CORRADO
SAFETY PLAN
MARCH, 2023

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I. **SAFETY POLICY STATEMENT**

The safety of employees and of the general public is of vital concern to the management of Corrado Construction Company, LLC. It is our intent to conduct all operations of the Company in a safe manner for the protection of all job personnel and the general public. We seek to assure each individual a safe and healthy working environment. It is, therefore, the policy of the Company to pursue operating practices and procedures that will result in safe and efficient operations. The Company intends for each project to comply with all provisions and standards of the Occupational Safety and Health Act of 1970, and all other safety laws and practices.

The Director of Safety oversees our safety effort in conjunction with each foreman and superintendent. However, safety is an operating responsibility and cannot be delegated. Every subcontractor is responsible for the safety of each person under that subcontractor's supervision, direction or control. In addition, all such individuals are responsible for the safety of equipment, property and persons otherwise within the scope of the subcontractor's work area.

Each employee has a responsibility to himself for his own safety and health and that of others with whom he comes in contact. In carrying out his assigned work, each employee must observe all safety and health standards related to his work. He will immediately report any unsafe working conditions or practices to his foreman. All work will be conducted in a safe, efficient, workman-like manner and in accordance with the accepted industry standards and the Occupational Safety and Health Act of 1970.

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Joseph J. Corrado, Jr., President

II. RISK MANAGEMENT PROGRAM

The CCC Risk Management program is designed to prevent losses from occurring among the employees of the Company and its subcontractors and to protect fellow employees, the general public, and public and private property during all project activities. This program is also designed to reduce the frequency, severity, and unpredictability of losses that do occur by employing appropriate risk control and risk financing techniques.

The primary objective of the Risk Management program is to improve the company safety performance to ensure that we have a cost-effective safety program and to improve our competitive position in the construction market. It shall serve to make all employees more aware of the economic impact of accidents and accident insurance.

The most effective measure of the viability of our Risk Management program is the worker's compensation Experience Modification Rating (EMR). Each member of management should be aware of the current EMR at all times. A major company objective each year will be to decrease the EMR. Any increase in the EMR should serve as an immediate indicator that there is a problem with prior years' loss experience in the company. The EMR can show a dramatic increase in one year based on both the frequency and severity of accidents. One-years' worth of experience can impact the company's EMR positively or negatively for a three-year period..

Record keeping is necessary to identify problem areas. The OSHA 300 form is a legal record which must be maintained. It should be used as an indicator of accident trends. A periodic review will enable management to identify problem jobs, superintendents, and individual employees.

Safety attitudes on an individual job, while more difficult to measure, are an important indicator of overall safety effectiveness.

It is the intent to try to use loss prevention techniques wherever possible, consistent with the costs involved. It is the belief that it is preferable to attempt to prevent losses before considering other techniques for handling loss exposures.

The reduction of losses depends primarily upon a careful review of all operations, equipment, and facilities to identify potential hazards and to eliminate or reduce them to their practical minimum. This review must be a constant process—in the design, construction, and operations on the part of all management and supervisory personnel. Periodic safety inspections should serve as an overall second look in all of the above stages. The essential part of those reviews is the corrective actions taken as a result of the recommendations enacted.

A successful Risk Management program enlists the efforts of all of the organization's personnel so that minimizing the adverse effects of accidental losses becomes a shared responsibility.

Management Responsibilities

Recognizing the economic waste of accidents and their moral and legal responsibility to protect employees, the general public, property and equipment, management will:

A. Accept the ultimate responsibility for the safety of all operations.

B. Support internal and external safety and health resources. These resources are managed via our in-house Safety Director whose responsibility it is to ensure compliance with safety and health standards on all work sites and operations, and to coordinate safety and loss prevention activities.

C. Delegate the responsibility for safe operations and OSHA compliance to each job

superintendent.

D. Ensure that the job foreman is held accountable for safe operations within the scope of his responsibilities.

E. Demand safe performance from all employees and express this demand periodically and whenever the opportunity presents itself.

F. Obtain all necessary permits, licenses, etc. for all work as well as certificates of insurance from subcontractors.

G. List that all subcontractors perform their work in accordance with CCC's Safety Policy and Risk Management program, and in accordance with current OSHA standards and regulations.

H. Provide sufficient funds, time, personnel and equipment for safe operations.

J. Utilize, support and participate in accident investigation activities. Insist that all accidents and incidents be thoroughly investigated.

K. Participate in, support and attend safety meetings in order to provide physical visibility of management's concern and interest in safety.

L. Maintain a record of occupational injuries and illnesses as a required by the Worker's Compensation Law and the Occupational Safety and Health Act of 1970.

M. Provide training at time of hire and on an as-needed basis to ensure the employees stay abreast of current safety and compliance regulations and to reinforce standard safety procedures.

Safety Staff Responsibilities

The basic responsibilities are:

A. With the foreman, coordinate all safety activities throughout the company, which would include inspecting job sites and analyzing operations to determine sources of exposure to employees and the public, as well as property and equipment. Insist that all operations are conducted according to existing safety and health standards.

B. Consult with the foreman and ensure that he or she is aware of all safety and health standards as they apply to his or her operations.

C. Ensure that each employee has a basic understanding of the Company's Safety Policy. Document all safety training.

D. Provide material and topics for foremen to use when holding "toolbox safety talks." Maintain a record of the same.

E. Review and analyze all accident reports. Submit recommendations to prevent a recurrence of the same type accidents.

F. Investigate all accidents thoroughly and on a timely basis which result in a personal injury or property damage including near misses.

G. Periodically provide and review OSHA and other specific safety standards management and job foreman at a general safety meeting.

H. Inspect job sites for compliance with OSHA standards and other safe practices and procedures. Discuss findings with the foreman. Maintain records of inspection and follow-up action on recommendations.

I. Coordinate inspection activities of insurance carriers, local, state and federal regulatory agencies that are concerned with safety and health or risk control activities.

Superintendent/Foreman Responsibilities

The superintendent/foreman has overall responsibility for safe, efficient operations on all job sites. He is responsible for the safety of employees, the public, property and equipment. This is not a separate responsibility, but is an integral part of his assigned responsibility. He or she shall:

A. Analyze job specifications and the job site for possible safety hazards; and with the assistance of the safety staff, he or she will preplan each job to eliminate recognized safety hazards.

B. Ensure that "Miss Utility" is contacted prior to commencing any groundbreaking operations to determine the necessity for any special precautions.

C. Determine which safety equipment is needed for a job and insure that the equipment is ordered prior to the startup date.

D. Check first aid supplies and insure that replacements are on hand.

E. All employee and liability accidents must be reported and investigated immediately and thoroughly after the accident is reported. The accident must be reported to safety immediately.

F. All job site materials and equipment must be properly secured.

G. Make certain that your personnel have, and use, the required personal protective equipment. This equipment includes hard hats, eye protection, hearing protection, respirators, etc.

H. Tool box talks are to be held once each week.

I. Foremen must meet with the General Superintendent at least once a week to preplan the next week's activities.

J. The work area should be continuously checked for unsafe conditions and work practices. Take corrective action.

K. Ensure that all work is conducted in accordance with the company Risk Management program, OSHA standards and all other federal, state and local requirements.

L. Ensure that all subcontractors conduct their operations in accordance with the company Risk Management program, OSHA standards and all other federal, state and local requirements.

M. Emergency telephone numbers must be posted at all times.

N. Foremen must educate and motivate their crew regarding safety rules, procedures,

and attitudes. In short, the foreman must believe in and sell the company safety program to his employees.

III. CORPORATE SAFETY & HEALTH DEPT.

Rick Civita, Safety Manager
Corrado Construction Company
210 Marsh Lane
New Castle DE 19720
(302) 420-1965
(302) 652-3339 (Office)

IV. SUBSTANCE ABUSE

Management Statement

CORRADO CONSTRUCTION COMPANY (CCC) is committed to protecting the health, safety and welfare of its employees. The use or abuse of alcohol and controlled substances by a CCC employee can present a threat to the safety and health of the abusive employee, fellow employees and the general public. Therefore, management supports an alcohol and controlled substance abuse program as a means to prevent the abuse of alcohol and controlled substances by employees and to minimize the adverse impact of abuse when it occurs.

Prohibited Activities

A. The possession, use, sale, consumption or distribution of mood altering or intoxicating drugs or drug paraphernalia by employees while on duty, including meal and rest periods, or while on company property.

B. The possession, use, sale, consumption or distribution of alcoholic beverages while on duty, including meal and rest periods, or while on company property.

C. Reporting to work while in an impaired condition. Such impairment may be due to legal or illegal substances of abuse, including medications prescribed by a licensed physician.

Prohibited Substances

To assure compliance with this program, CCC will employ screening for evidence of abuse of alcohol or controlled substances. Such screening will be administered by professionals and will proceed in accordance with professional guidelines. These procedures are designed to detect the presence of a number of substances, including but not limited to the following:

- Amphetamines/Methamphetamine
- Barbiturates
- Benzodiazepines/Tranquilizers
- Cannabanoids/Marijuana
- Cocaine
- Methaqualone
- Opiates
- Phencyclidine (PCP)
- Alcohol

Types of Screenings

A. Reasonable Cause -- When employee behavior or work performance indicates that an employee may be under the influence of drugs or alcohol, he or she may be required to submit to drug and alcohol testing. Screening procedures shall be implemented by CCC with the assistance and guidance of professionals trained in such matters.

B. Post-Accident -- Employees will be subject to post-accident testing when property damage or bodily injury has occurred due to an accident in which there is reasonable cause to believe that the employee has contributed to the cause of the accident. Please refer to Appendix A for details of this screening procedure.

C. Periodic -- Employees may be subject to periodic testing as part of the mandatory employee physical examination program. This may include testing required for operation of company vehicles or equipment.

D. Project-Specific -- When required by a client as a precondition to performing work on its premises, CCC shall have the right to screen employees scheduled to work on this project.

E. Random – An outsourcing company provides drug management services to Corrado Construction. Employees are pooled together and are randomly selected for drug and alcohol testing. Such testing will be unannounced, and all employees will have an equal chance of being selected. When notified of selection, an employee will be required to proceed IMMEDIATELY to the testing location. An employee selected for random testing will only be sent for such a test after reporting to work, and testing will be done only during working hours.

F. Followup -- In the event of a positive test, CCC shall administer additional screening pursuant to its Employee Training and Assistance Program. Please refer to Section VII for details of this program.

Operators of Vehicles Weighing 10,001 pounds or More

The Federal Motor Carrier Safety Regulations, Part 391.13, states if a driver of a Commercial Motor Vehicle receives a citation as a result of a reportable accident, he or she must submit a urine sample to be tested for the use of controlled substances as soon as possible, but no later than thirty-two hours after the accident.

Additionally, according to Federal Highway Administration, random testing of drivers is required, as well as testing for pre-employment, periodic and reasonable cause.

Screening Procedures

A. Approved Laboratory – Laboratories will be designated by the company's occupational health service provider. These laboratories will be fully certified pursuant to standards set by the Substance Abuse, Mental, Safety and Health Association.

B. Screening Protocol -- Employees will be informed they have been selected to submit to a screening procedure on the day that the screening is scheduled. At the discretion of the Company, the employee to be screened may be driven to the facility.

C. Confidentiality of Screening Results -- All screening results will be evaluated by professional, certified medical consultants in accordance with established medical guidelines. Screening results will be held in strictest confidence at all times, and will be communicated on a need-to-know basis only.

D. Right to Review Test Results – Employees have a right to review their screening results at any time, provided sufficient notice is given to the program coordinator.

E. Refusal to Submit to Screening -- Any employee who refuses to submit to a screening as required under this program shall be terminated immediately.

F. Confirmation Retesting. An employee has the right to request a retest in the event that he or she believes that a positive result on a specific test may have been erroneous; provided, however that such retesting shall be at the expense of the employee, with such expense reimbursable by CCC in the event that the retest results are negative for any controlled substances or alcohol.

Actions In the Event of Positive Screening Results

Employees testing positive will be subject the Rehabilitation and Monitoring Program as outlined in the Employee Training and Assistance Program (Section VII). Any employee who refuses to be placed into this program will have his or her employment with CCC terminated immediately.

Employee Training and Assistance Program

The management of CCC will provide training and assistance to employees both to make them aware of the dangers of alcohol and substance abuse and to enable abusing employees to seek assistance to address problems related to abuse.

A. Training and Education -- All employees will be provided with education regarding the effects and consequences of controlled substances and alcohol abuse on personal health, safety and the work environment. Supervisors will receive additional training and education on recognition of behavioral changes and manifestations of alcohol and substance abuse among employees.

B. Rehabilitation and Monitoring Program -- Employees who are referred to this program will be required to submit to the following:

1. Random screenings to be performed at any time during a twelve month period following entry into the program.

2. Treatment through a certified assistance center. Proof of enrollment and successful completion of the course of treatment must be provided to CCC to comply with this program.

C. Certified Assistance Centers -- Names of certified assistance centers will be provided to all employees enrolled in the Rehabilitation and Monitoring Program through the Human Resources Department or the health insurance plan administrator.

Subsequent Positive Test Results

An employee who has tested positive and has been referred to the Rehabilitation and Monitoring Program will be subject to retesting on a random basis. They will also not be permitted to operate company equipment until they pass a drug screen. Any employee who tests positive for alcohol or a controlled substance a second time will be referred to a SAP and must complete requirements of section B.2 before returning to work.

Employee Consent

As a precondition of employment with CCC, employees are required to sign a standard consent form allowing CCC to have screening performed as required under this program. A copy of this form appears as Appendix B, and shall be signed by each employee prior to commencement of work with CCC.

Right to Modify Program

This policy does not constitute a contractual agreement by CCC to offer specific services. CCC reserves the right to modify this program at its discretion and will provide a written copy of all such changes to each employee.

APPENDIX A
POST-ACCIDENT SCREENING PROCEDURES

Step 1 – If the employee is involved in an accident in which there is reasonable cause to believe that the action of the employee was a contributing cause, he or she will be subject to post-accident screening. Fault will be determined upon a preponderance of the evidence available to the company, including but not limited to police reports, on-scene investigation, interviews, and any other physical evidence which may be used to determine fault.

"Accidents" may consist of any event where any company employee or equipment/vehicle is involved in an incident which results in damage to company or third-party property and/or bodily injury to an employee or a third party.

Step 2 – Once an employee is involved in an accident in which his or her action is found to be a contributing cause, a company representative will inform the employee that he or she is to submit to a screening as soon as one can be arranged by the company. At the company's discretion, the employee to be screened may be driven to the site of the screening.

If the employee refuses to submit to the post-accident screening, he or she will be subject to the provisions of Section V E. of the CCC Alcohol and Controlled Substance Abuse Program.

In the event of a positive screening result, employees will be subject to the Employee Training and Assistance Program as outlined in Section VII of the CCC Alcohol and Controlled Substance Abuse Program.

APPENDIX B
CORRADO CONSTRUCTION COMPANY

ALCOHOL AND CONTROLLED SUBSTANCE ABUSE PROGRAM
CONSENT FORM

I understand that as required by the CORRADO CONSTRUCTION COMPANY Alcohol and Controlled Substance Abuse Program, employees may be required to submit to screening for the presence of alcohol or controlled substances. This screening may consist of collecting a urine or blood sample and submitting this sample for the appropriate laboratory analysis.

All screening results will be evaluated by professional, certified medical consultants in accordance with established medical guidelines. Screening results will be held in strictest confidence and communicated on a need-to-know basis only. Negative screening results may be reported if required for company employment in connection with a specific job.

I hereby acknowledge that I have read the contents of the CORRADO CONSTRUCTION COMPANY Alcohol and Controlled Substance Abuse Program explained to me and that I have received a copy of that program.

In addition, I hereby agree to submit to screening as outlined in this program.

_____	_____
EMPLOYEE SIGNATURE	EMPLOYEE NAME (PRINT)
_____	_____
DATE	SUPERVISOR'S SIGNATURE

V. HAZARD COMMUNICATION

Purpose

The purpose of this program is to ensure the safe use of hazardous chemical substances and to comply with the requirements of OSHA HCS 2012.

Introduction

In 2012, OSHA revised the Hazard Communication Standard (HCS) to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). As a result, this Hazard Communication Program (HCP) has been revised to comply with the requirements of the OSHA HCS 2012.

It spells out how Corrado Construction Company (CCC) will inventory chemicals stored and used, obtain and use Safety Data Sheets, maintain labels on chemical substances and train employees about the hazards of chemicals they are likely to encounter on the job.

Preparation of this program indicates our continuing commitment to safety among our employees in all of our locations.

- Each facility is expected to follow this program and maintain its work areas in accordance with these requirements.
- Employees, their designated representatives, and government officials must be provided copies of this program upon request.
- In addition to the program, other information required as part of our hazard communication effort is available to workers upon request.
- Asking to see this information is an employee's right.
- Using this information is part of our shared commitment to a safe, healthy workplace.

Scope

This program is applicable to all CCC employees who may be exposed to hazardous chemical substances. When work is performed on a non-owned or operated site, the operator's program shall take precedence, however, this document covers CCC employees and contractors and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

Responsibilities

CCC has a written Hazard Communication program. A written hazard communication program shall be developed, implemented, and maintained at each workplace that describes how labels and other forms of warning, safety data sheets, and employee information will be met.

Safety Manager or Designee

The Safety Manager, or designee, is responsible for administering the hazard communication program. This person is also responsible for:

- Reviewing the potential hazards and safe use of chemicals.
- Maintaining a list of all hazardous chemicals and a master file of SDSs.
- Ensuring that all containers are labeled, tagged or marked properly.
- Providing new-hire and annual training for employees.
- Maintaining training records.
- Identifying hazardous chemicals used in non-routine tasks and assessing their risks.
- Informing outside contractors who are performing work on CCC property about potential hazards.

- Reviewing the effectiveness of the hazard communication program and making sure that the program satisfies the requirements of all applicable federal, state or local hazard communication requirements.

Employees

- Employees are responsible for following the requirements in the Hazard Communication Program.
- Any employee who transfers any material from one container to another is responsible for labeling the new container with all required information.
- All employees are responsible for learning the requirements of this section and for applying them to their daily work routine.
- Identifying hazards before starting a job.
- Reading container labels and SDSs.
- Notifying the supervisor of torn, damaged or illegible labels or of unlabeled containers.
- Using controls and/or personal protective equipment provided by the CCC to minimize exposure.
- Following CCC instructions and warnings pertaining to chemical handling and usage
- Properly caring for personal protective equipment, including proper use, routine care and cleaning, storage and replacement.
- Knowing and understanding the consequences associated with not following CCC policy concerning the safe handling and use of chemicals.
- Participating in CCC training.

Procedure

List of Hazardous Chemicals
An inventory/list of hazardous chemicals is maintained. An inventory of all hazardous chemicals used by CCC should be maintained. Each chemical on the list should have the same name as shown on its corresponding Safety Data Sheet (SDS).

The Hazardous Chemical List is updated as necessary and at least annually by the Safety Manager or their designee. The Hazardous Chemical List must be available for review upon request.

Safety Data Sheets (SDS)
Safety Data Sheets (SDS) are obtained for all hazardous chemicals. Chemical manufacturers are responsible for developing SDSs. CCC shall have a SDS for each chemical used.

The purchasing of any potentially hazardous chemical products from any supplier that does not provide an appropriate Safety Data Sheet in a timely fashion is prohibited.

Safety Data Sheets (SDS) are readily available to employees. SDSs shall be maintained and readily accessible in each work area. SDSs can be maintained at the primary work site. However, they should be available in case of an emergency. SDS must be made available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director.

The Safety Data Sheet must be kept in the SDS library for as long as the chemical is used by the facility.

Electronic access (telephone, fax, internet, etc.) may be used to acquire and maintain SDS libraries and archives.
The Manager is responsible for seeing that the Chemical Inventory List inventory is maintained, is current and is complete. He/she will review Chemical Inventory List at least annually. When a hazardous material has been permanently removed from the work place, its SDS is to be removed from the Chemical Inventory List.

SDS' for hazardous materials to which CCC employees have been exposed must be maintained after the employee leaves the employment of CCC.

Methods to be Used to Inform Employees of the Hazards of Non-Routine Tasks
The methods that CCC will use to inform employees of the hazards of non-routine tasks (i.e., the cleaning of reactor vessels, etc.) and the hazards associated with chemicals contained in unlabeled pipes in their work areas include:

- Conducting a Job Hazard Assessment (JSA).
- Employees will be advised of methods and special precautions, PPE and the hazards associated with chemicals and the hazards associated with chemicals contained in unlabeled pipes in their work areas.
- In the unlikely event that such tasks are required, the supervisor, or designee, will provide a SDS for the involved chemical.

The Use and Care of Labels and Other Forms of Warning
Containers of hazardous chemicals are labeled. Container labels should contain the following information:

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

The Manager will ensure that all hazardous chemicals used or stored in the facility are properly labeled.

Damaged labels or labels with incomplete information shall be reported immediately.

Workplace labels or other forms of warning will be legible, in English and prominently displayed on the container or readily available in the work area throughout each work shift.

If employees speak languages other than English, the information in the other language(s) may be added to the material presented as long as the information is presented in English as well.

CCC will use the GHS labeling system for secondary containers.

Portable containers into which hazardous chemicals are transferred from labeled containers and that are intended for the immediate use of the employee who performs the transfer do not require a label.

If the portable container will be used by more than one employee or used over the course of more than one shift, the container must be labeled.

Received from vendors that are not properly labeled must be rejected.

Pictograms and Hazards

Health Hazard	Flame	Exclamation Mark
		
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
		
• Gases Under Pressure	• Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle	**Environment** (Non-Mandatory)	**Skull and Crossbones**
		
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

Example Label

HS85
Batch number: 85L6543

Warning
Harmful if swallowed

Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Dispose of contents/container in accordance with local, state and federal regulations.

First aid:
If swallowed: Call a doctor if you feel unwell. Rinse mouth.

GHS Example Company, 123 Global Circle, Anyville, NY 130XX Telephone (888) 888-8888

Multi-Employer Job Sites and/or Multi Work Site
Chemical information is provided to employees on multiple worksites or multiple employer worksites.

The following specific methods for providing other employer information concerning hazardous chemicals at job sites, methods of providing SDS sheets, methods of precautionary measures to be taken and methods of providing information on labeling systems:

Multi-Work Sites
Where employees must travel between work places during a work shift (multi job sites), the written program may be kept at a primary job site. If there is no primary, then the program should be sent with employees.

Multi-Employer Job Sites
A pre-job briefing shall be conducted with the contractor prior to the initiation of work on the site.

- During this pre-job briefing, contractors shall notify CCC and present current copies of Safety Data Sheets and label information for every hazardous chemical brought on-site.
- CCC shall notify and provide required SDS and label information for all hazardous chemicals the contractor may encounter on the job.
- The facilities labeling system and any precautionary measures to be taken by contractor during normal conditions and emergencies shall be addressed.
- By providing such information to other employers, CCC does not assume any obligations that other employers have for the safety of their employees.

Training

Employees are provided with information and training on the hazardous chemicals they may be exposed to. Employees shall be provided with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.

Additional training will be provided whenever a new chemical hazard is introduced into the work area. To reinforce the importance of handling chemicals properly when performing new or non-routine tasks supervisors will conduct supplementary training as needed.

Formal training will be conducted by facility employees or individuals who are knowledgeable in the Hazard Communication program.

The Hazard Communication Program documented training shall, as a minimum, include:

- Requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 (General Industry) or 29 CFR 1926.59 (Construction Industry).
- Operations in the work area where hazardous chemicals are present.
- Location and availability of the hazard communication program, chemical inventory list and SDSs.
- Methods and observations used to detect the presence or release of a hazardous chemical in the work area, such as monitoring devices, visual appearance or odor of hazardous chemicals when being released.
- Explanation of the labels received on shipped containers.
- Explanation of the workplace labeling system.
- Explanation of the SDS, including order of information and how employees can obtain and use the appropriate hazard information.

The Manager shall ensure records of employee training are maintained.

VI. TRENCHING/SHORING/EXCAVATIONS

TRENCHING

All employees working in or near trenches will be trained. Training will include awareness, surrounding and understanding of job description. Employees will understand emergency evacuation procedures, follow pre-plan instructions, and sign off that they understand all phases of trenching.

Pre-plan will address underground installations. The location of underground utilities or hazards shall be determined before excavation. When utility companies or owners cannot respond to a request to locate underground utility installations within 24 hours, or cannot establish exact location of these installations, CCC will proceed with caution and provide detection equipment or other acceptable means to locate utility installations.

