C & C Oilfield Service
Health and Safety Manual

To: All C & C Oilfield Service Employees

After reading the C & C Oilfield Service HSSE Manual, if you have any questions, ask any Supervisor or member of Management for clarification. After all questions have been answered, sign this page and return to Human Resources.

I have received the C & C Oilfield Service Safety Manual. Before I conduct any task I will understand all C & C Oilfield Service safety policies. I understand that working safely is the key to efficient production, my personal safety and the safety of my co-workers. I will bring to the attention of my Supervisor or member of Management any safety concern I may have.

_____ _____

Employee Signature Date

_____ _____

C & C Oilfield Service Signature Date

C & C Oilfield Service

Marshall, Texas

SAFETY AND HEALTH MANUAL
for
Managers, Supervisors,
Employees and Subcontractors

30 November 2023

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Health and Safety Policy Statement

C & C Oilfield Service, LLC (hereafter C & C Oilfield) will strive to provide a safe work environment for all of its employees, subcontractors, and clients. Safe working conditions are achieved through efficient communication, thorough hazards analysis and continuous training. In addition, C & C Oilfield will adhere to all regulatory requirements (state, federal, and local), and where these regulations are insufficient, will work to maintain best-industry practices.

C & C Oilfield believes that all injuries are preventable; therefore, we will continually strive to prevent injuries from occurring. Management also recognizes that every employee shares in the responsibility for safety on the job; consequently, safe work practices and timely reporting of incidents and potential accidents (i.e., near misses and unsafe conditions) are a condition of employment.

Everyone is encouraged to provide suggestions and establish high personal goals for eliminating accidents and injuries. Participation in the meetings to discuss the safety aspects of each assignment is mandatory. If the source of a hazard cannot be eliminated, the use of special procedures, safety devices, or protective equipment and clothing must be utilized to reduce the exposure potential. If these measures cannot sufficiently reduce the potential for harm, then the job will not be performed.

C & C Oilfield will take a **proactive approach** to conducting the safety and health program. Incidents and near misses will be investigated, and the pertinent information that is uncovered during the investigation will be distributed or discussed during the following safety meeting. Please refer to the Accident Investigation section for further detail.

Health and Safety Training

Training employees is a means for taking a proactive approach to safety in the workplace. The goal is to train employees on issues that may prevent or eliminate incidents from occurring. When employees take this knowledge and couple it with safety behaviors, the result is a safe work environment.

C & C Oilfield-wide safety training will be held on a regular basis. While Job Safety Analyses are considered jobsite hazard assessments, they are also considered training. JSAs are conducted daily or as the tasks change. A training schedule will be developed to comply with state and federal regulations. Listed below are some examples of subjects that will be trained upon as required by state and/or federal law:

- Hazard Communication
- Personal Protective Equipment
- Incipient Fire Safety; Protection and Prevention
- Bloodborne Pathogens
- First Aid/CPR
- Proper Lifting Techniques/Manual Lifting
- Electrical Safety
- Office Safety
- Continuing Driving Safety Awareness Classes and Vehicle Safety
- Emergency Procedures to include Hazardous Materials
- Substance Abuse
- Lockout/Tagout
- Fall protection
- Hazardous Materials
- Respiratory Protection
- Hydrogen Sulfide
- Hearing Conservation

As the need arises, additional topics will be added to the list. In addition, job-specific training will be provided whenever applicable.

If a property incident, injury or near-miss occurs on a company job site, then the root cause or determining factor in the incident will be addressed at the next safety meeting or sooner if necessary.

Training classes shall be long enough to ensure employee comprehension. In addition, short quizzes will be given periodically to test employees' retention of the material.

Safety Training Attendance Is Mandatory!

Health and Safety Provision Rules

Note: Many of the topics addressed briefly in this section are discussed in more depth within the manual. These rules apply to all C & C Oilfield employees, including managers, supervisors, visitors, subcontractors, and client personnel.

1. Each employee is required to adhere to the safety rules listed in this manual in order to fulfill their responsibility to the safety program. This means that no one is to work in an unsafe situation or condition, and if an unsafe situation or condition exists, then this must be reported and corrected immediately. If this includes shutting the job down, then shutting the job down is permissible.
2. All work-related injuries or illnesses must be reported ***immediately***. This includes first aid (minor injury) incidents.
3. Any vehicle- and/or equipment-related incident must be reported ***immediately***.
4. Any injury that occurred off the job and could result in lost work time must be reported to a supervisor as soon as possible, and no later than two hours prior to the next work shift.
5. All near-misses must be reported to the supervisor before the end of the shift in which they occurred; near-misses will be documented on a Near Miss report. Near-misses will be discussed with all employees during the next safety meeting.
6. Attempts shall always be made to eliminate possibilities of environmental damage. Releases and spills shall be reported immediately and remediate according to the SDS recommendations. All wastes shall be disposed of properly in approved waste disposal sites/reclamation centers.
7. C & C Oilfield employees will follow all client rules and policy recommendations. When there is an absence of these rules, C & C Oilfield will utilize the highest safety standard and inform management.
8. Horseplay or fighting is not permitted at any location.
9. Equipment, materials, and work areas shall be maintained in such a fashion as to minimize hazards. In other words, maintain clean work areas and equipment.
10. Avoid skin contact with all chemicals, beware of other means of bodily entry, and take the proper precautions.
11. The proper personal protective equipment shall be worn at all times. C & C Oilfield requires the use of PPE.
12. The illegal use, possession, transportation, or sale of drugs, alcoholic beverages, firearms, deadly weapons, or explosives while on company or client property is prohibited. The use of prescribed drugs or any over-the-counter drug that might impair your ability to work safely must be reported to the appropriate company representative.
13. Only qualified employees are allowed to operate equipment. The employer shall permit only qualified personnel by training or experience to operate company equipment and machinery.

