _____

EMPLOYEE/S PERFORMING TASK: _____

TASK OR WORK IDENTIFIED INVOLVING A SILICA HAZARD:

- ☐ DEMOLITION WORK AND/OR USE OF DEMOLITION HAMMERS/CHIPPING TOOLS
- ☐ SWEEPING/CLEAN-UP
- ☐ DRILLING IN CONCRETE OR ANY MASONRY PRODUCTS (OVERHEAD, SIDEWALLS OR FLOOR)
- ☐ CORING WORK
- ☐ CUTTING/GRINDING IN CONCRETE OR ANY MASONRY PRODUCTS
- ☐ EXCAVATION
- ☐ OTHER: EXPLAIN BELOW

AREA WORK TO BE PERFORMED:

- ☐ IN AN OUTDOOR AREA
- ☐ IN AN INDOOR OR ENCLOSED AREA

EMPLOYEE ROTATION: ****Utilize Shift Rotation on Table 1 to determine Respiratory Protection Requirements below.*

EMPLOYEES TO BE ROTATED TO MINIMIZE EXPOSURE ? (EVERY FOUR HOURS OR LESS) YES: ☐ NO: ☐

RESPIRATORY PROTECTION:

WILL RESPIRATORY PROTECTION BE REQUIRED? YES: ☐ NO: ☐

IF YES, WHAT TYPE?

EMPLOYEE/S HAVE CURRENT FIT TESTING FOR DEVICES TO BE USED? (1 YEAR OR LESS) YES: ☐ NO: ☐

EQUIPMENT/TOOLS CHECKLIST:

****Compressed Air, Puffer Balls and Brushes are no longer compliant methods for cleaning holes.*

- ☐ THE MANUFACTURER'S INSTRUCTIONS ARE ONSITE OR READILY AVAILABLE
- ☐ WHERE REQUIRED BY TABLE 1, TOOL IS EQUIPPED WITH AN INTEGRATED WATER DELIVERY SYSTEM AND WATER IS READILY AVAILABLE.
- ☐ TOOL IS EQUIPPED WITH A COMMERCIALLY AVAILABLE SHROUD/COWLING, 99% EFFICIENCY RATED DUST COLLECTION SYSTEM AND HAVE A FILTER CLEANING MECHANISM.
- ☐ FILTERS ARE BEING CLEANED OR CHANGED PER THE MANUFACTURERS INSTRUCTIONS?
- ☐ DUST COLLECTION DEVICES ARE EMPTIED PER MANUFACTURERS INSTRUCTIONS.
- ☐ VACCUM FOR CLEANING HOLES IS A 99% EFFICIENT RATED HEPA WITH A FILTER CLEANING MECHANISM.
- ☐ NOSE BRUSHES AND OTHER CONSUMABLES ARE NOT DAMAGED AND IN GOOD WORKING ORDER.

ENGINEERING/WORK PRACTICE CONTROL METHODS TO BE USED:

- ☐ WET METHODS
- ☐ DUST COLLECTION SYSTEM
- ☐ 99% EFFICIENT HEPA VACUUM
- ☐ FLOOR SWEEPING COMPOUND
- ☐ OTHER: EXPLAIN BELOW

DISPOSAL METHODS: **Describe how waste material/debris will be discarded while controlling dust.**

AREA ACCESS RESRICTIONS: **Describe methods to be used to prevent access to areas by workers not directly involved in the work described in this plan.**

PREPARED BY (COMPETENT PERSON):		***TITLE:***		***DATE:***	
CREW MEMBERS WHO HAVE REVIEWED AND UNDERSTAND THIS WORK PLAN:		***SIGNED:***		***DATE:***	
		SIGNED:		***DATE:***	
		SIGNED:		***DATE:***	
		SIGNED:		***DATE:***	
APPROVED BY (SUPERINTENDENT OR SAFETY MANAGER):		***TITLE:***		***DATE:***	

ROOT CAUSE SURVEY

DATE: _____ **REPORTING PERSON:** _____

DATE & TIME OF _____ **INCIDENT LOCATION/JOBSITE:** _____

EMPLOYEE/S INVOLVED: _____

UNSAFE CONDITION, WORK PRACTICE, OR NEAR MISS:

ROOT CAUSE:

CORRECTIVE ACTION TAKEN:

UNRESOLVED ISSUES/TRAINING NEEDS:

POTENTIAL LOSS EVALUATION:

1. Was equipment or property damaged? ☐ Yes _____ ☐ No
2. Did Incident result in loss of production? ☐ Yes _____ ☐ No

SUBMITTED BY: _____ **DATE:** _____

SIGNATURE

SAFETY MANAGER: _____ **DATE:** _____

SIGNATURE

JOB SAFETY STOP WORK FORM

DATE/TIME: _____ **PROJECT NAME:** _____

AREA: _____ **REPORTING PERSON:** _____

FOREMAN NOTIFIED: _____

UNSAFE CONDITION OR WORK PRACTICE

CORRECTIVE ACTION TAKEN:

UNRESOLVED ISSUES/TRAINING NEEDS:

POTENTIAL LOSS EVALUATION:

1. Has work in the affected area been resumed?: ☐ Yes **DATE/TIME:** _____ ☐ No

SUBMITTED BY: _____ **DATE:** _____
SIGNATURE

FOREMAN: _____ **DATE:** _____
SIGNATURE

SAFETY MANAGER: _____ **DATE:** _____
SIGNATURE

SUPERVISOR'S REPORT OF ACCIDENT

Name of employee: _____

Occupation: _____

Location of accident: _____

Date of accident: _____ Time _____ AM/PM

Date supervisor notified: _____ Time _____ AM/PM

Was employee on duty at time of accident? _____

Did employee leave work? _____ Date _____ Time _____ AM/PM

Did employee return to work? _____ Date _____ Time _____ AM/PM

How did accident happen? (State specific job being done, machinery, tools or objects involved and factors contributing to the accident): _____

_____

_____

Names of witnesses: _____

Nature of injury (cut, bruise, strain, etc.): _____

Part of body (right leg, lift ankle, lower back, etc.): _____

Name and address of treating physician or hospital: _____

_____

Did non-company person or faulty equipment cause accident? _____

If yes identify: _____

Were mechanical guards or other safe guards provided? _____

Was employee using them? _____

What corrective action has been taken to prevent similar accidents? _____

_____

_____

_____ _____

Supervisor's Signature Date