COMPETENT PERSON

A "Competent Person" will be designated in Pre-Plan meeting and or by Supervision to oversee all phases of safety for site. He shall have the proper training to perform said function and site knowledge to address possible hazards. He will address these issues and establish safe working practices prior to persons working on site. When possible changes occur he will readdress any areas or hazards and make changes as necessary.

SAFE ACCESS AND EGRESS

Trench excavations shall have ramps, ladders, stairs, etc., and the ladders must be within 25 feet of the workers.

VEHICLE TRAFFIC:

All employees will wear reflective vests, etc. Areas will be barricaded off with spotter at trenching site to control traffic.

OTHER SAFE GUARDS

Employees should not work under loads of digging equipment were loads may fall. Employees will be protected from water accumulation, including the use of shields and must be inspected by a competent person before work begins.

Daily inspection by competent person will be conducted. They will examine the possibility of cave-ins, failures, and protective systems, etc. If problems are found, provisions will be made for immediate personnel removal. Competent person will turn in signed inspection forms daily.

Plan will be in place before work begins for crossings and walkways to protect against falls.

SOIL DETERMINATION

Each employee in an excavation shall be protected from cave-ins by an adequate protective system designed in accordance with OSHA 1926.652, 1926.651. Before excavations/trenching work starts, types of soil must be determined to insure specific measures may be required such as: shoring, sloping, shield &

excavation as needed. Type of shoring to be used must be determined (Timber shoring, aluminum, aluminum hydraulic shoring) according to the appendixes A & C of the standard.

CCC will perform *daily inspections of excavations*, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, (loose rock, rain, snow, etc.), indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated. Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

Design of sloping and benching systems. The slopes and configurations of sloping and benching systems shall be selected and constructed by CCC or designee and shall be in accordance with standard. Excavations shall be sloped at an angle not steeper than one and one-half horizontal to one vertical (34 degrees measured from the horizontal), unless the data requires use of one of the other options listed in standard.

Designs of sloping or benching systems shall be selected from and in accordance with tabulated data, such as tables, charts, and engineers or qualified person in field.

All devices being used will be in good condition and maintained; if damaged, they will be repaired before being put back into service. The employees will be protected from hazards of falling, rolling, sliding materials, or equipment. Employees shall not be subject to excessive forces. Employees will be restricted from being in the shield when installing or removing loads. The shield will be designed to resist calculated trench forces.

Protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied or transmitted to the system.

TESTING OF THE ATMOSPHERE

CCC will conduct test for air contaminants (oxygen, flammable gases, etc.) and ventilation shall be provided when and where necessary.

VII. WELDING AND CUTTING

General

CCC has established these safe work practices and procedures to be used when performing welding and cutting operations. The hazards generally associated with welding and cutting are hot sparks, arc radiation, air contamination, electrical shock, chipping slag, contact with hot metals and the handling of compressed gases.

Permits

Generally, the majority of CCC work will be conducted in “open areas”, which do not require a Hot Work Permit. Certain areas, not defined as “open areas”, may require a Hot Work Permit. When Hot Work Permits are required, all hot work will be performed in compliance with the provisions set forth in the

permit, as well as the policies and procedures of the issuing authority.

A general, weekly hot work permitted is provided at the end of this section. This hot work permit is to be used when a permit procedure is required by the owner or controlling contractor, but an actual permit is not issued. This permit is valid for the listed work areas and operations for a time period of one week only. If significant changes to the work area and/or operation occur, a new permit must be generated.

Gas Cutting and Welding

1. Oxygen and fuel-gas hoses shall be easily distinguishable from each other. The contrast shall be made by different colors (oxygen shall be green and fuel-gas shall be red). Oxygen and fuel-gas hoses shall not be interchangeable. A single hose having more than one gas passage shall not be used.

2. When parallel sections of oxygen and fuel-gas hose are taped together, not more than 4 inches out of 12 inches of length shall be covered by tape.

3. Hoses shall be inspected daily, prior to use. Damaged or defective hose shall be immediately tagged “out of service” and removed from the work area.

4. Hoses and cables shall be kept clear of walkways, ladders and stairs. Hoses and cables shall be routed, protected or hung overhead to prevent incidental damage from equipment operations and so not to create trip hazards.

5. Torches shall be inspected daily, prior to use. Damaged or defective torches shall be immediately tagged “out of service” and removed from the work area.

6. Clogged torch tip openings shall be cleaned with approved cleaning wires, drills or other devices designed for this purpose.

7. Torches shall be ignited by friction lighters or other approved devices only. Matches or hot work shall not be used to ignite torches.

8. Regulators, including regulator gauges, shall be inspected daily, prior to use. Damaged or defective regulators shall be immediately tagged “out of service” and removed from the work area.

9. Oxygen cylinders, cylinder caps, valves, couplings, fittings, regulators hose and other apparatuses shall be kept free from oil or greasy substances and shall not be handled with oily hands or gloves.

10. Flash back arresters shall be installed between the regulator and hose of all oxygen and fuel-gas set-ups.

11. See the Compressed Gas Cylinder section for the safe use, handling and storage procedures and requirements for compressed gas cylinders.

Arc Welding and Cutting

1. All arc welding and cutting equipment shall be inspected daily, prior to use. Damaged or defective equipment shall be immediately tagged “out of service” and removed from the work area.

2. All arc welding and cutting operations shall be properly grounded.

3. Only manual electrode holders designed for arc welding/cutting and capable of safely handling the maximum rated current required shall be used.

4. Any current-carrying parts passing through the holder, which the arc welder or cutter grips in his or her hand, or the other surfaces of the jaws of the holder shall be fully insulated against the maximum voltage encountered to ground.

5. All arc welding/cutting cables shall be completely insulated, flexible and capable of handling the maximum current requirements of the work.

6. Only cables free from repair or splices for a minimum distance of 10 feet from the electrode holder shall be used. Cables with standard insulated connectors or splices with insulating quality that is equal to that of the cable may be permitted.

7. If it is necessary to splice lengths of cable, insulated connectors equivalent to that of the cable shall be used. If connections are made by cable lugs, they shall be securely fastened together and provide a good electrical contact. Exposed metal parts of the lugs shall be completely insulated.

8. If electrode holders are left unattended, the electrodes shall be removed and the holders placed so they cannot make electrical contact with employees of conductive objects.

9. Electrode holders shall not be placed in water.

10. Cables shall be routed to avoid standing water.

11. Hands and gloves shall be dry when installing electrodes into the electrode holder.

12. When work is complete, the employee is stopping work operations for any appreciable length of time or when the equipment is to be moved, the power supply shall be turned off.

13. Where practical, arc welding and cutting operations shall be shielded by noncombustible screens that will protect employees and other persons working in the vicinity from direct rays of the arc.

Ventilation

1. Appropriate ventilation shall be maintained and/or used at all times, to ensure employees exposure to fumes and smoke are within safe limits.

2. In the event proper ventilation cannot be obtained, employees may be required to wear respiratory protection devices. Contact the Safety Department for assistance.

Personal Protective Equipment

1. Appropriate eye and face protection, with the proper shaded lens, shall be used at all times when performing welding and cutting operations.

2. Hard hats shall be worn at all times when performing welding and cutting operations.

3. Flameproof gauntlet gloves and jackets shall be worn when performing welding and cutting operations.

4. Leathers may also be required for overhead welding and cutting operations.

5. Protective clothing shall be free from oil and grease.

Fire Protection

1. Prior to the start-up of welding and cutting operations, all flammable and combustible materials shall be removed from the work area.

2. A fire extinguisher, rated not less than 10ABC, shall be located within 25 feet of all welding and cutting operations.

3. Compressed gas cylinders shall be located far enough away from the welding and cutting operation so they are not struck by open flames, sparks, slag, etc.

4. Fire blankets shall be used to prevent fires and protect equipment, structures and property, as needed.

5. A fire watch shall be utilized, as needed.

6. See the Fire Protection and Prevention section for additional information.

Training

All Supervision, cutters, and welders will be trained to operate the equipment required. They will be trained in the safe operations of their equipment and the safe use of the process. Unsafe work practices will not be allowed and will be subject to discipline and or termination.

Workers in charge of gas supply equipment will be properly trained and judged competent for said work. Workers that operate arc welding equipment will be properly trained and deemed competent to operate equipment in a safe manner.

Workers in charge of equipment will be properly trained to operate, maintain, and report any defects or safety issues. Equipment will be tagged and repaired before being put back in service.

Workers in charge of Fire Watches shall be trained in the use of fire extinguishing equipment and familiar with the facilities for sounding an alarm in the event of a fire.

Guarding

If any items to be welded or cut cannot be moved, or fire hazards cannot be removed, guards or shielding will be used to protect the heat sparks or slag from the immovable fire hazard.

First Aid

First Aid equipment will be made available at all times and a competent person will be present. Emergency numbers and or emergency procedures for site will be issued prior to work.

HOT WORK PERMIT

Location of Hot Work: _____

_____

Work to be Completed: _____

_____

Checklist

1. All combustible and flammable materials have been removed from the area where the hot work is to be conducted.
2. Fire extinguishers, rated not less than 10ABC, are within twenty-five (25) feet of all hot work operations. All fire extinguishers have been inspected and are in operable condition.
3. Areas below overhead hot work are properly barricaded, as needed.
4. Floor holes are properly barricaded, preventing sparks, slag, etc. to drop to lower levels. Lower level areas are properly barricaded when the potential for falling sparks, slag, etc. is present.
5. Adequate ventilation is available and/or supplied.
6. Hot work safety procedures have been reviewed with all employees prior to the start-up of hot work operations.
7. Proper personal protective equipment is available and in use.
8. Fire watch assigned, as needed.

Supervisor's Signature	Date
_____	_____
_____	_____
_____	_____
_____	_____

VIII. CONFINED SPACE

Policy

It is the policy of CCC that any employee who is required to work in a confined space or other hazardous location shall be properly trained and equipped to perform his or her work without risk of injury or illness.

Definitions

Acceptable entry conditions: The conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

Attendant: An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

Authorized entrant: The employee authorized by the entry supervisor to work in the confined space.

Blanking or blinding: The absolute closure of a pipe, line or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

Double block and bleed: The closure of a line, duct or pipe by closing and locking or tagging two inline valves, and by opening and locking and tagging a drain or vent valve in the line between the closed valves.

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.

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction or crushing.

Entry: The action by which a person passes through an opening into a permit-required confined space. It occurs as soon as any part of the entrant's body breaks that plane of the opening into the space.

Entry permit: The written or printed document provided by an employer to allow and control entry into a permit space.

Entry supervisor: The person (such as the employer, or the foreman or forewoman) 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 as required by this section.

Hazardous atmosphere: An atmosphere that may expose employees 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:

1. Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL).

2. Airborne combustible dust at a concentration that meets or exceeds its LEL.

3. Atmospheric concentration of any substance for which a dose or permissible exposure limit (PEL) is identified in the most recent version of OSHA 29 CFR 1926.

4. Atmospheric oxygen concentrations below 19.5% or above 23.5% oxygen.

Hot work permit: The written authorization to perform operations (for example, riveting, welding, cutting, burning and heating) capable of providing an ignition source.

Immediately dangerous to life and health (IDLH): Any condition that poses an immediate or delayed threat to life or that would interfere with an individual's ability to escape unaided from a permit space.

Inerting: The displacement of the atmosphere in a permit space by noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

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; double block and bleed systems; lockout or tag-out of all sources of energy; and blocking or disconnecting all mechanical linkages.

Line breaking: The intentional opening of a pipe, line or duct that is or has been carrying flammable, corrosive or toxic material, and inert gas, or any fluid at a volume, pressure or temperature capable of causing injury.

Nonpermit confined space: 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 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 Program

Because CCC performs work in many different environments, CCC recognizes that it may be hazardous, dangerous or even deadly for employees to enter a confined space if proper precautions are not taken.

To help protect our employees from incidents and injury in confined space situations, CCC has adopted a Permit Required Confined Space Program. For the purpose of this program, "confined space" is separated into two categories, as follows:

The purpose of these procedures is to ensure that entry into any confined space is planned and documented as required in order to identify and control hazards. This procedure cover the entry method selection, planning, and documentation of entry into confined spaces of both classifications: non-permit-required confined space (NPRCS) and permit-required confined space (PRCS). They apply to workers, confined space entry supervisors, entrants, attendants, controlling contractors, owners, and other site personnel directly involved.

1. Classification of confined spaces
    a. Permit Required Confined Space (PRCS)
        i. This type of confined space meets the definition of a Non-Permit Confined Space and, in addition, has one or more of the following characteristics:
            1. Contains or has the potential to contain a hazardous atmosphere
            2. Contains a material that has the potential for engulfing or entrapment (i.e. grain silo, etc.)
            3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
            4. Contains any other recognized serious safety or health hazard

Note: See details for alternate procedure in section 2 below. Entry into a confined space classified as a PRCS may qualify for an alternate procedure or a temporary declassification if hazards can be eliminated as described below. If hazards exceed the stated conditions, a permit is required.

b. Non-Permit Required Confined Space (NPRCS)
    i. This type of confined space does not contain, or have the potential to contain, any hazards which are capable of causing death or serious physical harm, and:
    ii. Is large enough and so configured that a worker can bodily enter and perform work.
    iii. Has limited or restricted means for entry or exit such as tanks, vessels, silos, storage bins, hoppers, vaults and pits.
    iv. Is not designated for continuous worker occupancy.

Note: The NPRCS entry supervisor may reclassify the entry if hazardous materials or activities become involved.

2. Entry

Entry Supervisor: This person is 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 as required by this section.

Authorized Entrant: The authorized entrants are the employees authorized by the entry supervisor to work in the confined space. Only entrants that completed PRCS training will be allowed in the space.

Attendant: The individual stationed outside one or more permit spaces, which monitors the authorized entrants.

Alternate Entry Procedure

A PRCS for which the only identified hazard is **an actual or potentially hazardous atmosphere** qualifies for the alternate entry procedure if it can be demonstrated by air monitoring that continuous forced air ventilation alone is sufficient to remove the hazardous atmosphere and maintain the space safe for entry. The confined space entry supervisor must complete the following:

1. Confined Space Entry Permit
2. Continuous forced air-ventilation and continuous atmospheric air monitoring
3. Continuous monitoring of changes of potential or new hazards
4. Guarding or barricading of removed hole covers
5. Ensure no hazardous atmosphere exists throughout the confined space entry

Temporary Declassification

A PRCS may be temporarily declassified if both these conditions apply:

1. No actual or potential atmospheric hazards are present
2. All hazards within the space can be eliminated from outside the space for the duration of the entry

Only the confined space entry supervisor has the ability to temporarily declassify a PRCS. All hazards must remain completely eliminated for the duration of the entry. Evacuation and reassessment is mandatory if any change in conditions introduces a hazard.

Permit Require Confined Space Entry

Planning	
Entry Supervisor	Determine and coordinate adequate non-entry rescue.
	Determine and eliminate/control any hazards associated with the space
	Verify that all equipment, controls and personnel are available
Pre-Entry	
Entry Supervisor	Complete all documents required for confined space entry
	Ensure the space is ventilated and tested using a properly calibrated 4-gas meter. Continuously monitor the air and record readings on the permit.
	Secure the work area, especially the entrance to the space, using any of the following: -Barriers -Posts with warning tape -Barricades
	Conduct pre-entry meeting discussing work to be performed, anticipated hazards and their controls, specifics of the space, and also the details of the non-entry rescue procedures
	Verify control measures are in place and ensure permit is signed by all employees
Entry	
Entrant	Ensure name and signature is listed on the permit, along with entry and exit times
	Maintain constant visual contact or vocal communication with the attendant
Attendant	Maintains communication and/or visual contact with all entrants
	Do not perform any other duties to interfere with observation of entrants
	Do not become an entrant or neglect the work being performed within the space
	Order entrant to exit the space if: -New hazardous conditions develop -Observes any behavioral changes -Unable to perform assigned duties
Entry Supervisor	Verifies entry conditions are acceptable
	May become an entrant if necessary
	Review, close, or temporarily suspend or reclassify the entry permit

Non Permit Space Entry

Entry	
Entry Supervisor	Determine conditions of the space meet OSHA requirements for Non-Permit-Required Confined Space
	Verify with Controlling contractor that the space doesn't not require a permit for entry
	Coordinate non entry rescue for the event of an unforeseen emergency within the space not related to hazardous conditions
	Provide continuous air monitoring of the space to ensure no hazardous atmospheres develop during job tasks
	Complete confined space permit

Entrant/Attendant	Takes necessary precautions to protect employees in and around the space: -Air monitoring and ventilation -Traffic control -Barricades -Personal Protective equipment
	Perform authorized work under the condition that no hazards, atmospheric or otherwise, develop within the space during work
	Promptly evacuate the space if hazardous conditions develop
	Document conditions of the space on the confined space entry permit including air measurements and entry/exit times

Confined Space Rescue

Attendant or supervisor shall perform non-entry rescue immediately after an emergency situation occurs. Utilize the tri pod and wench pulley system designated for entrant rescue. If the entrant becomes unresponsive, or visual impairment occurs, hoist the victim out of the space as quickly as possible. Maintain verbal and visual communication with entrant. If communication and visual contact is lost due to unconsciousness or other medical emergency, do not hesitate to perform non entry rescue.

In the event of a trapped entrant, fire or medical emergency, the attendant must contact, or get in contact with someone who can contact, the rescue personnel designated for the particular space. The entry attendant shall have the emergency phone numbers posted in close proximity to the confined space. Only trained PRCS rescue squads may make entry for rescue purposes. An entry attendant making a call for the PRCS rescue squad must stay at the entrance to the PRCS until the rescue squad arrives or until the entrants have left the PRCS.
All permit-required entries must have a non-entry rescue plan and retrieval system in place before entry. No entry for which entry rescue is required will be authorized, as there is no active employee certified in confined space entry rescue. When rescue is needed, the following actions will be taken:

1. Perform non-entry rescue
2. Call 9-1-1 or designated rescue personnel
3. Notify supervisors
4. Prevent entry into space(other than authorized rescue personnel)

Note: When contacting 9-1-1, be sure to inform the dispatcher that you have 'a confined space emergency' followed by the precise location and any other specific navigation requirements

CCC shall exercise safety and health precautions whenever PRCS entry is required by an employee. PRCS entry that personnel are likely to encounter include; manholes, pits, storage tanks, bins, hoppers, chutes, process vessels and large equipment. Familiarity with PRCS definitions and procedures are required so that inadvertent access to a PRCS does not occur without the proper precautions. Most, if not all, PRCS should be marked as such; familiarity with the definition of a PRCS is necessary, however, in the event that a PRCS is not identified or marked.

All confined spaces meeting the above criteria must be considered permit required, unless specified as a non-permit required confined space by the CCC Safety Department.

Procedures for Identifying a Confined Space

1. CCC shall obtain all permit space hazard information from the controlling contractor prior to any entry operations;

2. Coordination and review of Corrado Constructions confined space entry procedure will take place between confined space competent persons and the controlling contractor. Both parties will review potential hazards of each confined space to be entered;

3. If the employees will have to enter to perform work in the confined space, they will do so by following the CCC confined space entry procedure. Subcontractors may use their own Confined Space Entry Procedure if it meets or exceeds the CCC and OSHA requirements.

4. If there is no controlling contractor on site, then CCC management will assume the roll and obtain all necessary information from the owner/host contractor.

Preparation for Entry into a Confined Space

Before entry into a permit space is authorized, CCC shall:

1. Ensure all persons are trained in confined space work and the training is documented.

2. Confirm that potential atmospheric, configuration, engulfment, or other recognized hazards have been identified and evaluated by a qualified person.

3. Implement all measures necessary to prevent unauthorized entry.

4. Assign responsibility and specify acceptable entry conditions.

5. Conduct purging, inerting, flushing or ventilating of the confined space to eliminate or control atmospheric hazards.

6. Implement lockout/tagout/tryout procedures, if necessary.

7. Determine the tools and equipment to be used are suitable for the work to be done.

Training/Responsibilities

All entry supervisors, attendants and entrants must be properly trained to enter a confined space. Prior to any work being conducted in a confined space or a permit required confined space, certain roles must be defined. Prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created of special deviations have occurred:

All employees attending training will certify that training has been accomplished. Certifications shall include employee name, trainer's signature and date of training. Certification will be available to employees and their authorized representative.

Entry Supervisor: This person is 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 as required by this section.

Responsibility of the entry supervisor:

1. Knows the hazards of the PRCS. If a hazardous atmosphere may exist, the entry supervisor must know the mode of entry into the body (inhalation, absorption, ingestion and so forth), signs or symptoms and consequences of exposure.

2. Verifies the permit is properly completed with required signatures and that all procedures are followed.

3. Terminates the entry and cancels the permit.

4. Verifies that rescue services are available and that the means for summoning help are operable.

5. Verifies that only authorized entrants are allowed into the confined space.

6. Maintains close supervision of the attendants and entrants during entry.

Authorized Entrant: The authorized entrants are the employees authorized by the entry supervisor to work in the confined space. Only entrants that completed PRCS training will be allowed in the space.

Responsibilities of the entrant:

1. Knows the hazards of the PRCS. If a hazardous atmosphere may exist, the employee must know the mode of entry into the body, signs or symptoms of exposure and consequences of exposure.

2. Uses the personal protective equipment required by the supervisor. If respirator use is required, the employee must comply with the "Respiratory Protection Program" section of this manual.

3. Maintains communication with the attendant.

4. Alerts the attendant of any hazards encountered or any emergency situations.

5. Exits the space if the attendant identifies any hazards.
   Attendant: The individual stationed outside one or more permit spaces, which monitors the authorized entrants.

Responsibilities of the attendant:

1. Knows the hazards of the PRCS. If a hazardous atmosphere may exist, the attendant must know the mode of entry into the body, signs or symptoms of exposure and consequences of exposure.

2. Attendant is aware of the possible behavioral effects of hazard exposure in authorized entrants.

3. Verify all employees have signed in before entering confined space—verify all employees sign out when exiting.

.

4. Continuously maintains an accurate count of the authorized entrants.

5. Remains outside the space during entry operations. The attendant will not perform any other duties that might interfere with monitoring the PRCS. Attendant will be responsible for one (1) confined space at a time. At no time will attendant leave area without replacement.

6. Monitors activities inside and outside the space to determine whether the space is safe for the entrants.

7. Summons rescue and other emergency services as soon as the attendant determines that the authorized entrants may need assistance to escape from hazards. The attendant will not attempt any entry rescues, unless trained to do so.

Minimum Equipment Needed for PRCS Entry

Although the equipment needed to perform a PRCS entry will vary (depending upon the situation), certain minimum equipment is necessary for safe entry, as noted below:

- Ladders
- Portable lighting
- Ventilation equipment
- Tripods and harness
- Communication equipment
- Atmospheric monitors
- Personal Protective Equipment
- Handrails for vertical PRCS
- GFCI for extension cords

The authorized CCC representative shall ensure that necessary equipment is available on location, that the equipment is in proper operating condition and that personnel operating or using the equipment have been properly trained.

Appropriate lighting shall be provided within and outside the confined space. Some of the precautions that shall be taken when selecting lighting are as follows:

1. If the atmosphere inside the confined space is classified as flammable or explosive, the electrical equipment used shall conform to Article 500, National Electric Code.

2. All personnel entering the confined space shall be provided with explosion-proof flashlights, if other means of lighting are not available.

3. Extension cords in damp or wet areas could cause electric shock hazards. Only approved low-voltage (6 or l2volt) lights and extension cords with ground-fault circuit interrupters shall be used.

Isolating Energy Sources

Before employees enter any confined space, the space shall be removed from service and shall be completely protected against the release of energy and/or material(s) into the space. This provision means that all energy sources leading to, or located within, the confined space which is potentially hazardous to the workers shall be locked out, tagged, relieved, disconnected, and/or restrained.

In some cases, a machine may have more than one energy source (such as high- and low-voltage electrical, electrohydraulic, electropneumatic, and so forth). Ensure each energy source is truly locked out.

Energy sources include:

Electrical Mechanical

Gravity	Pneumatic
Hydraulic	Thermal Radioactive Sources
Kinetic	

The objective for isolating all energy sources is to prevent unexpected or incidental energizing, start-up or release of stored energy that could cause injury to workers within the confined space.
If isolating energy is required, the Lockout/Tagout/Tryout section of this manual shall be complied with.