14. Riding in the bed of trucks or in other non-approved areas is prohibited. "Non-approved areas" include areas that are not protected by a seatbelt.
15. Use the three-point contact procedure when getting on or off any equipment. Do not jump off equipment unless following emergency evacuation procedures involved with power line strikes.
16. Do not walk on pipe or any other non-approved walking/working surface.
17. Smoking is allowed only in designated areas.
18. Whenever a safety device is removed from service and/or otherwise bypassed, the appropriate supervisor shall be notified, the device tagged, and the action properly documented. If equipment is still operating, restrict entry and monitor continuously. Document all actions.
19. No work may be started in any area or on any equipment without the knowledge and consent of the appropriate supervisor/client representative. ***Never operate equipment that you are not trained, certified and authorized to operate.***
20. Job Safety Analyses are to be conducted before each day's tasks begin or as major work scope changes. All persons affected by the work will attend the JSA meetings. If workers show up after the meeting has been conducted, then the workers must be briefed as to the JSA findings. The Supervisor is responsible for this safety briefing.
21. Frequent inspections or analysis' of the work environment involves a variety of work site examinations by competent persons in order to identify existing hazards and conditions and operations in which changes might occur to create new hazards.
22. Operation of equipment having a, "DANGER! DO NOT OPERATE." tag is prohibited.
23. All energy will be controlled through appropriate Lockout/Tagout procedures.
24. Do not attempt to do a job alone that takes at least two people to do correctly. The Supervisor will periodically check on persons working alone. All persons working in remote areas must have a form of communication to summon emergency services if needed.
25. Finger rings, loose clothing, unsecured long hair, wristwatches, and other loose accessories should not be worn when within arm's reach of any unguarded operating machinery or electrical equipment
26. Use only proper tools and equipment maintained in good working condition.
27. Gasoline must not be used for any purpose other than motor fuel. No employee will siphon gas by mouth, pour into the fuel tank of an engine that is running, or use as a cleaning solvent. Gasoline will be transported in approved, metal containers.
28. Use proper lifting techniques when lifting or carrying objects. Use legs to lift, keep load close to body, keep feet shoulder-width apart, and ask for assistance to lift heavy objects are a few reminders in proper lifting.
29. Erect barricades around hazardous work areas such as holes in decking, trenches, overhead hazardous work, open unattended vessels, or hazardous storage.

30. Fall protection shall be worn when working at heights. See the Fall Protection policy for further information.
31. Pay close attention to slip, trip and fall hazards and eliminate those hazards immediately.
32. If a normal procedure must be changed to accommodate the work situation, contact client and C & C Oilfield management before this change is made.
33. All work areas will be equipped with properly working fire extinguishers.
34. Visitors must follow all applicable safety rules as well as be authorized to be in any area.
35. Do not introduce any flame, spark, or sufficient heat (to include non-intrinsically safe equipment) into areas that have a potential for flammable materials/atmospheres. Follow Hot Work Procedures.
36. Follow Defensive Driving techniques when operating motor vehicles. Follow all applicable local, state and federal transportation laws.
37. Do not enter confined spaces unless proper procedures have been followed.
38. All jobsites will have first aid and eye wash supplies readily available and these supplies shall be in good condition.
39. Communication in all aspects is highly important. If you do not understand any directive or procedure, say so. Relay all occurrences that have an effect on safety to supervisors whether you think the occurrence is important or not. Always adhere to the highest safety standards.

Environmental Responsibilities and Training

C & C Oilfield is dedicated to the protection of the environment. C & C Oilfield is committed to fulfilling the moral obligation we all have to protect the environment. Furthermore, C & C Oilfield will meet or exceed all regulatory and client requirements. Damage to the environment is not a short term, but rather a long term problem.

Employees will be taught the environmental regulations and pollution prevention practices that are applicable to their operating responsibilities. Employees are expected to act on their knowledge by performing their job in a way that complies with regulatory requirements and company policies, standards, guidelines, and procedures.