Atmospheric Testing

Before entry into a PRCS can occur, atmospheric conditions within the confined space must be evaluated by a qualified person, using the proper testing equipment, which is correctly calibrated. It is important to understand that some gas or vapors are heavier or lighter than air, and will settle at the top, bottom or center of a PRCS. Therefore, it is necessary to test all areas: top, middle and bottom of a PRCS, using properly calibrated testing instruments to determine what gases are present and in what quantity. If any one of the atmospheric tests (oxygen, combustible gases, toxic gases, hydrogen sulfide) is at a concentration above its preset alarm-sounding level, no entry into the PRCS can be made. If testing reveals oxygen deficiency or the presence of toxic gases or vapors, the space must be ventilated (blower or fan) and retested before work entry.

Contact the CCC Safety Department if there is any question about the safety of the atmosphere. Never trust your senses to determine if the air inside the PRCS is safe. You cannot see or smell many toxic or combustible gases and vapors, nor can you determine the level of oxygen present without properly calibrated atmospheric testing instruments. Only employees trained in the use of atmospheric testing instruments are permitted to do so. Atmospheric testing must be continuous while entrants are inside the PRCS. Any employee may request the atmosphere to be tested prior to or during work in a confined space..

No compressed gas cylinders will be allowed into the confined space. All compressed gas hoses will be checked for damage before being brought into the confined space. All compressed gas cylinders will be turned off when they are not in use. Any additional equipment brought into the confined space must be identified as suitable for the location and atmosphere.

Prior to entering a PRCS, several conditions must be met with regard to acceptable atmospheric conditions, as noted below:

1. **Oxygen Content:** An oxygen content of 19.5% to 23.5% is required for entry into a PRCS. No entry is allowed into a space when oxygen levels are at 23.5% oxygen or higher. Spaces that contain less than 19.5% oxygen are Immediately Dangerous to Life or Health (IDLH), and may only be entered with extra-special precautions. Oxygen content must be tested first.

All entrants and attendants must be familiar with the signs and symptoms of an oxygen deficient atmosphere:

Oxygen Volume (%)	**Signs and Symptoms**
16%–12%	Increased breathing and pulse rate; slight disturbance of muscular coordination
14%–12%	Emotional upset; abnormal fatigue upon exertion; disturbed respiration
10%–6%	Nausea and vomiting; inability to move freely; possible loss of consciousness; possible physical collapse; may be unable to move or cry out although aware of difficulties
Below 6%	Convulsive movements; gasping respiration; respiration stops followed by heart stoppage

2. **Flammable Atmospheres:** Two things cause an atmosphere to be flammable: the oxygen in the air and a flammable gas, vapor, or dust in proper mixture. Different gases have different flammable ranges and when a source of ignition, spark, electrical tool or so forth is introduced into a space containing a flammable atmosphere, an explosion results. An oxygen-enriched atmosphere (23.5%) will cause flammables such as clothing and hair to burn violently when ignited. Both an enriched or oxygen-deficient atmosphere may affect the operation and interpretation of the combustible gas meter. Therefore, never use pure oxygen to ventilate a PRCS. Always ventilate with normal air. Any PRCS containing 10% or more of the Lower Explosive Limit (LEL) is considered a combustible atmosphere and may not be entered under any circumstance. Mechanical ventilation may be required to reduce the LEL to an acceptable level. Ventilation equipment must be explosion-proof when ventilating a combustible atmosphere. Flammability of the atmosphere must be tested second.

2. **Toxic Atmospheres:** Many substances (liquids, vapors, gases, mists, solid material and dust) can be considered hazardous in a PRCS. Toxic Atmospheres can result in the confined space when substances emit toxic gases or when cleaning residue of a stored product. Any potential toxic gas, vapor or dust in a PRCS must be continuously monitored and levels must be kept below the Permissible Exposure Limits (PEL). Air purifying respirators can be used only to protect against gases and vapors that have good warning properties.

Carbon Monoxide: No employee is allowed to enter a confined space with 25 ppm of carbon monoxide, the current TLV (Threshold Limit Value).

Physiological Effects of Carbon Monoxide Exposure

Personal Protection Action Levels (PPAL)	**Effects and symptoms**	**Time**
25	Permissible exposure limit	8 hours
200	Slight headache, discomfort	3 hours
400	Headache, discomfort	2 hours
600	Headache, discomfort	1 hour
1000–2000	Confusion, headache, nausea	2 hours
1000–2000	Tendency to stagger	1 hour
1000–2000	Slight palpitation of the heart	30 min
2000–2500	Unconsciousness	30 min
4000	Fatal	Less than 1 hour

Fire Hazards

To preclude the possibility of fires occurring that could become a hazard to the workers inside the confined space, the following precautions shall be taken as a minimum:

1. Access to and egress from the confined space shall be maintained clear of any obstructions at all times. If welding or cutting is to be performed in the confined space, combustible materials shall be covered with flame-retardant materials.

2. Flammable liquids (such as gasoline, acetone and alcohol) shall be stored in UL- or FM-approved containers. The amount of flammable liquid(s) brought into the confined space shall not exceed the amount needed to perform the work each day.

3. Properly rated fire extinguishers shall be immediately available.

4. Cylinders containing oxygen, acetylene or other fuel gases shall not be taken into the confined space.

5. All rags, brushes, wipes, gloves and the like shall be stored in metal containers with lids. The containers shall be emptied daily.

6. A firewatch person shall be posted during all welding, burning and heating operations to monitor for fires and ensure that after the work has ceased, or at the end of a work shift, there are no fire conditions present.

7. Where flammable liquids or gases are used in confined spaces, continuous monitoring with a calibrated combustible gas detector shall be maintained in the confined space while flammable materials are present.

Immediately Dangerous to Life or Health (IDLH)

All confined spaces have the potential to become IDLH environments. In certain, very rare circumstances, it may be necessary for the trained PRCS rescuers to conduct a rescue in conditions that are already known to be IDLH. Regular work will never be conducted in PRCS that are already known to be IDLH.

Entry is not permitted in PRCS that are known to be IDLH, except for rescue or by written permission of the CCC Safety Department. The following is a list of conditions that are considered IDLH or serious safety hazards:

- Oxygen content less than 19.5%, or greater than 23.5%
- Combustible atmosphere over 10% of the Lower Explosive Limit (LEL)
- Any atmospheric toxin over the IDLH value for that compound
- Any unguarded fall exposures over 6 feet
- Any live and exposed energized equipment
- High pressure steam lines in poor condition
- Sustained atmospheric temperatures above 100 degrees F
- Areas subject to flash flooding
- Tanks or other vessels not properly ventilated
- Toxic gases at or near IDLH concentrations
- Any other IDLH condition

General/Physical Hazards

In addition to the areas discussed previously, evaluation of a PRCS should consider the following potential hazards:

- Temperature extremes

- Engulfment hazards
- Noise
- Slick, wet surfaces
- Falling objects
- Combustion engines near the PRCS
- The potential for toxic gases
- Fire hazards
- Mechanical equipment that may start automatically
- Weather conditions outside the space

Issuance of a Confined Space Permit

The following procedures are to be followed when a trained entry supervisor is preparing a permit to enter a PRCS. Only a trained entry supervisor may prepare or sign a PRCS, following completion of the tasks referenced below:

1. Review the information on the PRCS entry permit request.

2. Determine if there is another way to accomplish the task(s) without entering the PRCS.

3. Determine the exact scope of work, number of employees who will be entering the space, size of the space, hours of work, number of days or shifts, and other information required to complete the permit. Address all health and safety issues (ventilation, PPE, lockout/isolation, potential for atmospheric condition changes in the space, rescue equipment, etc.) during permit preparation. Insure that adequate barriers are provided to protect entrants and entry attendants from external hazards.

4. The CCC PRCS entry permit form will be completed and pre-entry atmospheric testing performed. Atmospheric testing should be completed only by qualified persons, using the correct equipment that is properly calibrated. Results of the testing should be reviewed by the CCC Safety Department or other qualified person before entry is permitted. The PRCS permit shall be brought to the PRCS entry site and should be reviewed by the entry attendant and entrants.

5. Prior to atmospheric testing, any conditions that make it unsafe to remove an entrance cover should be eliminated before the cover is removed. Also, all required blanking of the process line, locking out of bins and feeders, examination of electrical equipment and other procedures that can be accomplished without entering the PRCS should be performed at this time.

6. The entry supervisor or entry attendant will test the atmosphere to determine if it meets safe entry criteria. If the entry is to last more than 15 minutes in duration, or there is a significant potential for the atmosphere to change after initial site entry, then continuous monitoring by a trained entry attendant is required. The entry supervisor will also examine the conditions, rescue, ventilation and communication equipment, entrant qualifications and other safety-related conditions prior to releasing the PRCS for entry and will sign the permit. The entry supervisor will also determine if

continuous monitoring of the confined space's atmosphere is required. If continuous monitoring is required, it will be in operation before entry is permitted.

Atmospheric testing will be made before ventilation equipment has been turned on. If atmospheric testing indicates that the air in the space is not within safe limits, then the PRCS must be ventilated and the atmosphere retested with the ventilation off. Testing after the ventilation system has been turned on should also be performed; this testing ensures that contaminants from other areas are not being drawn into the PRCS. No entry into a PRCS where atmospheric conditions or other conditions are found to be IDLH will be made without specific written approval from the CCC Safety Department. Rescue of persons in a PRCS, involving entry into the space, may only be accomplished by rescuers specifically trained in PRCS.

Entry Procedures

The following procedures apply after the entry supervisor for entry has approved the PRCS:

1. The permit must be posted at the entrance to the PRCS. The entry supervisor must sign all posted permits. The permit must be posted continuously throughout the work activities and is valid for one shift only. All entrants must review the permit before entering the PRCS. The permit will review some of the safety requirements that must be accomplished prior to any entry into the permit access confined space. The confined space must be periodically tested for three gases: oxygen, carbon monoxide and flammable gases.

2. All ventilation equipment must be in operation. The entry supervisor should examine the erection of all rescue winches and test them to insure reliability. The entry attendant should also take up his or her post at the entrance to the PRCS. Testing of communication and communication equipment (two-way frequency radios) between the attendant and the work crew should be performed at this time.

3. After the initial entry into the PRCS has been made, the entrant(s) shall first visually examine the space for obvious hazards, such as exposed electrical and mechanical hazards, fall hazards and atmospheric hazards. All such hazards will be addressed before proceeding with the scheduled work.

4. The entrants will also examine the efficiency of the ventilation system. If air is not being circulated to all parts of the PRCS, the ventilation system will be modified to do so before continuing with operations.

5. The entry attendant remains at the entrance to the PRCS at all times. The entry attendant may not leave his/her post for any reason unless relieved by another trained entry attendant, or until all the entrants have left the space and the entrance has been secured. The entry attendant will remain in contact with the work crew inside the PRCS at all times, and will monitor any change in conditions that could affect the health and safety of the work crew. The entry attendant will talk to the entrants at least every five minutes to verify communication ability and to detect changes in the mental status of the entrants that may indicate that a problem exists in the PRCS. If changes in mental status (such as "drunken" or sluggish-type behavior) occur, the entry attendant will cause the PRCS to be immediately evacuated. If adverse conditions occur (or are likely to occur), then the entry attendant will immediately cause the confined space to be evacuated. Such evacuation can be accomplished by communicating with the work crew or, in the case of a vertical entry, by hoisting the Entrant using a winch.

6. Under no circumstance whatsoever is the entry attendant to enter the PRCS to rescue any entrants, unless properly equipped and trained for PRCS rescue and properly relieved by another trained entry attendant. All entrants must evacuate the PRCS immediately upon instruction to do so by the entry attendant or entry supervisor.

7. At the conclusion of the work performed in the PRCS, the entry supervisor will ensure that the entrance to the space is closed or sealed. The entry supervisor will remove the PRCS permit from its permanent location, write the word "Expired" in large letters across the top, and return the expired permit to the CCC office where it shall be filed.

CONFINED SPACE ENTRY PERMIT

Location/Description:	Date:
	Time:
Work Description:	Supervisor:

Protective Equipment	Yes	No
Safety Harness & Life Line		
Half-face respirator		
SCBA		
Air Mover		
Protective Clothing		
Other		
Other		

Precautions	Yes	No
Lockout/Tagout		
Lines blocked/broken		
Vessel emptied/cleaned		
Purge/Flush/Vent		
12V lighting or GFCI		
Other		
Other		

Atmospheric Testing	Results	Other Atmospheric Testing (Identify Below)
Oxygen		
Carbon Monoxide		
Hydrogen Sulfide		
LEL		

Specific Equipment to be Locked/Tagged/Blocked, Etc.

Communication	Yes	No
Visual		
Voice		
Radio		
Other		

Rescue Personnel:
Onsite/Offsite

Authorized Employees	Upon work completion and/or permit termination, all
Entry Supervisor:	entrants have safely exited the Confined Space.
Entry Attendant:	
Entrant:	Attendant (Print)
Entrant:	Attendant (Sign)
Entrant:	Date:
Entrant:	Time
Entrant:	
Entrant:	

NOTE: This permit is valid for one shift only. While posted at the entrance, it is the responsibility of the Attendant to maintain the requirements of the CORRADO Confined Space Program.

Corrado Office Number: 302 652-3339	Emergency Number:

IX. FALL PROTECTION

General

CCC is committed to protecting our employees from falls. CCC has established specific fall protection policies and procedures, which shall be enforced on all our project sites. The Safety Department will assist in compliance, as needed.

Fall protection is required for any employee who is elevated 6 feet or more, for any reason, including working from aerial lift work platforms, scissors lifts, scaffolds and other types of elevated work platforms. Fall protection can be in the form of guardrail systems, personal fall arrest systems, safety net systems or a combination of all.

When personal fall arrest systems are utilized, 100% tie-off is required. CCC has a zero tolerance policy for individuals not in compliance with the 100% tie-off requirements. Individuals in violation of the 100% tie-off requirements shall be immediately removed from the project.

Subcontractors are also required to comply with this fall protection program.

CCC Fall Protection Program shall be prepared by a qualified competent person for each specified work site.

Types of Fall Protection

There are three basic types of fall protection including guardrail systems, personal fall arrest systems and safety net systems. Each of these systems has specific requirements, which are addressed in this section. How these three systems are used can mean the difference between life and death for workers.

Equipment Inspection

All fall protection equipment shall be visually inspected daily, prior to each use. Any fall protection equipment found to be damaged or defective shall be immediately removed from service.

Training Requirements

CCC will provide a training program for each employee who might be exposed to fall hazards. Training shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to follow to minimize these hazards. CCC will have written certification records showing the following: 1) Who was trained, when, dates of training 2) Signature of person providing training and date CCC determined training was deemed adequate. CCC will provide re-training when the following are noted: 1) Deficiencies in training. 2) Work place changes. 3) Fall protection systems or equipment changes that render previous training obsolete. Training shall be completed before the employee is assigned to work that requires fall protections Training subjects include:

1. CCC fall protection policies and procedures.

    a. Six (6) feet, 100% tie-off policy.

    b. Zero tolerance policy.

2. The nature of fall hazards in the work area.

3. The correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems to be used.

4. The proper procedures for using, maintaining and inspecting the personal fall arrest systems and equipment to be used.

5. The use and operation of guardrail systems, personal fall arrest systems, safety net systems, positioning device systems, fall restraint systems, warning line systems, safety monitoring systems, controlled access zones and other protection, which may be used.
6. The role of each employee in the safety monitoring system when this system is used.

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

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

9. The roles of employees in the fall protection plan.

All training shall be documented and copies maintained at the project site office.

Guardrail Systems

Guardrail systems shall be utilized to protect employees from potential fall hazards resulting from floor/hole openings and unprotected sides/edges, as needed. When utilizing a guardrail system to protect employees, the following provisions apply:

1. The top edge height of top rails, or equivalent guardrail system members, shall be 42 inches, plus or minus 3 inches, above the walking/working surface.

2. The top rail of the guardrail system shall be capable of supporting, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.

3. Mid rails, or equivalent intermediate structural members, shall be installed midway between the top edge of the guardrail system and the walking/working surface.

4. The mid rail of the guardrail system shall be capable of supporting, without failure, a force of at least 150 pounds applied in any outward or downward direction, at any point along the mid rail.

5. Support posts utilized in a guardrail system shall be spaced not more than 8 feet apart on centers.

6. Guardrail systems shall be constructed of wire rope cable, structural steel, wood or pipe.

Floor Hole and Opening Covers

Covers used to protect floor holes and openings, shall comply with the following provisions:

1. Covers shall be designed to fit entirely over the hole or opening.

2. Covers shall be secured to prevent displacement.

3. Covers shall be able to withstand twice the anticipated load, without failure.

4. Covers shall be marked, with highly visible paint, “Hole-Keep Off”.

Personal Fall Arrest Systems

Where personal arrest systems are utilized to protect employees of potential fall hazards, the following provisions apply:

1. Effective January 1, 1998, body belts are not acceptable as part of a personal fall arrest system.

2. Effective January 1, 1998, only locking style snap hooks shall be used,

3. Personal fall arrest systems shall be inspected daily, prior to each use.

4. Personal fall arrest systems found to be damaged or defective, shall be immediately removed from service.

5. Harnesses shall be worn correctly, in accordance with the manufacturer's recommendations. Leg straps, chest straps and all other fastening devices shall be in place and in use at all times.

6. Twin-tail shock absorbing lanyards shall be used as a connection device.

7. Lanyards to be used shall have locking type snap hooks.

8. Lanyards shall be attached to the harness by the "dee" ring in the middle of the back.

9. Lanyards shall be attached to an appropriate anchorage point, capable of supporting 5,000 pounds per persons attached.

10. Lanyards shall be attached in a manner that will prevent employees from coming into contact or striking the next lower level.

11. Never wrap a lanyard around a structure and tie back into the lanyard. Fall protection chokers shall be used when anchoring around a structure.

12. Never anchor a lanyard in a position, which does not permit the safety latch of the snap hook to close to its required position.

13. Never attach 2 snap hooks together, for tie-off purposes or to lengthen the lanyard.

14. Never tie knots into a lanyard.

15. Never use a lanyard in combination with a self-retracting lifeline.

16. Lanyards attached to the harness and not in use, shall be positioned in a manner, which does not create a tripping hazard.

17. Anchorage points used for the attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per persons attached.

18. Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least 2.

19. Vertical lifelines shall utilize connection devices that are capable of locking in both directions on the lifeline.

20. Self-retracting lifelines shall be set-up and used in a manner, which would minimize the potential for swing-fall effects.

21. Where possible, self-retracting lifelines shall be set-up in an overhead position.

22. Only self-retracting lifelines, which are approved for horizontal applications, shall be used in a horizontal position.

23. Lifelines shall be protected against being cut or abraded.

24. Personal fall arrest systems, when stopping a fall, shall:

    - Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness.

    - Be rigged in a manner such that employees can neither free fall more than neither 6 feet nor contact any lower level (See the attached OSHA interpretation letter).

    - Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet.

    - Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet or the free fall distance permitted by the system, whichever is less.

25. Personal fall arrest systems shall not be attached to guardrail systems, unless specifically designed for this purpose.

26. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.

Safety Net Systems

Safety nets should be installed as close as practicable under the surface on which employees are working, but in no case more than 30 feet below. When nets are used on bridges, the potential fall area from the walking/working surface to the net should be unobstructed.

Safety nets should extend outward from the outermost projection of the work surface as follows:

Vertical distance from working level to horizontal plane of net	Minimum horizontal distance of outer edge of net from the edge of the working surface
Up to 5 feet	8 feet
More than 5 feet and up to 10 feet	10 feet
More than 10 feet	13 feet

Safety nets should be installed with sufficient clearance to prevent contact with the surface or structures below, when subjected to an impact force.

Safety nets and safety net installations should be drop-tested after initial installation and before being used as a fall protection system, and at 6-month intervals if left in one place. They should also be drop-tested wherever relocated or after major repair.

The test consists of a 400-pound bag of sand, 30 inches in diameter, dropped into the net from the highest surface at which workers are exposed to fall hazards, but not from less than 42 inches above that

level.

Warning Line Systems

A warning line system is a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge. It designates an area in which work may take place without use of a guardrail, personal fall arrest system or safety net systems.

Warning line systems shall comply with the following provisions:

1. Warning lines should be erected around all sides of roof area.

2. Warning lines shall be erected not less than 6 feet nor more than 10 feet from the roof edge.

3. Points of access, materials handling areas, storage areas and hoisting areas should be connected to the work area by an access path formed by two warning lines.

4. When the path to a point of access is not in use, a rope, wire, chain or other barricade, equivalent in strength and height to the warning line, should be placed across the path at the point where the path intersects the warning line erected around the work area or where the path is offset so a person cannot walk directly into the work area.

Warning lines consist of ropes, wires or chains and supporting stanchions erected as follows:

1. Line must be designated with high-visibility material, located a minimum of every 6 feet apart.

2. Rigged and supported so the lowest point is no less than 34 inches and highest point is no more than 39 inches from the walking or working surface.

3. With lines attached, stanchions should be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking or working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge.

4. Rope, wire or chain should have a minimum tensile strength of 500 pounds.

5. Lines should be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before stanchion tips over.

No worker should be allowed in the area between a roof edge and a warning line unless performing specific work activities in this area. All workers in this area must utilize a personal fall arrest system and must maintain 100% tie-off.

Controlled Access Zones

Controlled access zone (CAZ) is an area in which certain work may take place without the use of guardrail systems, personal fall arrest systems or safety net systems; additionally, access to the zone is controlled.

Controlled access zones and their use conform to the following provisions:

1. When used to control access to areas where leading edge and other operations are taking place, the controlled access zone should be defined by a control line or other means that restricts access.

2. Control lines, when used, should be erected not less than 6 feet nor more than 25 feet from unprotected or leading edges, except when erecting precast concrete members.

3. When erecting precast concrete members, control lines should be erected not less than 6 feet nor more than 60 feet (or half the length of the member being erected); whichever is less, from the leading edge.

4. Control lines should extend along the entire length of the unprotected or leading edge, approximately parallel to the unprotected or loading edge.

5. Control lines should be connected on each side of a guardrail system or wall.

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

1. Lines should be flagged or otherwise clearly marked at not more than 6-foot intervals with high-visibility material.

2. Each line should be rigged and supported so its lowest point is not less than 39 inches and its highest point is not more than 46 inches from the walking or working surface.

3. Each line should have a minimum breaking strength of 200 pounds.

Safety Monitoring Systems

A safety monitoring system is a safety system in which a competent person is responsible for recognizing and warning workers of fall hazards. When used, safety monitoring systems should comply with the following provisions. A competent person should be designated to monitor safety of other workers complying with the following requirements:

1. The safety monitor should be competent to recognize fall hazards.

2. The safety monitor should warn workers when it appears they are unaware of a fall hazard or are acting unsafely.

3. The safety monitor should be on the same surface within visual sighting distance of workers being monitored.

4. The safety monitor should be close enough to communicate orally with individuals.

5. The safety monitor should not have other responsibilities that could divert his or her attention from the monitoring function.

Employees working in a controlled access zone should be required to comply promptly with fall hazard warnings from safety monitors.

Falling Object Protection

Falling object protection shall comply with the following provisions:

1. Toeboards, when used, should be erected along the edge of the overhead walking or working surface for a distance sufficient to protect workers below.

2. Toeboards should be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point.

3. Toeboards should be a minimum of 4 inches in vertical height with not more than 5 inches'

clearance above the walking or working surface.

4. Toeboards should be solid or have openings not over 1 inch at their greatest dimension.

Where tools, equipment or materials are piled higher than the top edge of a toeboard, paneling or screening should be erected to the top of a guardrail system's top rail or mid rail, for a distance sufficient to protect workers below.

Where debris nets are utilized as fall object protection, the net should have openings small enough to prevent the passage of potential falling objects.

Where canopies are utilized as falling object protection, the canopy must be strong enough to prevent collapse and prevent penetration by any objects that may fall onto the canopy.

What to do In Case of a Fall

One of the most important components of any fall protection plan is the rescue/retrieval plan. Prior to allowing employees to work in areas where fall protection is required, a rescue/retrieval plan shall be established in the event a fall occurs (i.e. aerial work platform). All employees shall be trained in the established rescue/retrieval plan.

If a fall occurs, all components of the fall arrest system should be removed from service and turned over to the Safety Department. A fall can substantially decrease the strength of all parts of the system, so all components should be replaced after a fall.

Accident Investigation

All accidents and serious incidents (near accidents) will be investigated, implementing changes to the fall protection plan as necessary.

Fall Protection Plan

The fall protection plan will be prepared by a qualified person for the specified work site and reviewed with each employee before work starts and signed off by employees.

Fall Protection Qualifications

All Fall Protection equipment purchased or being used on any job site must meet all criteria listed in OSHA standard 1926.502 and or its equivalent ANSI or ASTM standard. Equipment that does not meet standards will not be used. Any equipment’s shelf life date that is passed shall not be used and shall be discarded immediately.

X. LOCKOUT / TAGOUT

Purpose

A lockout/tagout/tryout places equipment and systems in a ZERO ENERGY STATE whenever a person could be exposed to harm from that energy source. A lockout/tagout/tryout provides maximum protection to all equipment and to all people who are working on or about equipment powered by an energizing source such as electricity, water, air or steam.

Definitions

The term *lockout/tagout/tryout* shall mean locking and tagging or disconnecting equipment in such a way that it cannot be energized without the lock being removed. The equipment is then tried out to ensure it is in a zero energy state.

1. **Electrical Lockout** will mean the breaking of the circuit by locking the circuit breaker, disconnect switch or receptacle plug-in type disconnect on the electrical supply line.

2. **A Nonelectrical Lockout** will be made on equipment that is powered by energizing sources—such as water, air, steam and so forth—by chaining off the source valve, placing a lock and tag on it, and bleeding off any pressure before working on it.

3. **Safety Lock** is a lock, which is designed for lockout purposes and is supplied with only one key.

4. **Lockout Box** is a box designated to hold safety lockout keys from specific designated equipment locked out by an employee or employees for the purpose of multiple lockouts.

Responsibilities

1. **Employee:** Every employee, who works on or about equipment that can be energized by any means, and has exposed parts that can be activated, is responsible for locking and tagging the equipment. Each person shall have their name printed or signature on tag. In no case will the lockout by one individual suffice or be considered a lockout for another person.

   1 person = 1 lock and tag 2 persons = 2 locks and tags

2. **Management:** The lockout/tagout/tryout procedure shall be thoroughly reviewed with each employee during the new-hire orientation process. Before any employee performs a lockout/tagout/tryout in the field his or her supervisor will demonstrate the proper procedure to the employee. The employee will then demonstrate to the supervisor how to perform the lockout/tagout/tryout. Periodically, at toolbox talks and PTP's, lockout/tagout/tryout procedures shall be reviewed with employees.

3. **Safety Department** will provide guidance when questions or unusual conditions arise. Additionally, the Safety Department will monitor forcible lockout removal to prevent its misuse.

4. **Any unauthorized person who removes a safety lock and/or danger tag from a piece of equipment or system and operates or attempts to operate is subject to disciplinary action, up to and including termination.**

5. Absolute compliance to this procedure is a must. Failure to comply could result in severe injury to someone or to equipment.

Procedure for Lockout/Tagout, Shutdown or Restart

1. This procedure establishes a lockout/tagout/tryout practices for securing machinery and equipment during periods of construction, maintenance or repair. It is essential that these lockout/tagout/tryout procedures are consistent to ensure the safety of all employees. A lockout/tagout/tryout procedure renders inoperative electrical systems, pumps, pipe lines, valves and all other such energy systems that may be incidentally be energized or started up while employees are exposed to injury.

2. Subcontractors will administer their own lockout/tagout/tryout program and will coordinate with others. All locks and tags will be issued by the subcontractor's to their own employees and a log will be kept. CORRADO shall keep a lockout/tagout log on each project site (per the form in this section) for all work we perform. Thus, supervisors are kept informed of locks put in place and their removal.

3. Each person shall have his own lock with name listed on tag and at any time that person feels the need to be in control of the lockout, no one may remove someone else's lock except in rare, exceptional and well-documented instances. Approval for removal of another person's lock is granted by the Safety Department or Project Manager only. Each person should mark his/her own locks so they can be retrieved after removal. Only one system tag for identification is required, but any person may put their name also on the system tag for identification of their lock.

4. For energy systems being worked on by multiple persons, multiple crafts or multiple contractors, a multi-lockout clamp is to be used. Each craft or subcontractor shall put its own system tag and lock on the clamp also.

5. The required procedure is to log it in, isolate the system, lock it out, tag it out and try it out.

Log it in	Put all the information in the log to identify the system to be locked out, the name of the company and person locking the system out, and the method to contact the person or company affixing the lockout.
Isolate the system	Shut off all energy sources including electrical, air, pneumatic, gravity, chemical, light, hot, cold, valves, breakers and so forth. When possible, disconnect any possible contact between the machine and the energy source. Many systems or machines may have a main power source and additional control systems on separate circuits. Be sure you lock out all power sources.
Lock it out	Put a lock directly on the disconnect or if necessary on a chain or other external mechanical device to assure it cannot be activated. Each person who will work on the equipment must place his or her own lock and tag on each energizing source. Multiple locking adapters are available when the number of locks needed for proper lockout exceeds the amount that the breaker or disconnect switch can accommodate. Different equipment may require as many as four or five disconnects to de-energize the equipment. All sources must be locked out; additional locks are available from the supervisor. The individual who attached the lock must have on his or her person the only key. The key is not to be passed to another individual. (Exception is during shift change lockout transfer.
Tag it out	Using the tag assigned from the log, complete the information required on the tag and attach to the lock or multi-lock clamp.

Try it out The most important step to your lockout procedure is to try to turn on the machine or system when you believe it is locked out. Locking out the breaker or disconnect switch will not be considered adequate assurance that equipment is isolated. After the lock(s) and tag(s) have been attached, each person must check for proper lockout by attempting to start the equipment. All persons involved in locking out the equipment will be informed when the attempt is made to start the equipment. Be certain all persons are clearly out of the danger areas before testing the lockout. If there is no movement or other indication of residual energy, then you know you have zero energy state. Remember gravity energy and neutralize it by blocking moving parts, bleeding lines and so forth.

Examples of Energy Sources and Systems - Required to be Locked Out

Customer or Owner's Equipment Interface (New)

Live electrical systems will be locked out whenever any service work is performed. This requirement will remain in effect anytime any contractor is performing any type of work on the system. Any time repairs or modifications are made to electrical systems, either temporary or permanent, they shall be locked out. Locks shall be applied to the main disconnect switch whenever possible. All locks must be accompanied with a tag.

Tests and Repairs

1. Electrical systems and similar systems that provide power to equipment, such as pumps and electrical motors, shall be locked out any time work is performed on the system.

2. Pipelines, valves and other energy sources that could be inadvertently activated, causing a hazardous condition, shall be locked out, blanked off and otherwise secured to prevent accidental activation. Blinds in piping systems shall be securely inserted so they remain in place during the lockout period.

3. Lines, valves and similar systems that are being tested pneumatically or with other gases (such as nitrogen) shall be tagged as a test condition for those parts that must be activated for the test. Other parts that are in OFF POSITION will require a lock with the tag.

   Areas affected by the pressure test shall also be signed, roped, taped and/or otherwise designated as no entry for nonessential persons. Such a condition shall be inspected by the Safety Department or Project Manager prior to the start of the test.

4. **DO NOT FORGET THE EFFECTS OF GRAVITY ON A SYSTEM.** Pipes on a slope can release liquids unexpectedly. Presses can release the hammer even with the power off. Capacitors can release electrical energy unexpectedly. Be certain these energy sources are secured.

No employee can remove or bypass a guard or other safety device; or an employee is not allowed to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

Procedure for Shift-Change Lockout Transfer

There will be occasions when a person's work shift ends prior to completion of work on equipment he or she has locked out. If someone else is expected to finish the work during the interim period before the person's next scheduled work shift, then he or she will be responsible for a lockout transfer. The lockout transfer will be accomplished in the following manner.

1. Contact the supervisor having jurisdiction in the area where the equipment is located and request a lockout transfer.

2. The supervisor will accompany the person who has the equipment locked out to the site of the lockout and place his own lockout lock and danger tag on the equipment requiring lockout.

3. After, **and only after**, the supervisor's lock and tag are in place, the person who requested the lockout transfer may remove his lock and tag.
4. The supervisor will maintain his or her lock and tag on the breaker or disconnect switch until the person who will complete the work has placed his lock and tag and completes the remainder of the requirements of the lockout/tagout/tryout procedure.

5. The subsequent shift supervisor has accepted the lockout transfer by receiving the key for the lockout lock from the supervisor he or she is relieving. The receiving shift supervisor must verify proper lockout and sign the danger tag as soon as possible after the key transfer.

Procedure for Removal of Lock

When an individual has completed work and is prepared to remove his or her lock, he or she should again depress the stop button. This action will ensure the circuit is still in the "OFF" mode and will not start up when the breaker or disconnect is re-energized. The lock and tags should then be removed. No individual shall remove another’s lock and tag. The only exception for lock and tag removal is noted below.

Forcible Removal of Lock

There may be occasions when a person who has locked out equipment is no longer at work. In the event the lock must be removed, the following will be required:

1. Every effort shall be made to contact this person to obtain permission to remove the lock.

2. If he or she cannot be located, the supervisor shall be responsible for taking whatever action is necessary to assure that personnel will not be endangered or equipment damaged before the lock is removed. He or she will, in any case, thoroughly inspect the equipment and assure there are no workers in the danger area.

3. The Supervisor will consult a member of the Safety Department before any safety lock is forcibly removed.

4. The supervisor must be present when the lock is removed. If a multiple locking adapter is used, cut the portion of the adapter containing the lock. The lock and adapter can then be used again.

Rotating Equipment Not Restricted by Lockout

There will be occasions when locking-out equipment will not be sufficient to eliminate the hazard from moving parts. Especially hazardous are blowers that have blades with large surface areas. Any air movement, such as a back draft, may cause the blades to rotate, causing a severe pinch-point hazard. Thus, an additional lockout point is needed to control the blades from movement. A chain with a lock shall be attached to the blade (if possible) to control movement. If not, the hazard can be reduced by blocking the rotor or the drive shaft with a 2 X 4, or with some other construction-grade timber.

Maintenance Check of Equipment

There will be special cases where maintenance personnel must energize unguarded equipment in order to check shaft or gear alignment, timing, etc. In these special cases, the maintenance persons involved shall contact the area supervisor to stand by while he or she checks the energized equipment. He or she shall also put a danger tag on the breaker and any other remote-starting station before energizing the equipment. The supervisor and maintenance persons will also be responsible for keeping other people clear of the equipment until it has been properly guarded or locked out. Necessary precautions may include roping off the area or using barricades.

Training and Retraining

Training and or retraining will include recognition of hazardous energy source, type and magnitude of energy available, methods and means necessary for energy isolation and control. Each authorized employee will receive adequate training. The training will address that all affected employees are instructed in the purpose and use of the energy control procedure. There will be training provisions included for any other employee whose work operations are or may be in the area where energy control procedures may be utilized. The employee training will also address when tag out systems are used including the limitations of a tag (tags are warning devices and do not provide physical restraint). The training will also include that a tag is not to be removed without authorization. The tag is never to be ignored or defeated in any way. Retraining is required when there is a change in job assignments, machines, a change in the energy control procedures, or a new hazard is introduced. All training or retraining will be documented with the employee's name and dates of training.

All policy, procedures, and or training will be reviewed and inspected, a minimum of annually, to maintain requirements are met. A qualified person, other than the person who performs the lockout/tagout, shall perform this function and a record will be kept, with inspectors name, date, employees, and review documents. CCC, after review, will determine if any changes to program are to be made and will implement changes, if any, at that time.

Procedure for Shutdown of Energy Source

Preparation for shutdown. Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

Machine or equipment shutdown. The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

Machine or equipment isolation. All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s). Lockout or tagout devices shall be affixed to each energy isolating device by authorized employees.

Testing of Equipment

When equipment is being tested the following procedure will apply: Clear away tools; remove employees; remove the LOTO device; energize and proceed with testing; de-energize and reapply control measures. This procedure will be documented with 1) name of competent person, 2) tag number, 3) who performed LOTO, and 4) date.

Tagging out Equipment

There will arise occasions when a device and or machine cannot be locked out with a lock or safety device. When those situations arise the following procedure will insure the safety of the employee.
A TAGOUT DEVICE: A warning tag (weather and chemical resistant) standardized in size, color, with wording warning of hazardous energy (Do Not Start) (Do Not Open) (Do Not Close) (Do Not Energize) (Do Not Operate) shall be affixed to the source with FSS name, employee's name, date, and purpose for lock out. No one but the employee that affixed this tag shall remove tag for any reason and if one should do so, they will be subject to disciplinary action including termination.

Any deviation from this procedure must be approved by the Safety Department.

LOCKOUT/TAGOUT LOG

Project:_____ Project Number:_____

Date:_____Project Name:
_____Project Location:_____Project No.:

LOCKOUT/TAGOUT LOG

JOB:_____ Page _____ of _____

DATE ON SYSTEM : location TAG NO DATE OFF

XI. FIRE PROTECTION AND PREVENTION

Introduction

Besides the potential for loss of life or injury, a fire on any construction project can significantly affect the quality, schedule and cost of the project itself. In order to minimize possible risk of loss because of fire, these fire protection and prevention guidelines have been established.

Fire Protection Requirements

1. Temporary fire protection measures—such as the installation of fire extinguishers, hose lines and temporary standpipes near hazardous locations—will be provided as required. Local fire departments, as well as "in-house" fire personnel, have specific requirements and shall be consulted prior to the start of a project.

    - Fire Extinguishers shall be:

        - Provided at a minimum of every 3,000 square feet (or more where required).

        - Inspected annually, recharged if necessary, tagged, and returned to service, Date of inspection, inspection vendor, and signature of inspector.

    - Fire extinguishers shall be maintained at all times.

    - Fire extinguishers shall be visually inspected at least monthly for defects.

    - Fire hose shall be provided where directed or required.

    - One portable fire extinguisher (not rated less than 10ABC) shall be provided within 25 feet of all hot work operations or flammable liquid use.

    - One fire extinguisher (not rated less than 2.5BC) shall be mounted on all gasoline, diesel and propane powered equipment.

    - Fire extinguishers (not rated less than 2.5ABC) should be mounted on torch carts so they are readily accessible.

2. Access shall be maintained at all times to existing or newly activated fire hydrants and/or fire department connections. Access to material storage areas, fuel storage areas and structures shall be maintained at all times for fire department entry.

3. Emergency fire department phone numbers will be conspicuously posted near all work site phones and throughout the work areas.

4. An emergency preparedness plan, which includes fire, shall be developed for the work site and updated as the project progresses

Fire Prevention Requirements

1. Good housekeeping shall be maintained at all times. Cleanup is to be performed daily and as

needed to ensure good housekeeping.

2. All trash, debris, scrap, etc. shall be discarded appropriately in trashcans, dumpster, or the equivalent.

3. Prior to the start-up of any hot work operation, combustible and flammable materials shall be removed from the area.

4. Flammable Liquids

    - Shall be stored outside, away from buildings, in a safe and secure location in standard approved storage cans or tanks.

        - Portable tanks must not be nearer than 20 feet from any building under construction.

        - All flammable liquids shall be stored inside appropriate secondary containment systems.

        - Storage areas shall be away from open flames.

        - Storage areas shall be away from roadways and vehicular traffic.

        - Storage areas shall be designated with signage and labels (such as "gas only," “diesel only”).

        - Storage areas must be kept free of weeds, debris and other unnecessary combustibles.

    - Engines must be shut off during refueling. Funnels must be used for fueling.

    - Flammable liquid containers shall be bonded when transferring liquid from one container/tank to another.

    - Absolutely no smoking is permitted near any flammable liquid storage area. “No Smoking” signage shall be posted.

    - Storage of flammable liquids inside any occupied building is absolutely prohibited.

    - All flammable storage containers/tanks shall be labeled as to its contents and be identified with the appropriate NFPA hazardous material classification placard.

    - A fire extinguisher (not rated less than 10ABC) shall be provided within 50 feet of all flammable liquid storage areas.

5. No wood or other combustible material (including noncombustible materials in combustible wrapping) shall be stored in construction areas, under or adjacent to combustible scaffolding, in structures or in falsework, which could ignite due to hot work operations.

    - To avoid exposure, safe storage location shall be away from flames and sparks and away from buildings.

    - Separation of piles shall be used to prevent fire spread.

6. Storage of compressed gases (oxygen, acetylene, and so forth) shall be in accordance with the Compressed Gas Cylinder section.

Gas cylinders (acetylene, oxygen, and L P gas) are to be:

- Stored on solid base with valve caps in place.
- Secured to prevent toppling.
- Separated by 20 feet or ½ hour-rated firewall, when stored.
- Empty, to be separated from full cylinders and conspicuously marked.
- A fire extinguisher (not rated less than 10ABC) shall be provided within 50 feet of all compressed gas storage locations. Additional extinguishers may be required, depending on quantities being stored.
- Absolutely no smoking is permitted near compressed gas storage areas. "No Smoking" signage shall be posted.
- All compressed gas storage areas shall be labeled as to its contents.

7. Temporary Heating Devices

- Solid fuel (wood/coal) salamanders and open drum/barrel fires are prohibited.
- Adequate insulation must be provided on combustible floors.
- Adequate fresh air will be provided to maintain worker health and safety. When fresh air supply is not adequate, some form of mechanical ventilation shall be provided.
- Temporary heaters will not be used in confined spaces.
- Temporary heaters will be checked for correct operation prior to being put into service each day. Heaters will not be modified or altered.

THE USE OF EITHER OPEN DRUM/BARREL FIRES OR DEFECTIVE, MODIFIED OR ALTERED TEMPORARY HEATING DEVICES EXPOSES EMPLOYEES AND THE PROJECT ITSELF TO SEVERE RISK OF LOSS FROM FIRE OR EXPLOSION. THEIR USE IS ABSOLUTELY PROHIBITED.

Training

All employees shall be properly trained as to these fire prevention and protection regulations. This training shall be conducted during employee new-hire orientations and annually thereafter.

CCC will provide portable fire extinguishers for employees use in the workplace, and will provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved in incipient fire fighting.

CCC will train employees that are assigned fire watchers in the use of fire extinguishing equipment and familiar with the facilities for sounding an alarm in the event of a fire.

Selection, Handling and Use of Fire Extinguishers

Introduction

Fire extinguishers are the first line of defense against fires, and shall be installed regardless of other fire control measures. The fire department must be notified, however, as soon as a fire is discovered. Notification must never be delayed in hope that use of the extinguisher will be sufficient.
Almost all fires are small at first and might be easily extinguished if the proper type and amount of extinguishing agent were promptly applied. Portable fire extinguishers are designed for this purpose, but their successful use depends on the following conditions:

1. The extinguisher must be properly located, in good working order and of proper type for the fire that occurs.

2. The fire must be discovered while still small enough for the extinguisher to be effective and by a trained person ready, willing and able to use the extinguisher.

This program has been developed to provide our employees with some basic knowledge regarding fire extinguishers.

Classification of Fire "Types"

Portable fire extinguishers are designed to be used to fight certain types or "classes" of fires. Generally, fires are classified into four types:

1. Class A Fires in ordinary combustible materials (wood, cloth, paper, rubber and many plastics) that require the heat-absorbing (cooling) effects of water or water solutions, the coating effects of certain dry chemicals that retard combustion, or the interrupting of the combustion chain reaction by halogenated agents.

2 Class B Fires in flammable or combustible liquids, flammable gases, greases and similar materials, which must be put out by excluding air (oxygen), inhibiting the release of combustible vapors, or interrupting the combustion chain reaction.

3. Class C Fires in live electrical equipment; safety to the operator requires the use of electrically nonconductive extinguishing agents. (NOTE: When electrical equipment is de-energized, extinguishers for Class A or B fires may be used.)

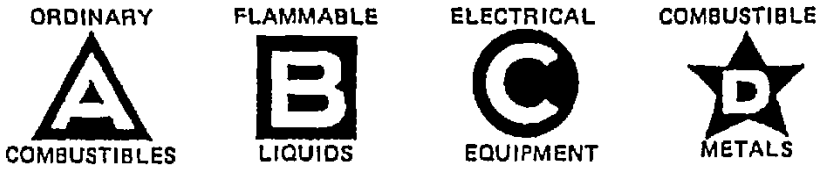
4. Class D Fires in certain combustible metals (magnesium, titanium, zirconium, sodium, potassium and so on) that require a heat-absorbing extinguishing medium that does not react with the burning metals.

Selecting the Right Extinguisher

1. It is extremely important to remember that some portable extinguishers will put out only one class of fire. Some are suitable for two or three, **but none can be used for all four**. Most extinguishers are labeled so that users may quickly identify the class of fire for which they may be used. This classification gives the applicable picture symbol or symbols. Color-coding is also used.

2. Both the color-coding system and the picture symbols (or "pictographs') are designed so that the proper use of the extinguisher can be determined quickly and at a glance. Figures 1 and 2 explain both systems.

FIGURE 1



Extinguisher markings can be found on older extinguishers without pictographs. Color coding is part of the identification system: the triangle (Class A) is colored green; the square (Class B) is red; the circle (Class C) is blue; and the five-pointed star (Class D) is yellow.

FIGURE 2

These pictographs are designed so that their proper use may be determined at a glance. When an application is prohibited, the background is black and has a slash. The top row indicates an extinguisher for Class A: B: C fires; the second row indicates an extinguisher for Class B: C fires; the third row indicates an extinguisher for class A: B fires; the bottom row indicates an extinguisher for Class A fires.

Location of Fire Extinguishers

1. Clearly marked extinguishers and extinguisher locations are of the utmost importance. In an emergency, it is essential that extinguishers be located quickly and used while the fire is still small.

2. Fire extinguishers shall be located, at a minimum, at the above-referenced locations. Additional fire extinguishers shall be utilized, as deemed necessary.

Using the Fire Extinguisher

1. There are several kinds of extinguishers. Because differences exist among extinguishers, it is imperative that employees be trained to use extinguishers properly. In any case, those responsible for fire protection shall be thoroughly trained in the operation and use of extinguishers.

2. Instructions for the proper use of fire extinguishers are clearly visible on the front of the extinguisher itself. The following "general" instructions would apply to extinguishers found on our projects:

    - Hold the extinguisher upright.
    - Pull the ring pin.
    - Aim the extinguisher at the base of the fire.
    - Squeeze the lever or handle.
    - Sweep the extinguisher side to side.

XII. ELECTRICAL

General

CCC recognizes the seriousness of controlling electrical hazards found on construction sites. CCC has established these minimum guidelines to reduce and control these potential hazards. It is imperative that all employees comply with these guidelines.

Only qualified persons may work on electric circuit parts or equipment that has not been deenergized. Employees must be familiar with the use of special precautionary techniques, PPE, insulating and shielding materials, and insulation tools.

Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employee to work safely.

Additional PPE may be required when working in confined or enclosed work spaces where electrical hazards may exist. As required, protective shields, protective barriers or insulating materials will be provided.

Lockout;Tagout;Tryout

Lockout/Tagout/Tryout procedures shall be followed when performing work activities on or near electrically energized systems.

See the Lockout/Tagout/Tryout section for the required procedures.

Flexible Cord Sets (Extension Cords)

1. Cords shall be inspected daily, prior to use
2. Damaged or defective cords shall be immediately removed from service
3. Cords shall be the heavy-duty type, approved for construction work
4. Cords shall be the three-wire type
5. Cords with the ground prongs missing shall be immediately removed from service
6. Cords shall be set up in a manner so they do not become damaged from work activities and equipment operation
7. Cords shall be set up not to create tripping hazards.
8. When hung overhead, cords shall be hung no less than 7 feet from the lower level.
9. Never fasten cords by nails or other conductive materials.
10. GFCI (Ground Fault Circuit Interrupters) is required for all extension cords.
11. An Assured Equipment Grounding Conductor Program may be used. Specific requirements must be followed when using Assured Equipment Grounding Conductor Programs.

Electric Power Tools

1. Tools shall be inspected daily, prior to use.

2. Damaged or defective tools shall be immediately removed from service.

3. Only tools that are properly grounded or double insulated shall be used.

4. The casing of double insulated tools shall be checked for cracks and damage.

5. Hand tools shall have insulated handles and grips.

6. Do not hold water pipes or other grounded conductors when using electric tools. A defect in the tool or cord will make you part of the circuit, causing shock, a fall or electrocution.

7. Before drilling, grinding or cutting, check for electrical wires or equipment behind walls, above ceilings and under floors.

8. Never bypass broken switches on tools or equipment by plugging and unplugging the cord. Have the switch repaired.

9. Any shock or tingle, no matter how slight, means that the tool or equipment must be removed from service immediately and repaired.

10. GFCI (Ground Fault Circuit Interrupters) is required for all electric powered tools.

Temporary Lighting

1. Avoid contact with the wires strung for temporary lighting.

2. Temporary lighting circuits are not extension cords and are to be used as lighting circuits only.

3. Missing or burned-out bulbs shall be replaced immediately, to maintain electrical safety and the required level

4. Temporary lighting systems shall be hung overhead, no less than seven feet above the needed area.

5. Never fasten light runs, conductors or bulb holders by nails or other conductive material.

Power Lines

1. Underground and overhead power lines and utilities shall be located prior to beginning work.

2. Before utilizing a crane, elevating an aerial lift work platform, moving a ladder or pulling a scaffold, always check for overhead power lines.

3. When utilizing a crane near overhead power lines rated 50kV or below, a minimum distance between the lines and any part of the crane or load shall be 10 feet.

4. When utilizing a crane near overhead power lines rated over 50kV, a minimum clearance between the lines and any part of the of the crane or load shall be 10 feet plus 0.4 inches for each 1kV over 50kV, or twice the length of the line insulator, but never less than 10 feet.

5. A spotter shall be utilized to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

6. Avoid storing material under power lines.

Assured Equipment Grounding Conductor Program

1. **Scope**

This testing program shall cover all receptacles that are not part of the permanent wiring, all cord sets and equipment connected by cord and plug, which are available for use or used by employees.

2. **Project Site Information**

- Name or project site _____
- Contractor complying with this procedure is _____
- Name of designated person implementing this program is _____

3. **Requirements**

Equipment grounding conductors shall be installed in accordance with the applicable requirements of the National Electrical Code (NEC) (1971).

- All 120-volt, single-phase, 15- or 20-amp receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacles.
- All 120-volt cord sets (extension cords) shall be of the three-wire type with a grounding conductor, which shall be connected to the contacts of the plugs on each end of the cords.
- The exposed noncurrent-carrying metal parts of cord and plug-connected tools and equipment shall be grounded by the use of a grounding conductor in the supply cord and shall be connected to the grounding contact in the attachment plug.
- All other receptacles of higher voltage shall be grounded in accordance with NEC (1971).

4. **Testing and Inspection**

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

- The required tests for the above shall be performed and recorded:

  - Before first use
  - Before equipment is returned to service following any repairs
  - Before equipment is used after any incident, which can be reasonably suspected to have caused damage (for example, when a cord set is run over)
  - At intervals not to exceed three months except that cord sets and receptacles that are fixed and not exposed to damage shall be tested at intervals not exceeding six months

- Visual Inspection: Employees shall be instructed to visually inspect receptacles; flexible cord sets (extension cords), except those that are fixed and not exposed to damage; and equipment connected by cord and plug before each day's use. Check for external defects such as deformed or missing ground prongs or insulation damage and for indication of possible internal damage. Where there is evidence of damage, the damaged item shall be taken out of service and tagged until tested and any required repairs have been made.

- Test Record: Test verification shall be by means of numeric or color-coded marking tape on the receptacle, cord set or equipment. Numeric or color codes will identify that it has passed the test and will indicate the date (month or quarter) in accordance with the color-coding scheme.

COLOR CODING SCHEME			
Month or Quarter	Check One Quarterly	Monthly	Numeric Coding Scheme
January February March	White	White White & Yellow White & Blue	1 2 3
April May June	Green	Green Green & Yellow Green & Blue	4 5 6
July August September	Red	Red Red & Yellow Red & Blue	7 8 9
October November December	Orange	Orange Orange & Yellow Orange & Blue	10 11 12
Check or Repair	Brown	Brown	0

Ground Fault Protection

GFCI (Ground Fault Circuit Interrupters) are intended to prevent electrocution by quickly interrupting the circuit in the event of a ground fault. They operate independently of the equipment grounding circuit. The Assured Equipment Grounding Conductor Program requires periodic inspection and testing of the ground

circuit. Regardless of which choice is made, all the grounding requirements of the National Electrical Code still apply.

The regulations pertain only to the use of temporary wiring on construction sites. They do not apply to the permanent wiring of the building or structure.

Training

CCC employees (qualified and unqualified employees) who face a risk of electric shock will be trained by a competent person familiar with electrically related safety practices. Training will consist of safety related work practices that pertain to his or her respective job assignment. Each employee receiving training, including competent person, will sign and date a document to verify that training has taken place. Competent person administering training will list all topics covered. Documentation shall be maintained by CCC.

Working Near Exposed De-energized Parts

CCC requires safe work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts when work is performed near or on equipment or circuits which are or may be de-energized.

1. No work will begin before inspection and tests have been conducted and determined by tests or other appropriate means that electrical equipment and lines have been de-energized.

2. The particular section of the line or equipment to be de-energized shall be clearly identified, and shall be isolated from all sources of voltage.

3. Notification and assurance from the designated employee shall be obtained that:

    a. All switches and disconnectors through which electric energy may be supplied to the particular section of line or equipment in any area where CCC employees will be working have been disconnected.

    b. All switches and disconnectors are plainly tagged indicating that men and/or women are working in that area.

    c. Where design of such switches and disconnectors permits, they have been rendered inoperable.

CCC employees do not work on electric lines or electrical equipment. All electrical work will be sub-contracted to a certified electrical contractor.

CCC shall develop a safety plan prior to beginning work and all employees will sign off on said plan. Plan will include: work to be performed; type of personal protection equipment to be worn; type of ladders, fire extinguishers on site; material handling and storage; type of PPE (gloves, safety glasses/goggles, face shields), etc.

Prior to start of each shift (work day) a CCC pre-task plan must be completed by Supervisor/Foreman and reviewed with each employee. Each employee will sign a document indicating that he or she understands all job and safety requirements.

The pre-task plan will state the type of personal protection equipment to be used and any safety requirements that may have changed on the job location. The daily pre-task plan will be maintained at the job site and submitted daily to the Safety Director for review.

Exposure to Energized Parts

CCC requires safe work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts when work is being performed near or on equipment or circuits which are or may be energized.

A safety plan will be required before any work begins. Said plan will include:

1. Type of work to be performed

2. All hazards currently present or potentially present during duration of work

3. Type of personal protection equipment to be used, including type of gloves required

4. Fire extinguisher must be nearby

5. The energized parts are insulated or guarded from all persons on site, and/or any other conductive objects

6. Area must be inspected prior to beginning of work by a competent/qualified person trained in electrical work. Authorization will be obtained from a designated authorized individual prior to beginning of work.

7. Distance CCC employees can work from energized lines or equipment

8. Barricades, barriers or other types of protection

9. Portable ladders shall have non-conductive side rails if being used where an employee or ladder could potentially contact exposed energized parts

10. Conductive apparel: Conductive jewelry and clothing, for example watch bands, bracelets, rings, key chains, necklaces, metallic aprons, cloth with conductive thread of metal, head gear, may not be worn if they might contact exposed energized parts. However, such articles may be worn if rendered non-conductive by covering, wrapping, or other insulating means.

11. All vehicles or equipment must be operated by a designated person. All mobile cranes and derricks shall be effectively grounded when being moved or operated in close proximity to energized lines or equipment or the equipment shall be considered energized.

12. Where appropriate, signs indicating electrical hazards shall be posted near barricades or barriers.

13. Housekeeping: Where live parts are present, an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact unless adequate safeguards (i.e., insulated equipment or barriers) are provided.

    Electrically conductive cleaning material (including solids such as steel wool, metallic cloth and silicon carbide, as well as conductive liquid solutions) may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contacts.

14. Extraordinary caution shall be exercised in handling of tools, material and equipment in the vicinity of energized facilities. Conductive material and equipment in contact with any part of the body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuits. This includes the handling of pipes or long conductive objects. CCC shall institute safe work practices (insulation, guarding, and proper material handling

technique) which shall minimize the hazard.

Vehicles and Mechanical Equipment

Any vehicle or mechanical equipment capable of having parts or its structure elevated near energized overhead lines shall be operated so that a clearance of 10 feet (305 cm) is maintained. If the voltage is higher than 50KV, the clearance shall be increased four inches (10 cm) for every 10KV over that voltage.

However, under any of the following conditions, the clearance may be reduced:

1. If the vehicle is in transit with its structure lowered, the clearance may be reduced to four feet (122 cm). If the voltage is higher than 50KV, the clearance shall be increased four feet (10 cm) for every 10 KV over that voltage.

2. If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded, and are not part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designated working dimensions of the insulating barrier.

3. If the equipment is an aerial line insulated for the voltage involved, and if work is performed by a qualified field person, the clearance between that uninsulated portion of the aerial lift and the power line may be reduced.

4. If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

Overhead Lines addendum

If work is to be performed near or under overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started. If lines are to be de-energized, arrangements shall be made with the persons or organization that operates or controls the electric circuits involved to de-energize and ground them. If protective measures, such as guarding, isolating, or insulating, are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

When an unqualified person is working in an elevated position near overhead lines, the location shall be that the person and the longest conductive object he or she may contact cannot be closer to any unguarded, energized overhead line than the following distances. For voltages to ground 50KV or below-10 feet (305 cm). For voltages to ground over 50 KV-10 feet (305 cm) plus 4 inches for every 10 kV.

When an unqualified person is working on the ground in the vicinity of overhead lines, the person shall not bring any conductive object closer to the unguarded, energized overhead lines than the distances described above.

When qualified or unqualified personnel are working near or under overhead lines, confined spaces, or any area where energized parts may be, the area shall be illuminated so that person can work safely and effectively. Proper PPE, shielding, barriers, and or insulating materials shall be provided as necessary to protect persons from energized lines.

XIII. NOISE & HEARING CONSERVATION

Program

To protect our employees from the effects of noise exposure, CCC, will administer a continuing, effective hearing conservation program. This program will be used whenever employee noise exposures equal or exceed 85 decibels (dba).

The hearing conservation program will consist of 4 basic components:

1. Noise Exposure Monitoring
2. Engineering and Administrative Control
3. Use of Hearing Protection Devices
4. Education and Motivation

Noise Exposure Monitoring

CCC will develop and implement a noise level monitoring program. The monitoring program will determine the level of employee exposure. If initial monitoring indicates levels are safely below the permissible exposure levels (PEL), there is no need to implement a hearing conservation program. If the noise levels are at or above the 85dba level, the hearing conservation program must be initiated. Employees exposed at 85 dba or above will immediately be provided with, and required to wear, hearing protection devices until the noise levels can be reduced by engineering controls or administrative. Monitoring will be repeated whenever there is a change in equipment, the work in progress or other conditions that may affect employees' exposure to noise.

When a standard threshold shift occurs, use of hearing protection will be reevaluated and/or refitted and if necessary a medical evaluation may be required.

Engineering and Administrative Controls

The use of engineering controls should the first method used to reduce or eliminate noise exposure. To ensure results, CCC will specify lower noise levels when purchasing and renting tools and equipment.

The operators shall report to CCC when they suspect noise levels are at or near the 85dba level. Operators will use the equipment in a way to keep the noise level as low as possible.

In some instances, it may be necessary to limit the number of employees in an area when the noise levels are high.

Use of Hearing Protection Devices

In the absence of feasible engineering or administrative controls, CCC will provide all employees exposed to noise levels of 85dba and above with hearing protection devices. Each employee may react differently to the use of such devices; our program will respond to individual needs. Several different types of protectors will be made available for employees. All hearing protection will be given to the employee at no charge.

Each noise environment or site will be evaluated prior to entry or after changes in work area to maintain employee safety. Hearing protection will be issued based on evaluation.

Employees will be trained in how to reduce their exposure to noise; how noise affects their hearing; the need for hearing protection; how to wear their hearing protectors correctly at all times; when to seek replacements; encouraging coworkers to use these devices; and communicating problems to their supervisor.

When employees are exposed to the 85dba level, hearing protector devices are not optional.

Education and Motivation

CCC believes that education and motivation are essential components to the success of our hearing conservation program. Education and motivation sessions are valuable for both the management team and employees so they will understand that a successful hearing conservation program takes commitment, communication and cooperation.

All employees shall receive hearing conservation training. Training shall be conducted at employee new-hire orientations, and as needed thereafter, and shall consist of the following:

1. High noise areas and activities.

2. Hazards of high noise exposure.

3. Types of personal protective devices and use.

4. Exposure monitoring.

CCC will provide a training program for all employees who are exposed to action level noise. The training will be repeated annually for each employee. Training will be updated consistent to changes in PPE and work processes. CCC will make available to affected employees, copies of the noise exposure procedures and will also post a copy in the workplace. CCC will also allow the Assistant and Director access to the records.

CCC will maintain audiometric testing program by making audiometric testing available to all employees whose exposures equal or exceed an 8 hour time weighted average of 85 decibels.

Within six (6) months of an employee's first exposure, at or above the action level, CCC will establish a valid baseline audiogram against which future audiograms can be compared. When a mobile van is used, the baseline shall be established within one year.

Testing to establish a baseline audiogram will be preceded by at least 14 hours without exposure to workplace noise. Hearing protection may be used to meet the requirement. Employees will also be notified to avoid high levels of noise.

At least annually after obtaining the baseline audiogram, CCC will obtain a new audiogram for each employee exposed at or above an 8 hour time weighted average of 85 decibels. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift, CCC employee will be informed of this fact in writing, within 21 days of the determination.

CCC will maintain accurate records of all employee exposure measurements and that all records are maintained as required by regulations. Hearing protection shall be replaced as necessary. CCC shall ensure that hearing protectors are worn. Employees shall be properly trained in the use, care and fitting of protectors. Hearing Protection will be provided at no cost to the employee.

XIV. RESPIRATORY PROTECTION

Purpose

CCC is committed to providing a safe and healthful work environment for all of our employees. The purpose of this Respiratory Protection Program is to ensure that all employees are aware of and are protected from the physical and health hazards associated with exposures to hazardous occupational dusts, fumes, mists, gases and vapors.

Administration of Responsibilities

Effective program administration includes the following:

- An assessment to determine the nature and degree of actual or potential exposure.
- Respirator selection using the guidelines set forth by the American Industrial Hygiene Association or by another decision logic system.
- Employee training.
- Respirator fitting.
- Maintenance, cleaning and storage.
- Purchasing and inventory control.
- Emergency use planning.
- Medical surveillance.
- Program evaluation.

Guidelines

1. The guidelines in this program are designed to help reduce employee exposures against occupational dusts, fumes, mists, gases and vapors.

2. The primary objective is to prevent excessive exposure to these contaminants.

3. Where feasible, exposure to contaminants will be eliminated by engineering controls (such as general and local ventilation, enclosure or isolation, and substitution of a less hazardous process or material).

4. When effective engineering controls are not feasible, use of personal respiratory equipment may be required to achieve this goal.

Responsibilities

1. **Management**

   It is management's responsibility to determine what specific applications require use of respiratory equipment. Management must also provide proper respiratory equipment to meet the needs of each specific application. Employees must be provided with adequate training and instructions on all equipment. All Training, respirators, and medicals will be provided at no charge to the employee.

2. **Management/Supervisory**

Supervisory personnel of each area are responsible for ensuring that their employees comply with all facets of the respiratory protection program, including respirator inspection and maintenance.

3. **Employees**

It is the responsibility of employees to be aware of the respiratory protection requirements for their work area (as explained by management). Employees are also responsible for wearing the appropriate respiratory equipment according to proper instructions and for maintaining the equipment in a clean and operable condition. Employees shall:

- Guard against damage to equipment.
- Report any malfunction of the equipment.
- Not borrow or use any respirator for which they have not been fit-tested or use other equipment not assigned to them.

Issuance of Respirators

1. Medical approval is required for individual use of all respirators prior to fitting or issuance. Employees shall undergo a physical examination process, conducted by a licensed healthcare professional. Employees shall also be required to perform a pulmonary function test. All records will be maintained by CCC of medical evaluations, fit testing, and respirator program.
   - Ruptured or perforated eardrums prohibit issuance of half-mask respirators.
   - Pulmonary or cardiac problems may prohibit issuance of half-mask respirators or use of SCBA or air-supplied full-face respirators.
   - Deficient olfactory sense must be noted.
2. Fitting of half-mask respirators (covering the nose and mouth only) is a requirement of ANSI standards and OSHA regulations governing use of respirators. Each employee must be fitted with the appropriate type of half-mask respirator. Fitting will be done by qualified personnel using appropriate test methods.
   - Fitting information will be recorded.
   - Records will be located in the Safety Department.
3. After an employee has been fitted with a half-mask respirator:
   - A respirator and appropriate cartridges will be issued.
   - The respirator must be returned to a specific location or cabinet at the end of the shift for proper storage and cleaning.
   - Cartridges must be replaced at the first indication of breakthrough, as evidenced by odor inside the mask. Cartridges used to protect against benzene must be changed at the end of the shift.

4. No half-mask respirators will be fitted for any person wearing a full beard, chin whiskers or long sideburns.

Nature of Hazards

The following is a general guide for atmospheres containing specific hazards. (See Appendix A for Additional Information).

1. **Oxygen-deficient atmospheres:** Only self-contained breathing apparatus or an airline respirator supplied from cylinders shall be used in any atmosphere that is deficient in oxygen. For the purpose of this procedure, any atmosphere that tests perceptibly lower than the normal 19.5% of oxygen is considered to be oxygen deficient.

2. **Immediately hazardous atmospheres:** Only self-contained breathing apparatus, supplied-air masks, or cartridge masks shall be used in atmospheres where gases are present in concentrations that would rapidly endanger a person.

3. **Not immediately hazardous atmospheres:** Chemical cartridge respirators shall be used for gaseous contaminants. Mechanical filter respirators shall be worn as protection against particulate matter.

Types of Respiratory Protective Equipment

1. Dust, Fume and Mist Respirators:

    - Mechanical filter respirators offer protection against airborne matter including dusts, mists, metal fumes and smoke.

    - Mechanical filter respirators do not provide protection against gases, vapors or **oxygen deficiency**.

2. Chemical Cartridge Respirators:

    - Chemical cartridge respirators afford protection against concentrations of certain acid gases and organic vapors utilizing various chemical agents to purify the inhaled air. They shall not be used in atmospheres that are oxygen-deficient.

    - Chemical cartridge respirators (half-mask) shall not be used for protection against:

        - Gaseous material that is extremely toxic in small concentrations (hydrogen, cyanide and sulfide).

        - Exposure to harmful gaseous material that cannot be detected by odor (carbon monoxide).

        - Gaseous material in concentrations are highly irritating to the eyes.

3. Air-Supplied Hood:

    - The air-supplied hood is normally used where the user only requires protection against levels

of material or requires airflow for cooling purposes.

- This equipment shall not be used in any situation where the user would be endangered.

4. Airline Respirator:

   - The airline respirator consists or a full-face mask supplied with breathing air by a compressor or multiple stationary cylinders.

   - The airline respirator will provide protection in any atmosphere regardless of the degree of contamination.

   - Whenever an airline respirator is issued in an atmosphere immediately dangerous to life, a rope shall be attached to the harness and a standby person or persons shall be present with rescue equipment.

   - Care must be exercised to prevent damage to the hose and regulator while in use, and the assembly shall be stored in such a way that damage will be avoided.

5. Cylinder-Type Self-Contained Breathing Apparatus:

   - The self-contained breathing apparatus uses compressed breathing air and will provide protection in any atmosphere **regardless of contamination or level of oxygen**.

   - When anticipating the use of this apparatus, consideration shall be given to the life of the cylinders. Although this equipment should provide breathing air for approximately 30 minutes, caution or emotional strain may reduce the rated time.

   - Users of this equipment shall immediately begin exiting the hazardous atmosphere when the low pressure alarm sounds.

   - Whenever compressed-air apparatus is used in an atmosphere immediately dangerous to life, a standby person or persons shall be present with suitable rescue equipment.

Maintenance and Care of Respiratory Protective Equipment

1. Inspection for defects:

   - All respiratory protective equipment shall be inspected routinely before and after each use.

   - Inspection of equipment shall include a check of the tightness of connections.

   - Equipment that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to ensure that it is in satisfactory working condition.

2. Cleaning of Respiratory Protective Equipment:

   - Equipment shall be cleaned and inspected by the wearer after each day's use.

   - Equipment maintained for emergency use shall be cleaned and disinfected after each use by the users.

3. Repair of Respiratory Protective Equipment:

    - Repairs shall be made only by authorized trained persons, using parts designed for the equipment.

    - No attempt shall be made to replace components or to make adjustments or repairs beyond the manufacturer's recommendations.

    - Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician.

4. Storage of Respiratory Equipment:

    - Respiratory protective equipment shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.

    - Respiratory protective equipment placed in work area shall be stored in clearly marked compartments that are quickly accessible at all times.

    - Respiratory protective equipment shall be stored so that the facepiece and exhalation valve will rest in an upright position and function will not be impaired by the elastometer becoming set in an abnormal position.

    - Respiratory protective equipment shall not be stored in places such as gang boxes, unless the equipment is protected in cases or cartons.

To ensure an effective respiratory protection program, the Safety Department will monitor and evaluate various operations to assure that respiratory protective equipment is properly selected, used, cleaned and maintained. Anyone desiring assistance with this procedure should contact the Safety Department.

Fit Testing of Respiratory Devices

Fit tests are required to be performed on all users of quarter-, half- and full-face masks where cartridges, canisters or dust filters will be used.

Fit tests will not be required for airline units operated at a constant flow, pressure demand, or SCBA used in emergency situations.

Fit tests will **not** be performed on persons with full beards, mutton chop sideburns, or large mustaches. These persons will not be permitted to use demand units of any kind (quarter-, half- or full face mask with dust filter, cartridge or canister units).

Fit tests are to be performed in plastic bag (supported), using high-efficiency dust filters on the appropriate mask and smoke tubes. Record of test date, type of mask, name, social security number and test results should be made. Mask issued is recorded in the individuals personnel file.

Fit Test:

1. Allow person to select mask that fits.

2. Install high-efficiency dust filters.

3. Check mask for leaking inhalation, exhalation valves, straps, condition of materials, cracks, checks,

tears and other defects.

4. Remove person's glasses; put on mask.

5. Enter test enclosure, close eyes to prevent irritation.

6. Inject test atmosphere:

   - Standing at ease.

   - While person tilts head up, down, to sides; talks.

7. Remove from test atmosphere and record results. Inspect mask for indication of leakage.

Procedure for Using a Multi-Pack Breathing System

12-Pack/6-Pack/2-Pack Description

Typically, a system can be modified to each circumstance. We will assemble a 2-pack system (generally an assembly of a 2-pack will be sufficient) using a two-wheeled mobile hand truck.

Each of the cylinders will contain 220 cubic feet of breathing air, connected together by a manifold, mounted on the bottles. Each cylinder contains breathing air, which has been filtered for breathing purposes, at approximately 2200 PSIG when full. The manifold has two outlets that pass through a low-pressure alarm and regulator to supply air at 80 PSI for use with pressure-demand airline-breathing equipment.

Procedure for use:

1. Open all cylinder valves to the manifold.

2. Slowly open the main air valve *fully* to the regulator.

3. Check regulator gauges. A newly filled system, regardless of the number of bottles the system has, should have approximately 2200 PSIG on the high-pressure side and approximately 80 PSIG on the low-pressure side. Eighty PSIG on the low-pressure side is the required supply pressure for proper operation. A pressure relief valve incorporated in to the system is present at 100 PSI; in the unlikely event of regulation failure, it will vent excessive pressure of air to the atmosphere.

4. The breathing air hose from the belt regulator is then connected to the air supply system at one of the two low-pressure outlets. Airflow should not flow from the supply system to the belt regulator to the mask.

5. When the air pressure on the bottles reaches 500 PSI, close all the cylinder valves and the main valve; mark the bottles with a tag "MT" and return the bottles for refilling.

Airline Hose

Before connecting the airline hose to the breathing air station, inspect the length of the hose for:

- Cleanliness
- Cracks or other damage
- Fittings for condition

Airline hose must be loosely coiled and stored in a clean, dry area.

Airline Mask

Before using a pressure demand air mask:

1. Visually check the unit to make certain all major components are in place and in good condition. Make sure all components on facepiece are secure.

2. Check the breathing tube for cracks or other damage.

3. Make sure all harness straps are fully extended, buckles are not connected and hoses are not tangled.

4. Put the shoulder strap over the right shoulder and fasten the waist strap around the waist. Adjust the harness assembly, making sure it provides a snug and comfortable fit while also ensuring that the point where the breathing tube is attached is readily accessible to both hands.

5. Adjust the five-facepiece headstraps to their full outward position.

6. Place the neck strap around back of neck.

7. Using the quick coupler, connect and lock the demand valve hose to the air hose assembly that goes over the shoulder.

Training

All employees required to wear respiratory protection equipment shall be trained or retrained in the following:

1. Why the respirator is necessary and how improper fit, usage or maintenance can compromise the protective effect of the respirator.

2. The capabilities and limitations of the respirator.

3. How to use the respirator effectively.

4. How to use the respirator effectively in emergency situations.

5. How to inspect the respirator.

6. How to put on and remove the respirator.

7. How to check the seals of the respirator.

8. The maintenance, cleaning and storage procedures for the respirator.

9 How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator.

10. Employees, when necessary, will be retrained to maintain knowledge, usage, capabilities and limitations of the respirator, and their ability to perform the appropriate task as needed. Training and or retraining shall be done at least annually.

11. CCC will establish and retain written information regarding medical evaluations, fit testing, and the respirator program. Record of medical evaluations for employees will be retained and made

available in accordance with 29 CFR 1910.1020 at CCC Corporate offices and on site where work is performed. Records will include trainer and or testing organization, date and employees name.

CCC shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire. (1910.134)

Each employee must be fit tested with the same make, model, style, and size of respirator that will be used. This paragraph specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.

CCC shall ensure that employees using a tight-fitting face piece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) as stated in this paragraph.
CCC shall ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter. SARS, if necessary, shall also be fit tested. CCC shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

All personnel will be medically evaluated for respirator use. Employees will be informed of all evaluations and fit test procedures. Employees will be issued a copy of OSHA respiratory standard, CCC company standard and its guidelines. (1910.134) All testing and or medical evaluations will be strictly confidential and used solely for the intended purpose. Any or all testing or evaluations will be done during normal working hours and employees will be encouraged to discuss or verbalize any or all questions concerning the process. All employees will be informed, so that they understand, the standard, testing, medical evaluations, and fit testing process. Employees will not be required to wear a respirator that they are not fitted for or qualified to wear.

CCC shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

CCC shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:
Respirator fit (including the ability to use the respirator without interfering with effective workplace performance); Appropriate respirator selection for the hazards to which the employee is exposed; Proper respirator use under the workplace conditions the employee encounters; and Proper respirator maintenance.

Definitions. The following definitions are important terms used in the respiratory protection program training instruction.

Air-purifying respirator means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Assigned protection factor (APF) means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section.

Atmosphere-supplying respirator means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Demand respirator means an atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

Emergency situation means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

Employee exposure means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

End-of-service-life indicator (ESLI) means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

Escape-only respirator means a respirator intended to be used only for emergency exit.

Filter or air purifying element means a component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering face piece (dust mask) means a negative pressure particulate respirator with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium.

Fit factor means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit test means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

Helmet means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

High efficiency particulate air (HEPA) filter means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Hood means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

Immediately dangerous to life or health (IDLH) means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Interior structural firefighting means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)

Loose-fitting face piece means a respiratory inlet covering that is designed to form a partial seal with the face.

Maximum use concentration (MUC) means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

Negative pressure respirator (tight fitting) means a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Oxygen deficient atmosphere means an atmosphere with an oxygen content below 19.5% by volume.

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section.

Positive pressure respirator means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered air-purifying respirator (PAPR) means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure demand respirator means a positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

Qualitative fit test (QLFT) means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative fit test (QNFT) means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Respiratory inlet covering means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

Self-contained breathing apparatus (SCBA) means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Service life means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

Supplied-air respirator (SAR) or airline respirator means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Tight-fitting face piece means a respiratory inlet covering that forms a complete seal with the face.

User seal check means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

APPENDIX A

ATMOSPHERIC CONTAMINANTS TO BE PROTECTED AGAINST	COLOR CODES ON CARTRIDGES
Chlorine	White
Sulfur Dioxide	White
Chlorine Dioxide	White
Organic Vapors	Black
Paint, Lacquer, Enamel Mists, Pesticides, Dust & Fumes	Black with prefilter and retainer
Ammonia/Methylamine	Green
Formaldehyde & Organic Vapor	Brown
Chloride	Yellow
Hydrogen Chloride	Yellow
Sulfur Dioxide	Yellow
Organic Vapors	Yellow
Hydrogen Fluoride	Yellow
Lead	Purple
Radioactive Materials, Asbestos Containing Dusts & Mists	All color-coded cartridges will work with HEPA filter and adapter

XV. CRANES and RIGGING

Crane Procedure

CCC recognizes that cranes are a vital component of our construction operation. To ensure cranes handle the loads properly, safely and with greatest efficiency, the following guidelines have been established:

Mobile Crane

1. Setup

    - The operator shall be responsible for:

        - Daily inspection of the crane before use.
        - Reporting damages/defects and ensuring they are corrected.
        - The proper placement of the crane in relationship to the load to be handled and the landing area so as to obtain the best-rated lift capacity.
        - Leveling the crane to within one degree of level and rechecking the level, a minimum of two times, during a scheduled work shift.
        - The proper placement and use of outriggers for all lifts except where the manufacturer permits otherwise.
        - The determination of stable or unstable ground or footing. Should additional floats, cribbing, timbers or other structural members be needed, they shall be of proper design and sufficient to uniformly distribute the load.
        - The installation and maintenance of crane-swing radius protection.
        - Assuring the correct load chart is available.

        Any changes in the setup of a crane on the project sites will be under the supervision of a Competent Person.

2. Load Rating

    - Determination

        - The weight of all auxiliary handling devices, such as hoist blocks, headache balls, hooks and rigging, shall be considered as part of the total load. Additionally, the weight of all items added to the load at the site must be determined and added to the total weight.
        - The operator shall be provided with a copy of the Bill of Lading, with the item weight clearly legible, to determine total load weight.

3. Crane Inspection

- Cranes shall be inspected:
  - After setup and prior to initial lift.
  - Daily, before use/shift.
  - After every malfunction.
  - Completely, on an annual basis.
- There needs to be a daily inspection to check:
  - All control mechanisms for maladjustment interfering with proper operation.
  - All control mechanisms for excessive wear of components and culmination by lubricants or other foreign matter.
  - All safety devices for malfunction.
  - Deterioration or leakage in air or hydraulic systems.
  - Crane hooks with deformation or cracks, sling and chokers for broken strands, fraying or linking.
  - Electrical apparatus for malfunctioning, signs of excessive wear, dirt and moisture accumulation.
  - Hooks, which must have spring-actuated closures that operate correctly.
- Periodic and annual inspections shall be performed in accordance with the manufacturer's recommendations.
- Recordkeeping:
  - All records pertaining to the crane inspections shall be kept onsite in the CCC site office trailer.
  - If, during any safety inspection, the operator or supervisor cannot produce the required crane inspection sheets, the crane shall as soon as possible be shut down and inspected.

4. Crane Setup—Ground Stability

One of the critical factors of proper crane setup is a "firm supporting surface." For maximum capacity, the crane must be level. To maintain a level condition, however, the ground surface must be adequate to support the dynamic load of a "working crane."

Use adequate blocking under all outriggers. Only heavy timber is to be used for blocking under outriggers.

5. Four basic elements are to be considered:

- Total Imposed Load.
- Supporting Surface Area.

- Pounds per Square Foot.
- Soil Stability.

6. Total Imposed Load

   The total imposed load includes the weight of all equipment on the outriggers, including the wind load.

7. Supporting Surface Area

   The total surface of the outrigger area in contact with the ground and weight of the entire unit will determine the bearing pressure the crane and load exert on the soil. When it is determined that the bearing pressure exceeds the soils stability, the bearing area of the soil must be increased by the use of additional cribbing, or the load must be reduced.

   Cribbing to be used must be:

   - Strong enough to withstand the weight of the crane without major deflection, thus actually increasing the bearing surface.
   - Bolted or secured together to prevent slippage or collapsing.
   - In complete contact with the soil—no voids, insupportable areas or the like.

8. Pounds per Square Foot

   Divide the load by the bearing area. Sample:

   What do you do with a crane and load that = 150 tons
   Use four 2 ft. X 2 ft. floats = 16 sq. ft. = 9.38 tons/sq. ft.

   REMEMBER: Here it is assumed that each outrigger float is carrying 25% of the total load. In all cases, this is not true. For example, moving the load over the corner outrigger concentrates a greater percentage of the load on that outrigger. The load percentage on each “corner” will vary, depending on the type of crane and operating radius. A good rule to follow is to assume each corner is carrying 85% of the total load. Thus,

   One 2 ft. X 2 ft. float = 150 tons/4 sq. ft. - 37.5 X.85 = 31.8 tons/sq. ft.

9. Soil Stability

   In step 7 above, bearing pressure was determined. This pressure is compared to the load-bearing qualities of the soil. There are basically three types of soils:

   - Granular Soils, including sand and gravel.
   - Fine-grained soils, including silts and clays.
   - Organic soils, including peat.

   Different types of soils give different load-bearing pressure capability. When setting up a machine, the competent person should be able to distinguish between the three groups of soil, the approximate mixture of each, their moisture contents and their depth. Factors such as water tables and distance to a excavation, which affect the soil's ability to withstand the pressure without collapsing, must also be considered by the designated person.

Operator Qualification and Operating Procedures

1. Operators' Qualifications

    - Cranes shall be operated only by the following personnel:

        - Designated operators who have been licensed by an approved agency or union and meet the requirements of Chapter 5, ANSI B30.5c-1992. Even if there are others on site qualified to operate the crane, only the designated operator assigned by the CCC Project Management Team will operate the crane.
        - Inspectors certified for crane inspection.
        - Test and maintenance personnel, when necessary.

    - No one other than the above personnel shall be in or on the crane during operations. Exceptions are oilers, apprentice operators or supervisors whose duties may require their presence.

2. Operating Procedures

    - The operator shall:

        - Not engage in any practice that may divert his or her attention while engaged in crane operations;
        - Not operate the crane if physically or mentally unfit, or taking prescription drugs that may affect judgment;
        - Not respond to any signal that is unclear or is given by anyone other than the designated signal person. Exception: The operator shall respond to a stop signal given by anyone.
        - Have final responsibility and control over the crane operations. Whenever there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle loads until safety has been assured.
        - Be familiar with the crane and its care, the operator's manual and load charts. He or she shall be responsible for notifying his or her supervisor of any needed adjustments for repairs, and for logging his or her findings in the crane log.
        - Shall, upon request, demonstrate his or her ability to determine total load weight and its relationship to the crane load charts.

3. Handling the Load

    - Load Weight

        - No crane shall be loaded beyond its rated capacity.
        - A crane lift becomes "critical" when the load weight exceeds 75% of the manufacturer's recommended crane capacity as shown on the load charts for the configuration being used, when the load must be lifted by more than one crane or when a suspended

personnel basket is to be hoisted. See the Critical Lift section of the Safety and Health Manual.

- Rigging the Load:
  - Only qualified riggers are permitted to rig the load.
  - The load shall be rigged to the hook by means of wire rope, slings or other approved devices.
  - No open hooks shall be used for lifts higher than two feet. Hooks used for lifts in excess of two feet shall have the safety latch in place and engaged.
  - Side loading of the boom is never permitted.
  - Softeners shall be utilized, as needed, to protect rigging from being damaged.
- Hoisting the Load:
  - The operator shall determine that the crane is level to within one degree and, where necessary, is properly cribbed and blocked.
  - The operator shall be responsible for determining that the load is properly secured and balanced before making the lift.
  - The operator shall position the hook over the load in a manner to prevent load swing.
  - The operator shall determine that the rope is properly seated on the drum and in the sheaves; the load line is non-kinked; and multiple part lines are not twisted around each other.
  - There shall be at least three wraps of line on the drum at all times.
  - Loads shall be controlled by the use of tag lines free of knots, splices or defects.
  - Hoisting paths shall be predetermined to ensure unauthorized personnel are not under a hoisted/suspended load.
  - Only the qualified rigger and the connectors are permitted to be under a suspended load.
  - The operator shall always sound the crane horn, prior to hoisting/swinging the load.

Rigging Requirements

1. General
   - Rigging equipment shall be inspected daily, prior to each use and as necessary during the shift to ensure safety. Damaged or defective rigging shall be immediately removed from service.
   - All rigging devices, including slings, shall have permanently affixed identification stating size, grade, rated capacity and manufacturer.
   - All rigging not in use shall be removed from the immediate work.

- All rigging shall be appropriately stored when not in use.

- Wire rope slings shall be lubricated as necessary during use. Slings shall be lubricated no less than every four months when in storage.

- “Shop-made” grabs, hooks, clamps or other lifting devices shall not be used unless proof-tested to 125% of their rated load by an approved testing agency. Approved devices shall have the capacity permanently affixed.

- Slings shall not be left lying on the ground or otherwise exposed to dirt and the elements.

- Eyes in wire-rope bridles, slings or bull wires shall not be formed by wire clips or knots.

- Protruding ends of strands in splices on slings or bridles shall be covered or blunted.

- All rigging equipment in use shall have a safety factor of five.

2. Safe Operating Practice

- Slings in use shall not be shortened by knots, bolts or other makeshift devices.

- Rigging shall be padded or softeners used to protect from damage resulting from sharp comers.

- Slings used in a basket hitch shall have the loads balanced to prevent slippage.

- Loads shall be landed on cribbing or dunnage so that slings need not be pulled from under or be crushed by the load.

- Rigging subjected to shock loading shall be immediately removed from service.

- U-Bolts and/or wire rope clips are not permitted for use on slings. Only manufactured slings that are properly tagged are to be used.

3. Inspection

- All rigging equipment shall be inspected daily, prior to each use and as necessary during the shift to ensure safety. Damaged or defective rigging shall be immediately removed from service.

- Thorough inspection of rigging in use shall be made on regular basis, as determined by:

  - The qualified rigger.
  - Severity of service conditions.
  - Frequency of use.
  - Nature of lifts being made.

4. Inspection Criteria:

- Alloy steel chains shall be removed from service and repaired or replaced when:

  - Master links, coupling links or other components are cracked or deformed.

- Sling hooks have opened more than 15% of the normal throat opening or twisted more than 10 degrees off center.
- Stretch exceeds 5% of the original reach.
- They have been exposed to temperatures in excess of 600 degrees.

- Only the manufacturers or an equivalent entity shall repair or recondition rigging covered in this section.
- Mechanical coupling links or “cold sheets," bolts or clevis pins shall not be used for chain repairs.
- Any chains used for hoisting must be grade eight or higher.
- Wire rope slings shall be removed from service when:
  - There are (10) randomly distributed broken wires in one rope lay or (5) broken wires in one strand on one rope lay.
  - There is wear or scraping of one-third the original diameter of outside individual wires.
  - Kinking, crushing, bird caging or similar damage results in distribution.
  - End attachments are cracked, deformed or worn
  - Exposed to temperatures exceeding 200 degrees Fahrenheit (fiber-core) or 400 degrees Fahrenheit (non-fiber core).
  - Corrosion of the rope or end attachments occurs.
- Natural and synthetic fiber rope slings shall be removed from service when:
  - Abnormal wear is observed.
  - Powdered fibers are found between strands.
  - Fibers are out or broken.
  - There are variations in the size or roundness of strands.
  - There is discoloration or rotting.
  - There is distortion of sling hardware.
  - Exposed to temperatures exceeding 180 degrees Fahrenheit.
- Synthetic web slings shall be removed from service when:
  - Subjected to acid or caustic bums.
  - Melting or charring of any part of the sling surface occurs.
  - Snags, punctures, tears or cuts are observed.

- Stitches are worn or broken.
- Fittings are distorted.
- Exposed to temperatures in excess of 180 degrees Fahrenheit (synthetic web) or 200 degrees Fahrenheit (polypropylene web).

Crane and Rigging Safety Information

All cranes and derricks shall be operated within the manufacturer's specifications and if manufacturer's specs are not available, crane will be operated under the direct specifications of a qualified engineer competent in this field. All attachments shall also be operated within the manufacturer's specifications. A record of the specifications and qualifications shall be maintained on site and a copy at the field office for inspection.

All cranes will be operated within rated load capacities and operating speeds. Warnings and or special instructions shall be conspicuously posted so that operator may see while in the control station.

All cranes shall be operated with the proper hand signals per the ANSI standard for that crane. All hand signals will be posted on site.

All rigging shall be used and operated within the manufacturer's specifications in relationship to load and lift. Any defective rigging shall be discarded and replaced with rigging that will meet job specifications.

Cranes will not be modified from the manufacturer's specifications for any reason unless approved by the manufacturer in writing. No exceptions will be granted this procedure.

Cranes will be operated in a safe zone. Obstructions or lines shall not hinder the movement or equipment operation and proper distances will be maintained per OSHA 1926.550 (A) (15) (i) A minimum clearance of 10 ft must be maintained on any part of crane.

Area of Operation

Cranes and or derricks shall not be operated in any area that is oxygen deficient or any area with toxic fumes or gases. This may include an inspection for fumes from the combustion of the crane engine or other equipment in the area of use. CCC will maintain this area to be safe prior to any work to be done in the area in conjunction with site personnel and or safety inspections. In case of any possible problems CCC will supply a fire extinguisher for each crane or mandate the supplier of the crane issue a fire extinguisher to crane operator.

Annual Inspections

Cranes and derricks shall undergo a thorough annual inspection by a competent person, government or independent private organization recognized to do so by the Department of Labor. CCC will keep a copy of this inspection of record for view by engineers or safety personnel. Any or all failures will be documented and repaired before crane is put back in service.

XVI. MATERIAL HANDLING

Mobile Equipment

Only designated personnel shall be allowed to operate mobile equipment. Certification is required to show that employees have been trained (name, DOB, date of training) and signed by the competent person who performed the training. Certification must be updated annually.

Equipment must have a service brake system, an emergency brake system and a parking brake system. These systems may use common components, and shall be maintained in good operable condition.

Whenever visibility conditions warrant additional light, all equipment or combinations of equipment, shall have brake lights in operable condition regardless of light conditions..

All equipment will be equipped with an adequate audible warning device in good operating condition. Equipment must have a reverse signal alarm audible above surrounding noise level. Operator is prohibited from backing up equipment without signaling, and knowing that it is safe to do so.

All equipment must be inspected prior to use. Windshields and power wipers are required; equipment must be equipped with defogging and/or defrosting devices. Any inspection defects must be corrected prior to operation of equipment.

Cranes

A substantial and durable Load Chart with clearly legible letters and figures shall be provided with each crane, and securely fixed to the crane cab in a location easily visible to the operator while seated at control stations.

Monthly safety inspections must be completed on critical items, including but not limited to backhoes, crane hooks and ropes.

CCC will keep and maintain written reports on rated load tests, showing the test procedure and confirming the adequacy of any repairs or alterations. Preventative maintenance program based upon the crane manufacturers recommendations will be followed with monthly inspection from manufacturer's representative.

A fire extinguisher will be kept in the crane cab or vicinity of the crane. Operator must show proof that he or she is certified to use a fire extinguisher. (A CO2 or dry chemical fire extinguisher is required)

When working near electrical wiring, etc., live parts to which an employee may be exposed shall be de-energized prior to use, unless an employee can demonstrate that de-energizing introduces additional or increased hazards, or is infeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be de-energized if there will be no increased exposure to electrical burps or to explosion due to electrical arcs.

Only qualified personnel will be delegated to operate this equipment. Operators must show certification, signed and dated by themselves as well as the competent person providing the training.

All hooks must be inspected monthly by a competent person showing identification, signature and date. CCC will maintain records of all hooks with noted deformation or cracks.

LIFTING; MOBILE EQUIPMENT; MATERIAL HANDLING

All hoist chains must be inspected monthly. CCC will maintain records of hoist chains, including end connections, for a) excessive wear; b) twist; c) distorted links interfering with proper function; and d) stretch beyond manufacturer's recommendation. The certification records will include date of inspection, signature of competent person performing inspection, and identifier of chain inspected.

CCC will have a preventive maintenance program based upon the crane manufacturer's recommendations. If inspected by a rental company, company will be required to provide records.

If a crane is in need of any repair a warning sign stating "Out of Service" shall be placed on that crane.

Running Ropes

CCC will keep and maintain certification records which include the dates of inspection and the signature of the competent person who performed the inspection. These same records will be kept for inspection of all other ropes.

Rope

CCC shall inspect monthly and certify the date and signature of competent person performing the inspection. All ropes that have not been used during shutdown or that have been in storage must be inspected prior to use by a competent person, signed and dated by that person.

Slings

Whenever any sling is used, specific practices shall be observed:

a) each sling , including but not limited to alloy steel chain, natural and synthetic, and fiber rope, will be inspected prior to use
b) Each sling, fastenings and all attachments shall be inspected by designated competent CCC personnel
c) Signature of competent person will be required; additionally, form will be dated

Material Handling

All employees will observe safe lifting practices when moving and or lifting objects. Objects will be lifted by bending and using the legs to lift and support the weight of the object. Back braces or supports will be used when lifting objects of considerable weight or size. Objects that are heavy or large shall be lifted by two or more persons as to not pose a lifting hazard to any individuals. Objects that are questionable as to their liftablilty will be determined by a competent person as to how they will be lifted.

XVII. First Aid

CCC requires a competent person trained in first aid/cpr to be available at work sites. Competent person must be certification through the Red Cross or equivalent. Employees should not attempt to render first aid to themselves or to other employees. CPR is only to be performed by trained competent person for treatment.

CCC has medical facilities available at all or near construction sites. All phone numbers will be posted to the nearest facility.

Incidents or injuries regardless of their nature or severity shall be reported promptly to the supervisor. A written report of incident or injury must be completed and forwarded to the safety director unless life threatening. The medical facility to be used has been approved by CCC or the worker's compensation carrier.

Life threatening or very seriously injured persons should be taken immediately to the hospital or medical facility nearest to the construction site.

First Aid kits are required on all sites and maintained by the safety director. All sites are required to have first aid kits on site and in the office/trainer. All kits will consist of appropriate items and stored in a weather proof container. Contents should be checked by competent person before going to job sites and weekly thereafter. All items will be in individually sealed packages. A competent person who has a valid certificate in first aid training, the American Red Cross or equivalent will be available at work site to render emergency first aid. The contents of the first aid kits will be checked before being sent to each job and at least weekly on each job to ensure that the expended items are replaced.

Foreman, Supervisor, or Safety Director is responsible in getting injured persons to a physician or hospital. Proper equipment for prompt transportation of the injured person must be available where 911 is not. Names of physicians, hospitals, or ambulance's numbers must be posted.

Eye Injury

Flush the eyes with water a full fifteen (15) minutes, if a chemical or other liquid has splashed into the eyes. Before taking the injured person to a doctor, flush the eyes with eye wash for injury caused by dust.

Where the eyes or body of any person may be exposed to injuries consistent with corrosive material, suitable facilities shall be provided within the work area.

XVIII. BLOODBORNE PATHOGENS

GENERAL

The Bloodborne Pathogen Standard, for the most part, does not apply to construction work but CCC shall establish preventative measures to minimize the exposure of our employees to workplace hazards, including bloodborne pathogens.

PURPOSE

OSHA has enacted the Bloodborne Pathogens Standard, 29 CFR 1910.1030. The purpose of the Bloodborne Pathogens Standard is to "reduce occupational exposure to Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV) and other bloodborne pathogens" that employees may encounter in their workplace.

CCC believes that there are a number of "good general principles" that should be followed when working with bloodborne pathogens.

- It is prudent to minimize all exposure to bloodborne pathogens.
- Risk of exposure to bloodborne pathogens should never be underestimated.
- Our company should institute as many work practice controls as possible to eliminate or minimize employee exposure to bloodborne pathogens.
- When CORRADO reasonably anticipate exposure of employees to infectious material, a written Exposure control plan will be written including tasks in which exposure could occur.

CCC has implemented this Exposure Control Plan to meet the requirements of the OSHA Bloodborne Pathogens Standard. There are two objectives to this plan:

- To protect our employees from the health hazards associated with bloodborne pathogens.
- To provide appropriate treatment and counseling should an employee be exposed to bloodborne pathogens.

GENERAL PROGRAM MANAGEMENT

Exposure Control

The Corporate Safety Director (Exposure Control Officer) is responsible for overall management and support of our company's Bloodborne Pathogens Compliance Program. He or she is responsible for:

- Overall responsibility for implementing the Exposure Control Plan.
- Working with management and other employees to develop and administer any additional bloodborne pathogens-related policies and practices needed to support the effective implementation of this plan.
- Improving and updating the Exposure Control Plan

- Collecting and maintaining a suitable reference library on the Bloodborne Pathogens Standard and bloodborne pathogens safety and health information.
- Acting as the company liaison during OSHA Inspections.
- Conducting periodic company audits to maintain an up-to-date Exposure Control Plan.

Project Managers and Supervisors

Project Managers and Supervisors are responsible for exposure control in their respective areas.

Safety Department

The Safety Department will be responsible for providing employees with information and training, as needed, that includes

- Maintaining an up-to-date list of personnel requiring training.
- Developing suitable education and training programs.
- Maintaining appropriate training documentation, such as sign-in sheets and quizzes.
- Periodically reviewing training programs with the Exposure Control Officer, Project Managers and Supervisors.

Employees

Employees have the most important role in our bloodborne pathogens compliance program. In this role, they must:

- Know what tasks they perform that have occupational exposure.
- Attend bloodborne pathogens training sessions.
- Conduct all work in accordance with our bloodborne pathogen controls.
- Develop good personal hygiene habits

Availability of the Exposure Control Plan to Employees

CCC's Exposure Control Plan is available to our employees at any time. Employees are advised of this availability during their new-hire orientation.

Review and Update of the Plan

The plan will be reviewed and updated under the following circumstances:

- Whenever new or modified tasks and procedures are implemented.
- When jobs are revised such that new instances of occupational exposure may occur.
- Whenever we establish new functional positions within our company that may involve exposure to bloodborne pathogens.

EXPOSURE DETERMINATION

To facilitate exposure determination, CCC has prepared the following lists:

- Job classifications that define all employees who have occupational exposure to bloodborne pathogens.
- Job classifications in which some employees have occupational exposure to bloodborne pathogens.
- Tasks and procedures in which occupational exposure to bloodborne pathogens occur. (These tasks and procedures are performed by employees in the job classifications shown on the two previous lists.)
- The exposure determination shall be made without regards to the use of personal protective equipment.
- CCC will have personnel trained in First Aid and will provide emergency case.

METHODS OF COMPLIANCE

There are a number of areas that must be addressed in order to effectively eliminate or minimize exposure to bloodborne pathogens. The first four areas are:

- Using Universal Precautions.
- Implementing appropriate Work Practice Controls.
- Using necessary Personal Protective Equipment.
- Implementing appropriate Housekeeping Procedures.

Each of these areas is reviewed with our employees during their new-hire orientation.

1. Universal Precautions

CCC treats all human blood and body fluids as if they are known to be infectious for HBV, HIV and other bloodborne pathogens.

In circumstances where it is difficult or impossible to differentiate between body fluid types, CCC will assume all body fluids to be potentially infectious.

The Safety Department is responsible for overseeing our Universal Precautions Program.

2. Work Practice Controls

CCC will use a number of Work Practice Controls.

The person in our company who is responsible for overseeing the implementation of these Work Practice Controls is the Corporate Safety Director. The Corporate Safety Director works with the safety department, project managers and supervisors to effect this implementation.
CCC has adopted the following Work Practice Controls as part of our Bloodborne Pathogens Compliance Program:

CCC will have different labels & signs that serve as warnings of infectious materials. All employee's with occupational exposure will participate in a training program. Employees shall be provided training at the time of initial assignment and annual training for all employees will be provided

within one (1) year of their previous training.

- After removal of potentially contaminated gloves or other personal protective equipment, employees wash their hands immediately or as soon as possible. CCC will also supply appropriate antiseptic hand cleaner in conjunction with cloth/paper towels or antiseptic towelettes.

- Following any contact with blood or any other infectious materials, employees wash their hands and any other exposed skin with soap and water as soon as possible. They also flush exposed mucous membranes with water.

- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses is prohibited in work areas where there is potential for exposure to bloodborne pathogens.

- Equipment that becomes contaminated is examined prior to servicing or shipping, and decontaminated as necessary.

  - An appropriate biohazard, warning label is attached to any contaminated equipment, identifying the contaminated portions.

  - Information regarding the remaining contamination is conveyed to all affected employees, the equipment manufacturer and the equipment service representative prior to handling, servicing or shipping.

New employees are trained in Work Practice Controls:

- If the employee is transferring from one job to another within our company, the job classifications and tasks or procedures pertaining to his or her previous position are checked for potential exposure to occupational bloodborne pathogen hazards.

- The employee is then trained by the Safety Department or another instructor regarding any Work Practice Controls, which the employee is not experienced.

3. **Personal Protective Equipment (PPE)**

Personal Protective Equipment is our employee's "last line of defense" against bloodborne pathogens. CCC provides the PPE that employees need to protect themselves against exposure. This equipment will be provided at no charge, proper size and fit, and includes but is not limited to:

- Gloves

- Safety glasses

- Goggles

- Face shields/masks

- Respirators

- One-way mouthpieces

The Safety Department, working with project managers and supervisors, is responsible for ensuring that all work locations have appropriate Personal Protective Equipment available to employees.

Our employees are trained regarding the use of the appropriate PPE. Additional training is provided, when necessary. Employees who refuse to wear protective equipment shall not be allowed to enter hazard area.

To ensure that Personal Protective Equipment is not contaminated and is in appropriate condition to protect employees from potential exposure, CCC will adhere to the following practices:

- All Personal Protective Equipment is inspected prior to being used and replaced as needed to maintain its effectiveness. All Protective equipment shall be laundered and or discarded after inspection to maintain its effectiveness.

- Single-use Personal Protective Equipment (or equipment that cannot, for whatever reason, be decontaminated) is appropriately discarded.

To make sure this equipment is used as effectively as possible, our employees will adhere to the following practices when using their Personal Protective Equipment:

- Any garments penetrated by blood or other infectious materials are removed immediately, or as soon as possible.

- All potentially contaminated Personal Protective Equipment is removed prior to leaving the work area.

- Gloves are worn in the following circumstances:

  - Whenever employees anticipate hand contact with potentially infectious materials.
  - When handling or touching contaminated items or surfaces.

- Disposable gloves are replaced as soon as practical after contamination or if they are torn, punctured or otherwise lose their ability to function as an "exposure barrier."

- Utility gloves are decontaminated for reuse unless they are cracked, peeling, torn or exhibit other signs of deterioration, at which time they are disposed of.

- Masks and eye protection (such as goggles, face shields and the like) are used whenever splashes or sprays may generate droplets of infectious materials.

- Protective clothing is worn whenever potential exposure to the body is anticipated.

4. **Housekeeping**

Maintaining a project site/facility in a clean and sanitary condition is an important part of a Bloodborne Pathogens Compliance Program. To facilitate this process, CCC has established policies that are in compliance with the Owner or Client when working at the facility.

Determine the following:

- The area to be cleaned and or decontaminated.
- Day and time of scheduled work.
- Cleansers and disinfectants to be used.
- Any special instructions that are appropriate.

The following procedures are used with all types of wastes:

- They are discarded or "bagged" in containers that are:
  - Able to be closed.
  - Leakproof if the potential for fluid spill or leakage exists.
- Waste containers are maintained upright, routinely replaced and not allowed to overfill.

HEPATITIS B VACCINATION, POST-EXPOSURE EVALUATION AND FOLLOW-UP

CCC recognizes that even with good adherence to all our Exposure Prevention Practices, exposure incidents can occur. As a result, CCC has set up procedures for Hepatitis B vaccinations and post-exposure evaluation and follow-up should exposure to bloodborne pathogens occur, vaccinations will be provided to the employee no charge.

1. Vaccination Program

CCC will arrange for a vaccination series against Hepatitis B infection.

The series consists of three inoculations over a six-month period and is performed under the supervision of a licensed physician or other healthcare professional.

2. Post-Exposure Evaluation and Follow-Up

If one of our employees is involved in an incident where exposure to bloodborne pathogens may have occurred, there are two things CCC will immediately focus on:

- Investigating the circumstances surrounding the exposures incident.
- Making sure that our employees receive medical consultation and treatment (if required) as expeditiously as possible.

The Safety Department will investigate every exposure incident that occur and involves gathering the following information:

- When the incident occurred; date and time is required.
- Where the incident occurred; location is required.
- What potentially infectious materials were involved in the incident, such as type of materials (blood, for example).
- Source of the material.
- Under what circumstances the incident occurred, referring to the type of work being performed.
- How the incident was caused:
- Personal Protective Equipment being used at the time of the incident.

- Actions taken as a result of the incident:
  - Employee decontamination
  - Cleanup
  - Notifications made

After this information is gathered and evaluated, a written incident investigation report shall be prepared. Recommendations are then made for avoiding similar incidents in the future.

CCC recognizes that much of the information involved in this process must remain confidential. CCC will do everything possible to protect the privacy of the people involved.

As the first step in this process, CCC will provide an exposed employee with the following confidential information:

- Documentation regarding the routes of exposure and circumstances under which the exposure incident occurred.
- Identification of the source individual (unless infeasible or prohibited by law).

Next, if possible, CCC will test the source individual's blood to determine HBV or HIV infection. This information will also be made available to the exposed employee, if it is obtained. At that time, the employee will be made aware of any applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

Finally, CCC will collect and test the blood of the exposed employee for HBV and HIV status.

Once CORRADO completes these procedures, CCC will arrange for an appointment for the exposed employee with a qualified healthcare professional to discuss the employee's medical status. This appointment includes an evaluation of any reported illnesses, as well as any recommended treatment.

3. **Information Provided to the Healthcare Professional**

To assist the healthcare professional, CCC will forward a number of documents, including the following:

- A copy of the Bloodborne Pathogens Standard.
- A description of the exposure incident.
- Other pertinent information.

4. **Healthcare Professional's Written Opinion**

After the consultation, the healthcare professional will provide CCC with a written opinion evaluating the exposed employee's situation. CCC, in turn, will furnish a copy of this opinion to the exposed employee.

In keeping with this process's emphasis on confidentiality, the written opinion will contain only the following information:

- Whether Hepatitis B vaccination is indicated for the employee.

- Whether the employee has received the Hepatitis B vaccination.

- Confirmation that the employee has been informed of the results of the evaluation.

- Confirmation that the employee has been told about any medical conditions resulting from the exposure incident that require further evaluation or treatment.

All other findings or diagnoses will remain confidential and will not be included in the written report.

5. **Medical Recordkeeping**

To make sure CCC has as much medical information available to the participating healthcare professional as possible, CCC will maintain relevant medical records on our employees. The Safety Department is responsible for setting up and maintaining these records, which include the following information:

- Name of the employee.

- Social security number of the employee.

- A copy of the employee's Hepatitis B Vaccination status:

  - Dates of any vaccinations.
  - Medical records related to the employee's ability to receive vaccination.

- Copies of the results of the examinations, medical testing and follow-up procedures that took place as a result of an employee's exposure to bloodborne pathogens.

- A copy of the information provided to the consulting healthcare professional as a result of any exposure to bloodborne pathogens.

As with all information in these areas, CCC recognizes that it is important to keep the information in these medical records confidential. CCC will not disclose or report this information to anyone without our employee's written consent (except as required by law). Records shall be made available upon request of employee, Assistant Secretary and the Director for examination and copying. Medical records must have written consent of employee before released. CCC shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h).

INFORMATION AND TRAINING

All employees who have the potential for exposure to bloodborne pathogens shall undergo a comprehensive training program and will be furnished with as much information as possible on this issue. Information to employees will be updated annually to keep their knowledge current. Additionally, all new employees, as well as employees changing jobs or job functions, will be given any additional training their new position requires.

The Safety Department is responsible for seeing that all employees who have potential exposure to bloodborne pathogens receive this training. Training records will include the following; Dates and contents of training, names and job titles of persons attending. Training records shall be maintained for 3 years from the date of training and medical records shall be maintained for at least the duration of employment plus 30 years.

1. **Training Topics**

The topics covered in our training include, but are not limited to, the following:

- Bloodborne Pathogens Standards
- Epidemiology and symptoms of bloodborne diseases
- Modes of transmission of bloodborne pathogens
- Our company's Exposure Control Plan (and where employees can obtain a copy)
- Appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials
- A review of the use and limitations of methods that will prevent or reduce exposure, including:
  - Work Practice Controls
  - Personal Protective Equipment
- Selection and use of Personal Protective Equipment, including:
  - Types available
  - Proper use
  - Location within the facility
  - Removal
  - Handling
  - Decontamination
  - Disposal
- Visual warnings of biohazards, including labels, signs and color-coded containers.
- Information on the Hepatitis B Vaccine, including the:
  - Efficacy
  - Safety
  - Method of administration
  - Benefits of vaccination
- Actions to take and persons to contact in an emergency involving blood or other potentially infectious materials
- Procedures to follow if an exposure incident occurs, including incident reporting.
- Information on the post-exposure evaluation and follow-up, including medical consultation.

2. **Recordkeeping**

To facilitate the training of our employees, as well as to document the training process, CCC will maintain training records containing the following information:

- Dates of all training sessions.
- Contents or summary of the training sessions.
- Names and credentials of the instructors.
- Names and job titles of employees attending the training sessions.

XIX. HOUSEKEEPING

General

CCC understands that good housekeeping is one of the most important elements of an effective safety and health program. Maintaining the project site free of scrap material, debris and other trash can make the work site much safer as well increase employee morale. Good housekeeping principles shall be planned at the beginning of the job and monitored until the job is complete. Housekeeping shall be the responsibility of all employees. Operations will be safer and more efficient when the work area is neat and orderly.

Basic Rules for Housekeeping

1. Keep all walking and working surfaces clean and orderly, free from debris and trash accumulation.

2. Regularly clean-up and sweep all walking, working, storage and break areas.

3. Keep all walking, working, storage and break areas free from loose materials, tools and waste.

4. Appropriately stored all tools and materials, when not in use.

5. Store materials in neat and orderly piles, which will allow for safe and easy access.

6. Stack cribbing in neat and orderly piles and remove from the work area in a timely manner.

7. Route flexible cord sets (extension cords), welding leads, air hoses, etc., in a manner so not to create a tripping hazard.

8. Trash receptacles shall be placed in all working, storage and break areas, and shall be emptied on a regular basis.

9. Combustible waste, oily rags, etc. shall be stored in an appropriate covered container and disposed of regularly. Disposal should be in accordance with applicable environmental laws and regulations.

10. All protruding nails in lumber shall be removed or bent over

11. Welding rod stubs shall be disposed of in temporary holding cans, so not to create a slip hazard. Once work activities are complete, the stubs shall be disposed of properly.

12. Never store tools or materials in the web of a column or leaning up against a structure, where they may become incidentally displaced.

XX. MOBILE EQUIPMENT

General

CCC recognizes the use of mobile equipment as a vital component of our construction operation. This section covers mobile equipment that is not licensed for operation on highways or other public roadways. Examples of this equipment are fork trucks and backhoes. Cranes and aerial lift work platforms are covered in separate sections of this manual.

Training

Only trained, qualified, authorized personnel shall be permitted to operate mobile equipment. Proof of training/certification is required to operate required types of equipment.

All types and brands of devices present will be addressed.

Formal instruction includes lecture, discussion, interactive computer learning, videos, written material, and practical training. The following involves instructor demonstration and trainee exercises, operator evaluation and critiques.

All trainers must have the knowledge and ability to teach and evaluate operators.

CCC training will include load capacity, operating instructions, distance, differences between cars versus PITs, Refueling/Recharging, ramps, visibility, balance/counter-balance, etc.

General Safety Practices - All trailers must be chocked and secured.

Equipment Inspections

All equipment shall be inspected daily, prior to use. This inspection shall be performed by the operator and shall be documented. The inspection shall address the following:

1. Operating and emergency controls, brakes, air/hydraulic connections.
2. Safety and warning devices, lights, mirrors, backup alarms.
3. Personal protective devices, seat belts.
4. Hydraulic and fuel system leaks.
5. Loose or missing parts.
6. Tires and wheels.
7. Placards on rated load capacity, operating speeds, hazard warnings and other essential information.
8. Outrigger and stabilizers.
9. Fuel, water, oil levels, battery charge.
10. Gauges, horns and lights.
11. Equipment damage-deformation or structural cracks or fractures.

Equipment found to be damaged or defective shall be immediately reported to the supervisor and the equipment shall be tagged “out of service”, until repaired by a qualified person.

Work Area Inspections

Prior to and during the use of any mobile equipment, the operator shall check the workplace area in which the equipment is to be used for hazards such as:

1. Drop-offs, holes, bumps and floor obstructions.

2. Materials, equipment or debris.

3. Overhead obstructions and high-voltage conductors.

4. Hazardous material locations.

5. Inadequate surface and support to withstand all load forces imposed by the mobile equipment in all operating configurations.

6. Wind and weather conditions.

7. Presence of unauthorized persons including pedestrians, drivers and other contractors in close proximity of any operating equipment.

In the event any of the above work hazards exist, the operator shall take appropriate actions to safeguard the area (including having a spotter assigned) when operating mobile equipment in such areas.

General Safe Practices

1. All equipment shall be operated within the manufacturer's specifications.

2. All equipped shall be equipped with an operable audible reverse alarm

3. A fire extinguisher rated at least 2.5BC shall be located on all equipment.

4. Routine maintenance, fueling or repairs must not be performed while the equipment is in use, the engine is running or the power is on.

5. When handling or recharging batteries using jumper cables, safety glasses with side shields and a face shield must be worn.

6. Seat belts shall be worn on all equipment where one is supplied (ROPS).

7. Hard hats and safety glasses with side shields shall be worn at all times when on equipment, unless the equipment is designed with suitable overhead, front and side protection.

8. Only equipment having a seat that is permanently and securely attached to the equipment shall be used to transport employees. No employee shall be transported by equipment, which does not have a seat that is permanently and securely attached to the equipment.

9. Spotters shall be utilized, as needed, to assist the operator in tight or hard to see locations.

10. A designated signal person shall be used when signaling the equipment operator.

11. The operator shall have the last say.

12. Stunt driving or horseplay on any equipment is strictly prohibited.

13. Anytime the operator exits a piece of equipment, the engine shall be turned off and all safeguards shall be activated.

14. Operators shall comply with all speed limits and traffic control signs.

15. When inside an enclosed area, equipment shall be turned off when not in use to minimize the buildup and exposure to hazardous carbon monoxide gas.

16. The operator shall sound the horn before entering and exiting a building, when approaching and traveling through an intersection, when approaching and traveling through a blind corner and/or any other time the operators needs to sound an audible alarm to warn individuals of its presence in an area.

17. Loads shall be transported in a manner in which they are secure and do not block the vision of the operator.

18. Pedestrians shall always give equipment the right-of-way.

19. Operators of LPG-fueled equipment shall adhere to the following procedures for changing fuel cylinders:

    - Close container valve by turning to the right (clockwise).
    - Operate engine until it stops. All gas vapors should now be burned. Turnkey switch off.
    - Disconnect fuel line at quick-disconnect coupling. Tools should not be required to connect or disconnect coupling.
    - Loosen container fasteners, swing and lift up container mounting and remove cylinder.
    - Replace with recharged cylinder by reversing the above procedure. Make sure that the tank-locating hole is secured over the positioning pin in the tank cover.
    - Open tank valve slowly to ensure that the automatic safety check valve does not cut off fuel supply.
    - Replace empty LPG cylinder in a rack or in a designated storage area to protect it against possible damage.
    - Always wear appropriate hand protection when changing LPG cylinders.

MOBILE EQUIPMENT INSPECTION

Operator:_____ Week Ending:_____

Equipment Type:_____ ID Number:_____

Inspection Areas	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Damage							
Fluid Levels							
Leaks							
Tires and Wheels							
Lights							
Fire Extinguisher							
Horn							
Steering							
Service/Parking Brakes							
Controls							
Warning Devices							
Protective Devices							
Other							

List Repairs Needed Completed	Date Reported	Date

Equipment shall be inspected daily, prior to use. Damages or deficiencies shall be reported to your supervisor immediately. This inspection sheet shall be turned in weekly to your supervisor.

XXI. LADDERS AND STAIRWAYS

General

Ladders and stairways can be a major source of injuries in the construction industry if proper safety measures are not established and implemented. To minimize the potential risks associated with the misuse of stairways and ladders, CCC, has developed these guidelines to protect the safety and health of our employees.

Training

All employees shall receive stairway and ladder training. This training shall be conducted during the new-hire orientation process. Additional training shall be conducted periodically at the weekly toolbox talk safety meetings and daily PTP's. The training shall consist of the following:

1. Hazards related to stairways and ladders.

2. Procedures to be followed to minimize the hazards related to stairways and ladders.

3. The nature of fall hazards in the work area.

4. The correct procedures for erecting, maintaining and disassembling the fall protection systems to be used.

5. The proper construction, use, placement and care in handling of stairways and ladders.

6. The maximum intended load-carrying capacities of ladders.

Safety Measures for Stairways

1. Stairways that will not be a permanent part of the structure shall have landings at least 30 inches deep and 22 inches wide at every 12 feet or less of vertical rise.

2. Stairways shall be installed at least 30 degrees, and no more than 50 degrees, from horizontal.

3. Variations in riser height or stair tread depth shall not exceed 1/4 inch in any stairway.

4. Where doors or gates open directly onto a stairway, a platform shall be provided that extends at least 20 inches beyond the swing of the door.

5. Metal pan landings and metal pan treads shall be secured in place before filling.

6. All stairway parts shall be free of dangerous projections, such as protruding nails.

7. Slippery conditions on stairways shall be corrected before the stairs are used.

Safety Measures for Stair rails and Handrails

1. Stairways having four or more risers, or rising more than 30 inches, shall have at least one handrail. A stair rail shall also be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge shall not be more than 37 inches, or less than 36 inches, from the upper surface of the stair rail to the surface of the tread.

2. Stair rails shall not be less than 36 inches in height.

3. Mid rails or equivalent intermediate, structural members shall be provided between the top rail and stairway steps.

4. Mid rails shall be located midway between the top of the stair rail and the stairway steps.

5. Screens or mesh, when used, shall extend from the top rail to the stairway step and along the opening between top rail supports.

6. Intermediate vertical members shall not be more than 19 inches apart.

7. Other intermediate structural members shall be installed so that openings are no more than 19 inches wide.

8. Handrails and top rails shall be capable of withstanding at least 200 pounds of weight applied within two inches of the top edge in any downward or outward direction.

9. The height of handrails shall not be more than 37 inches or less than 30 inches from the upper surface of the handrail to the surface of the tread.

10. Stair rail systems and handrails shall be surfaced to prevent injuries.

11. Handrails shall provide an adequate handhold.

12. The ends of stair rail systems and handrails shall be constructed to prevent dangerous projections, such as rails protruding beyond the end posts of the system.

13. Temporary handrails shall have a minimum clearance of three inches between the handrail and walls, and other objects.

14. Unprotected sides and edges of stairway landings shall be protected with standard 42-inch guardrails.

15. When stairs are installed and before concrete is placed on the steps, the offset in the stair tread shall be securely filled in with lumber to eliminate the offset at the nosing, before permitting personnel to access the stairs.

Ladder Inspections

Ladders shall be inspected daily, prior to use, for visible damage or defects and after any incident that could have affected the safe use of the ladder. Ladders that are damaged or defective shall be immediately tagged “out of service” and removed from the work area.

Ladder Construction

Only ladders meeting the following requirements are permitted on CCC project sites:

1. Portable wood ladders: ANSI Standard A14.1—latest edition.
2. Manufactured fixed ladders: ANSI Standard A14.3-latest edition.
3. Job-made ladders: ANSI 14.4 Standard—latest edition.
4. Plastic/Fiberglas ladders: ANSI Standard A14.5—latest edition.

No metal ladders are permitted on CCC project sites.

Maintenance

1. **Wood:** Periodically treat wood ladders with a clear preservative such as varnish or shellac. Do not paint ladders, as paint may cover structural defects. Carefully check all fittings and attachments.

2. **Plastic/Fiberglass:** Clean rungs to prevent accumulation of materials that might cause slips. Carefully check all fittings and attachments.

3. **All Types:**

    - Store all types of ladders in a designated storage area.
    - Store all types of ladders under suitable cover to protect them from the weather.
    - Stored ladders shall be secured to prevent accidental displacement.
    - Ladders shall be stored in a manner that they do not create a trip hazard.

Safety Measures for Ladders

1. A double-cleated ladder or two or more ladders shall be provided when 25 or more employees are required to use ladders to access an upper elevation.

2. Ladder rungs, cleats and steps shall be parallel, level and uniformly spaced when the ladder is in position for use.

3. Rungs, cleats and steps of portable and fixed ladders (except as provided below) shall not be spaced less than 10 inches apart or more than 14 inches apart.

4. Rungs, cleats and steps of step stools shall not be less than 8 inches apart, or more than 12 inches measured from center.

5. Rungs, cleats and steps at the base section of extension trestle ladders shall not be less than 8 inches or more than 18 inches apart measured from center. The rung spacing on the extension section shall not be less than 6 inches or more than 12 inches.

6. Ladders shall not be tied or fastened together to create longer sections unless they are designed for such use.

7. A metal spreader or locking device shall be provided on each stepladder to hold the front and back sections in an open position.

8. Two or more separate ladders used to reach an elevated work area shall be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders.

9. Ladder components shall be surfaced to prevent injury.

10. Wood ladders shall not be coated with any opaque covering, except for identification or warning labels that may be placed only on the face of the side rails.

Job-Built Ladders

1. All wood parts shall be seasoned, smoothly machined and dressed on all sides. Fasteners shall be driven their full length and countersunk not more than 1/8 of an inch.

2. Lumber for side rails shall be of the appropriate strength, species, group and grade.

3. Cleat board material shall be free of as many knots as possible.

4. Fasteners for constructing job built ladders can include nails, staples, or screws. The fastener shall be of the appropriate strength for the load.

5. Job-built ladders shall be tailored for their intended use.

6. Single-cleat and double-cleat ladders shall not exceed 24 feet in working length.

7. Ladder width of single-cleat ladders shall be between 16 and 20 inches. The width of double-cleat ladders shall be between 18 and 22 inches.

8. Cleats shall be continuous and extend the full width of double-cleat ladders. Cleats shall be level and parallel when positioned for use. The cleats shall be spaced evenly between 8 inches and 12 inches from the tops of the cleats.

General Safety Measures for Use of All Ladders

When portable ladders are used, the side rails shall extend at least three feet above the upper landing surface. The ladder shall be secured.

Portable ladders shall have non-conductive side rails.

Ladders shall be maintained free of oil, grease and other slipping hazards.

Ladders shall not be loaded beyond the maximum intended load.

Ladders shall be used only for the purpose for which they are designed.

Non-self-supporting ladders shall be pitched one foot out from the support structure for every four feet of ladder height.

Fixed ladders shall be attached at 90 degrees perpendicular to the floor or surface.

Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet.

Ladders that can be displaced by project site activities or traffic shall be secured to prevent incidental movement, or a barricade should be used to keep traffic or activities away from the ladder.

The area around the top and bottom of the ladders shall be kept clear.

Ladders shall not be moved, shifted or extended while in use.

The top and first step of a stepladder shall not be used as steps.

Cross bracing on the rear section of stepladders shall not be used for climbing.

Single-rail ladders shall not be used.

When ascending or descending a ladder, employees shall face the ladder.

Employees shall use at least one hand to grasp the ladder when moving up or down the ladder.

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

Employees shall not carry any item as to cause them to fall or would cause injury if they should fall. Falling objects from a ladder could cause a tremendous hazard including death so it is imperative for all employees to be sure they can ascend or descend the ladder safely at all times.

XXII. PPE Assessments-Personal Protective Equipment

General

CCC recognizes the importance of Personal Protective Equipment and its ability to allow workers to perform their tasks in a safe and timely manner. Based upon this statement CCC requires that persons be required to adhere to this program and its procedures. All employees, contractors, and subcontractors will be advised of the critical nature of this program and its effects on our safety as individuals and its employers. All employees will be required to have the following minimum requirements:

1) Hard Hats shall be worn facing forward at all times
2) Shirts covering shoulders with a minimum 4" in length
3) Pants shall cover the leg and ankles at all times
4) Only ANSI Z87 approved safety glasses/ side shields shall be worn at all times
5) ANSI approved safety boots or shoes
6) Leather gloves
7) Hi visibility reflective green vests will be worn at all times
8) Hearing protection as needed

Training

CCC shall provide training for PPE in the following areas.

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

CCC will train and retrain employees when required as the workplace may change, making the earlier training obsolete; the type of PPE changes; or when the employee demonstrates lack of use, improper use, or insufficient skill or understanding. CCC will certify all employees and a record will be kept that includes: the employee name, the dates of training, the trainer, and the certification subject. All training shall be documented and a copy will be available.

Equipment Inspection

All PPE shall be inspected prior to its use and after its use. PPE will be inspected for its ability to perform its task, cleanliness, sanitary condition, and by reasons of hazards of processes or environment to protect body parts from inhalation, absorption or physical contact, shall be deemed useable or unusable. PPE, when unusable will be tagged, repaired, and or discarded; when useable, it will be sanitized and put back into service. All defective PPE will not be used. CCC will clean, launder, repair and replace protective clothing as needed.

This standard will also include employee PPE and or equipment that is being used on job sites and or work areas. Employee will be required or CCC will maintain PPE per standard, usefulness, and sanitary condition.

All PPE will be properly fitted, (respirators, etc.,) for its doffing, donning, and cleaning. Persons will be required to have the proper medical clearance to use such equipment (See Respiratory Protection for requirements) and meet all standards.

Provision of respirators.

Respirators shall be used in the following 4 circumstances; *work practice controls, work operations, to reduce exposure, and in emergencies*. CCC shall provide at no cost to the employees and shall be chosen from those approved by NIOSH. Powered, air-purifying respirators should be available when the employees choose to use this type, or when the respirator will provide adequate protection.

No employee will be assigned to tasks requiring the use of respirators if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally using a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Employees will be assigned to another job or given the opportunity to transfer to a different position, the duties of which they can perform. If such a transfer position is available, the position must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay the employee had just prior to such transfer.

PHA (Project Hazard Assessment)

CCC, prior to working in an area, will perform a Project Hazard Assessment to determine whether or not there is a hazard and the extent to which PPE shall be used. After the assessment has been made, each employee will be informed the necessary PPE required for the job and the reasons for the selection. A competent person (Certifier) will perform this function. This will be done prior to and during shift as situations change. If reassessment is necessary, steps will be taken to inform employees of the necessary changes. A record shall be kept of the Certifier, signature, date, PHA assessment, PPE required to wear, and assessment documents.

Medical Monitoring

CCC shall provide medical surveillance when an employee experiences signs or symptoms of the adverse health effects. Medical evaluations will be at no cost to employees. Examinations will be performed by or under the supervision of a physician or other licensed health care professional. CCC shall maintain and make available an accurate record of all employee exposure monitoring, medical surveillance and training records.

XXIII. Silica Management Program

General

Corrado Construction Company, (CCC) has established these safe work practices and procedures to be used when working in areas where Silica Exposure is possible. CCC will determine and evaluate for a safe working environment and when Silica Exposure is eminent precautions will be provided to remove and or minimize risks to all persons.

A copy of this exposure control plan will be available to all employees for examination or copying.

A list of tasks in the workplace that may expose employees to respirable crystalline silica include saw cutting, jackhammering, grinding, grouting, drilling, etc.

Definitions:

Silica (from the Latin *silex*), is a chemical compound that is an oxide of silicon with the chemical formula SiO_2. It has been known since ancient times. Silica is most commonly found in nature as sand or quartz, as well as in the cell walls of diatoms (frustule).[2]

Silica is manufactured in several forms including fused quartz, crystal, fumed silica (or pyrogenic silica), colloidal silica, silica gel, and aerogel.

Silica Dust is also a by product of concrete production and its handling and procedures will be covered under this program and under CCC Hazard Communication program.

Training

CCC will have personnel properly trained in safe work practices related to Silica by a qualified and competent person. This person will instruct on all phases necessary for the removal or the proper ventilating of the hazard.

CCC shall provide training prior to or at the time of initial assignment and will be evaluated at least annually thereafter. The written exposure control plan will be evaluated at least once per year. The training program shall be done in a manner that the employee is able to understand and will include health effects associated with exposure to Silica. CCC will ensure each employee can demonstrate knowledge of the health hazards associated with Silica exposure;

- Location:
- Manner of use:
- Release of Silica in the workplace;
- Engineering controls and work practice controls; Purpose, proper selection:
- Fitting, proper use and limitations of respirators:
- Protective clothing;
- Emergency procedures;
- Measures employees can take to protect themselves from exposure;
- Purpose and description of medical surveillance program;
- Contents of the standard
- Explanation of Table 1

CCC will make a copy readily available without cost to all affected employees. Training shall be documented. A certificate of training will be provided and maintained. All records shall be kept and made available by CCC. The employee's name, date of training, and the trainer's name, will be included in information.

Permissible exposure limit (PELS)

Permissible exposure limit (PEL). CCC shall ensure that no employee is exposed to an airborne concentration of Silica (VI) in excess of 5 micrograms per cubic meter of air (5 $\mu g/m^3$), calculated as an 8-hour time-weighted average (TWA). CCC shall perform initial monitoring to determine the 8-hour TWA exposure for each employee on the basis of a sufficient number of personal breathing zone air samples to accurately characterize full shift exposure on each shift, for each job classification, in each work area. Where an employer does representative sampling instead of sampling all employees in order to meet this requirement, the employer shall sample the employee(s) expected to have the highest Silica (VI) exposures.

CCC shall provide for monitoring or measuring of employee exposure. Periodic monitoring shall be conducted at least every 6 months if initial monitoring shows employee exposure. If exposure monitoring results indicate exposure is above the PEL, CCC will include in written notification the corrective action being taken to reduce exposure to or below the PEL.

If initial monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.

Establishment.

CCC shall establish regulated areas wherever airborne concentrations of Silica are in excess of the TWA in OSHA 1910.1026

Provision of respirators.

Each person entering a regulated area shall be supplied with and required to use a respirator. Each person shall be properly trained in the use of a respirator that meets standard. Respirators shall be used in the following 4 circumstances; *work practice controls, work operations, to reduce exposure, and in emergencies*. CCC shall provide at no cost to the employees and shall be chosen from those approved by NIOSH. Powered, air-purifying respirators should be available when the employees choose to use this type, or when the respirator will provide adequate protection.

No employee will be assigned to tasks requiring the use of respirators if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally using a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Employees will be assigned to another job or given the opportunity to transfer to a different position, the duties of which they can perform. If such a transfer position is available, the position must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay the employee had just prior to such transfer.

Prohibited activities

The employer shall ensure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the regulated areas.

Engineering controls and work practices

CCC shall institute engineering controls and work practices to reduce and maintain employee exposure to or below the TWA and/or excursion limit except to the extent that such controls are not feasible. A written program shall be established to convey safe work practices. The following standard shall be maintained. Wherever the feasible engineering controls and work practices that can be instituted are not sufficient to reduce employee exposure to or below the TWA and/or excursion limit CCC shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements prescribed by monitoring. For the following operations, wherever feasible engineering controls and work practices that can be instituted are not sufficient to reduce the employee exposure to or below the TWA and/or excursion limit prescribed, Local exhaust ventilation and dust collection systems shall be designed, constructed, installed, and maintained in accordance with good practices such as those found in the American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, ANSI Z9.2-1979.

All CCC employees and their subcontractors shall use Table 1. If work cannot be performed under Table 1, then you must stop work and contact your safety manager.

Protection: PPE

CCC will require if an employee is exposed to Silica above the TWA limit, CCC shall provide at no cost to the employee and ensure that the employee uses appropriate protective work clothing and equipment such as, but not limited to: Coveralls or similar full-body work clothing; Gloves, head coverings, and foot coverings; and Face shields, vented goggles, or other appropriate protective equipment which complies with 1910.1026. Contaminated PPE will be removed at the end of the work shift. Employer must clean, launder, repair and replace protective clothing as needed.

Surfaces shall be maintained as free as practicable of accumulation of Silica. All spills and releases of Silica shall be cleaned promptly. Methods of cleaning include HEPA filtered vacuums, dry or wet sweeping, shoveling or other methods to minimize exposure.

Medical Monitoring

CCC shall make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of this section within the last three years. CCC shall provide medical surveillance for each employee who will be occupationally exposed to respirable crystalline silica at or above the action level for 30 or more days per year or when an employee experiences signs or symptoms of the adverse health effects of Silica (dermatitis, asthma, bronchitis, etc). Medical evaluations will be at no cost to employees. Examinations will be performed by or under the supervision of a physician or other licensed health care professional. CCC shall maintain and make available an accurate record of all employee exposure monitoring, medical surveillance and training records.

Hygiene

CCC shall provide change rooms for decontamination and ensure facilities prevent cross-contamination. Washing facilities shall be readily accessible for removing Silica from the skin. Workers must wash their hands and face or any other potentially exposed skin before eating, drinking or smoking.

XXIV. Disciplinary

Purpose

CCC LLC is committed to providing its employees with a 100% safe and healthful environment in which to work. Achieving this goal depends upon the positive actions and attitudes of all employees and their willingness to contribute to an overall team effort.

For the protection of all CCC LLC employees, each individual has an obligation to work by and obey all rules, programs and policies established by the company. Subcontractors shall also comply with these requirements when engaged in work for CCC LLC. Accordingly, violations of such rules, programs or policies will be dealt with as follows:

Serious or Life-threatening Offense

Violations that could potentially cause death, serious injury or property damage may result in immediate termination of employment (i.e. fall protection, unauthorized removal of a lockout, etc.). Examples of these offenses will be discussed upon new-hire orientation and weekly toolbox talk safety meetings. Examples may not be all inclusive; CCC LLC will have the sole discretion in making the determination.

Less Serious or Non-Life-threatening Offense

Violations that would not potentially incur death, serious injury or property damage would be considered a less serious or non-life threatening offense. Examples of these offenses will be discussed upon new-hire orientation and weekly toolbox talk safety meetings. Examples may not be all inclusive; CCC LLC will have the sole discretion in making the determination.

The first substantiated offense for an employee will result in a verbal safety reprimand warning to the employee.

The second substantiated offense for an employee will result in a written safety reprimand warning to the employee.

The third substantiated offense for an employee will result in a suspension from work for three (3) consecutive scheduled workdays, without pay.

The fourth substantiated offense for an employee will result in termination of employment.

Additional Information

The following additional conditions are for clarification purposes only and are not meant to be all-inclusive. The final discretion in making any determination relating to safety violations will be solely CCC LLC's.

1. An offense does not have to be observed to be considered a recordable offense. If an offense can be substantiated by facts, it will be considered a recordable offense. As an example, if an employee falls without being tied off where it is required, it would be a recordable offense even if no one other than the employee observes the fall.

2. The employee or employees who violate the CCC LLC Safety and Health Program will be charged with an offense regardless of whether their action was willful or unintended. It is the employee's obligation to know the rules and regulations. The company is to respond to the employee's request for information and/or equipment in order to work safely, but in no event is the employee to put him/herself in an unsafe work situation.

3. Any supervisory employee who observes an offense and does not actively attempt to rectify the offense will be judged as having also committed the offense.

4. These Disciplinary Procedures do not supersede or replace disciplinary actions—including termination of employment—resulting from work rule infractions such as, but not limited to, tardiness, excessive absenteeism, insubordination and related infractions.

5. Suspensions or terminations of CCC LLC employees are without pay.

6. In all cases after each suspension, the employee will be required to undergo a re-orientation of the CCC LLC Safety and Health Policies and Procedures.

Safety Reprimand Notification

Name: _____ Date: _____

Address: _____

City, State, Zip: _____

Craft: _____

RE: **Safety Reprimand Notification**

You were in violation of _____

_____

_____

_____

at the CCC LLC Project Site _____

_____,

CCC LLC Project # _____on _____, _____

_____.

Date Time

- ☐ This notice is a verbal notice only.
- ☐ This notice is a written notice only.
- ☐ This notice is to inform you of a three (3) consecutive scheduled workday suspension, without pay.

  Beginning on _____, ending on _____.
- ☐ This notice is to terminate your employment from CCC LLC for a serious or life-threatening offense.
- ☐ This notice is to terminate your employment from CCC LLC for repeat less serious or non-life-threatening offenses.

_____ _____

Employee Signature Date

_____ _____

General Foreman Signature Date

_____ _____

Superintendent/Safety Signature Date

XXV. OSHA INSPECTION GUIDELINES

Inspections

What to do when a Compliance Officer arrives at the project site:

1. Be polite, respectful, cooperative. Contact the Safety Department immediately.

   It is appropriate to ask the Inspector to wait until the designated safety representative and the highest-ranking official at the project site is located.

   It is the CCC policy that the designated safety representative and/or the project manager (or highest ranking official at the project site) accompany all compliance officers during the inspection process.

   If the Inspector is seeking to inspect without probable cause or to make an unreasonable inspection of the project site, we may consider requesting that the Inspector obtain a search warrant in order to enter the project site.

   Probable Cause for any inspection exists if the employer has been selected for an inspection by a neutral process (a programmed inspection), if an accident has occurred, if an employee complaint has been filed, or if the Compliance Officer has witnessed a violation from outside the premises. In all these situations (other than a programmed inspection), cause exists only to the extent and scope required to investigate the accident, complaint or violation at issue. We may want to resist efforts to expand an inspection beyond the circumstances for which there is probable cause by requesting a search warrant.

2. Request to see the inspector's credentials. After presenting his or her credentials, the Inspector ordinarily should be allowed to enter the workplace without any undue delay. It is appropriate, however, to ask the inspector the nature of the inspection.

   - General Scheduled Inspection
   - Programmed Inspection
   - Employee Complaint
   - Referral Inspection
   - Special Emphasis
   - Focused Inspection
   - Post Accident Inspection
   - Follow-Up Inspection

Pre-Investigation Conference

Before starting the inspection, the Compliance Officer will explain the nature of the inspection and the general scope. The Compliance Officer will outline records he/she wants to review and the employees he/she wishes to question. We should request permission to notify the following parties that an inspection is underway at the project site:

- The owner
- The general contractor/construction manager
- Safety Department
- Corporate office
- Subcontractors
- Union steward

Rights to Reasonable Inspection

The OSHA Act guarantees employers the right to a reasonable, orderly and fair inspection. The inspection must be:

- At a reasonable time
- Within reasonable limits
- Performed in a reasonable manner
- Conducted so as to question a reasonable number of employees if there is not an authorized representative of employees

If the investigation involves a complaint, the Compliance Officer generally may inspect and interview only with respect to matters reasonably related to the complaint. After preliminary investigation, if we believe that a request is unreasonable, we must use careful judgement and good faith in handling the situation. We can discuss the matter with the Compliance Officer and explain why we think his/her request is unreasonable. If he/she insists on the request, then we may either agree or ask the inspector to wait until executive management and/or the safety department can be consulted. If you have strong convictions that the request is unreasonable and unnecessary, you should consult with executive management and/or the safety department before proceeding.

Avoidance of Disruption

The Department of Labor's regulations direct the Compliance Officer to conduct his/her investigations so as to avoid any undue and unnecessary disruption of the normal operations of the employer. We should inform the inspector of the day's schedule and assist him/her in conducting the investigation so as to least disrupt the work.

What to Do During the Actual Inspection

1. **Accompany the Officer**

   This is an employer's right. The designated safety representative and/or project manager shall accompany the Compliance Officer at all times throughout the inspection process. The OSHA statute gives the Compliance Officer authority to interview employees, privately if he/she wishes, and to examine machinery or equipment. The Compliance Officer also is permitted to take photographs, use a video camera, take samples and use other reasonable techniques. It is of utmost importance we do the same. We should take pictures and samples as close to those of the

Compliance Officer as possible. The Compliance Officer will take video pictures of the work site. Additionally, the officer will record all verbal comments made by persons on the inspection team. Even with the lens cap on the camera, audible admissions may be recorded. There is no requirement that we must answer questions posed by the officer. "No comment" is sufficient. We are not required to make a case against ourselves.

2. **Take Notes**

It is imperative that we take as complete a set of notes as possible, identifying areas visited, equipment and material examined, and employees interviewed. Provide a written description of each ***alleged*** hazard. There is nothing wrong with taking notes during the investigation.

Ask the officer what it is he/she is looking at and ask the officer to identify the hazard. Where possible, fix hazards while the Compliance Officer is present. Fixing hazards is not an admission of guilt.

3. **Representatives Authorized by Employees**

The OSHA statute provides the right for a representative authorized by the employer's employees to accompany the Compliance Officer. This individual in our circumstance will be the union steward. The statute further provides, in the absence of an authorized employee representative, the Compliance Officer "shall consult with a reasonable number of employees concerning manners of safety and health in the workplace."

Post-Inspection Actions

1. **Post-Inspection Conference**

After an inspector completes the inspection, a closing conference will be conducted with our company representatives. The inspector is required to *informally* advise us of any apparent violation. This closing conference is important: **Do not agree we violated the act or any standards during the closing conference.** Any admission of violation of the OSH Act can be used against the company later. Keep very specific and detailed notes of any violations mentioned.

If the inspector believes a violation may have occurred, he/she may tell you that he/she does not know if the company will be cited, but he/she will ask how long it will take to correct those same conditions. Agreeing to have an ***alleged*** unsafe condition(s) corrected within a certain time period becomes our abatement period, assuming we receive a citation. Agreeing to an abatement date is not an admission of guilt. Be sure the work can be done in the time you state.

We do have a say in determining an abatement date. It is not set by the inspector alone. The inspector should ask, “When can you have it corrected?” It is up to us to insist on an adequate abatement period. If the condition to be corrected is a very minor one and is not a problem to correct, and if we recognize that it is an unsafe condition, then agree to an early abatement period (that is, immediately or one day after receipt of the citation). If we question the inspector's reasoning and you feel we are, in fact, in compliance or know that a certain amount of time would be necessary to correct the ***alleged*** unsafe condition, then deny a violation and insist on a longer abatement date usually (15 to 20 days).

NOTE: Remember, the abatement date becomes effective upon receipt of the safety order (citation) from OSHA. Even with immediate abatement, you have one day after the receipt of the citation to correct the ***alleged*** unsafe condition.

Employers generally receive a citation about 30 days after an inspection. If we wait to see what we will be cited for and we agree to an immediate or one-day abatement, then we may not have time to make the correction. Failing to correct within the time allowed may subject the company to a maximum penalty of $7,000 per day for failure to abate. To spend money to correct an ***alleged*** unsafe condition before we actually receive the Safety Order Citation may prove to be a waste if we are not cited on this particular condition. In other words, if it is going to cost the company money and we question the ***alleged*** unsafe condition, make sure the officer is aware of our concern about an issue.

NOTE: It is better to resolve a compliance issue before the officer leaves the site.

If the company has been cited, make sure we correct the cited violations that we decide not to contest. Contact the Safety Department if you need assistance in making corrections.

After receipt of a citation, we will have 15 working days from the actual date of receipt in our office to contest a citation or request an Informal Conference with the Area Director. The purpose of the conference is to make known our concerns about items cited during the inspection. Major changes to citations may be made at the discretion of the Area Director. Usually, the monetary penalty can be reduced by showing “good faith.”

2. **Imminent Danger**

If the Compliance Officer concludes that conditions or practices exist that could reasonably be expected to cause death or serious physical harm before the danger can be eliminated, he/she shall so inform the employer and attempt to get the employer to voluntarily abate the danger. If this should occur and when the danger can be immediately abated, we should do so immediately. The Compliance Officer has no authority to shut down the project *without* a court order. He/she can often obtain such an order, however, in a matter of a few hours. ***We should never have this condition on a project site.***

If we decide that we disagree and cannot abate the danger without a court order, a Compliance Officer can only leave and report to his/her office that he/she is recommending a civil action to restrain or remove the condition.

If we are wrong and the danger is a violation of the Act and a fatality should occur before the court order can remove the danger, you have opened the company to a possible $70,000 fine for a willful violation. Criminal charges could also be filed by the county prosecutor. Common sense should prevail.

3. **Items we especially want to point out to the Inspector are:**

- Company safety and health manual.
- Copies of safety training documentation.
- Copies of safety reprimands to employees and subcontractors.
- Company safety awards and certificates.

4. **Written Records**

If the project is cited for ***alleged*** violations, you should write a report to the Safety Department immediately following the closing conference. This report should provide as much detail as possible—for instance, location of alleged violation, what actually was occurring at the time of

inspection relating to the alleged violation, and what sort of investigation techniques or documentation were used by the inspector. Include any photos, which may have taken.

5. **If the project is cited for an alleged violation, the following items should be noted:**

   - The company will receive by mail a citation with a cover letter stating posting requirements. If these are sent to the main office, the Safety Department will see that the requirements are met for all citations. If, however, it is determined after review with all concerned that the company should contest, the Safety Department will take the correct steps to do so.

   - If the citation is sent to the project site, the Safety Department shall be contacted immediately.

6. **Contesting Citations**

   From the day we receive the Safety Order, we have 15 working days in which to contest, excluding all federal holidays. We may contest whether the violation occurred, its gravity (serious or nonserious), the amount of the penalty, the abatement period, or any combination thereof. If 15 working days elapsed and no contest has been filed, the citation becomes final and binding. We must then pay any assessed penalties and correct all ***alleged*** violations.