- Pollution control equipment must be maintained in proper working order.
- Seals on packing glands, flanges and other connections must be maintained in good condition to decrease the amount of gases that escape from worn seals.
- Consider nuisance impacts such as odors, smoke and dust and improve as appropriate.
- C & C Oilfield will comply with all client air emission requirements.
- All chemicals will be stored and disposed of properly. All chemical containers will be properly labeled.
- Drums or storage areas will be protected from rain and run off.
- Drip pans will be used to catch any leaks. Leaks will be repaired. Drip pans will be emptied until leaks are repaired.
- Any and all protected plant and animal wildlife will be protected from industrial or other development activities. It is illegal to harm, harass, feed, pursue, wound, capture or possess an endangered species in any way. C & C Oilfield will refer to these protection parameters as provided by clients.
- Plants, animals and artifacts, including but not limited to arrowheads, rocks and fossils, must not be removed from leases.
- Do not allow fuel/oils to leak from vehicles. If this does occur, clean up immediately. Any reportable amount must be appropriately communicated per client requirements.
- All trash and litter will be collected and disposed of properly. Do not let trash become free and blow around.
- Pesticides and herbicides will be applied per manufacturer requirements. These chemicals will not be applied during high wind or rain events. Dispose of pesticide and herbicide containers per manufacturer requirements.
- Do not damage retainer walls around tank batteries. If this is necessary, the wall must be rebuilt to original condition before the task is considered complete.
- All drainage and sump systems must be regularly inspected.
- Perform routine visual inspections of all production equipment for leakage or evidence of corrosion, vibration, excessive wear or other conditions such as erosion that could lead to

the development of a leak or release. Include wellheads, flow lines and production and storage vessels in inspections.

- C & C Oilfield will follow all client SPCC (Spill Prevention and Countermeasure) Plans. The C & C Oilfield Supervisor will ask client representatives about any special procedures needed for these plans.
- C & C Oilfield will assist in client spill investigations and reporting to the best of their ability.
- The first person to become aware of a spill will try to stop the spill if can be done so safely. C & C Oilfield will approach any spill clean up with the proper training, proper containment equipment and applicable personal protective equipment.
- C & C Oilfield employees must be aware of NORM-contaminated wastes (Naturally Occurring Radioactive Materials). Because C & C Oilfield does not own any process that produces this type of waste, C & C Oilfield must rely on client information about possible exposures.
- C & C Oilfield employees will never remove contaminated or potentially contaminated products or waste from any clients' property. C & C Oilfield will assist the client in contacting those companies who are licensed and trained for contaminated waste removal.

C & C Oilfield will follow all Wetlands requirements as found within the Clean Water Act. C & C Oilfield clients must inform C & C Oilfield management and employees of these types of environmental considerations.

Access to Employee Medical and Exposure Records

Introduction and Purpose

The purpose of this program is to inform C & C Oilfield employees of their rights to review their own exposure and medical records and the process for reviewing them. This program meets OSHA's standard 29 CFR 1910.1020.

Definition

"Employee exposure record" means a record containing any of the following kinds of information:

1. Workplace monitoring information
2. Biological monitoring information
3. An SDS or a chemical inventory

"Employee medical record" means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other healthcare personnel including:

1. Medical questionnaires
2. Results of medical examinations
3. Medical options
4. First aid records
5. Description of treatments, employee complaints, etc.

Company Responsibilities

1. Inform C & C Oilfield employees of their right to review their own exposure and medical records and the process for reviewing those records.
2. Upon an employee's first entering into employment, and at least annually thereafter, each the employer shall notify employees of the existence, location and availability of the employee records for exposure to toxic substances or harmful physical agents.
3. Notify C & C Oilfield employees of the person responsible for maintaining and providing access to these records.
4. Conduct environment/workplace monitoring for those employees who are exposed to a toxic substance or a harmful physical agent in the workplace.
5. Conduct biological monitoring as necessary.
6. Trade secret information disclosure must follow requirements as stated in 29 CFR 1910.20(f).
7. Medical records must be retained for the duration of employment plus 30 years.

Employee Responsibilities

- Be aware of the process for reviewing exposure and medical records.
- Follow all written health and safety rules and regulations.
- Follow procedures and guidelines outlined in the Hazard Communication program.
- Participate in monitoring as requested by supervision.
- Wear the appropriate Personal Protective Equipment as specified by the written hazard assessment.

Access to Records

Whenever a C & C Oilfield employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place and manner. If the employer cannot reasonably provide access to the record within fifteen working days, the employer shall within the fifteenth working day apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

Whenever a C & C Oilfield employee or designated representative requests a copy or a record, the employer shall assure that record copies must be provided at no cost.

C & C Oilfield shall, upon request, assure the prompt access of representatives of the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) to employee exposure and medical records and to analyses using exposure or medical records.

Personal Identifiers

When access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), the employer shall assure that personal identifiers are removed before access is provided. If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.

Notification

Upon initial employment and at least annually thereafter, employees shall be informed of the following:

- The existence, location and availability of employee records for exposure to toxic substances or harmful physical agents. The records are maintained in the Human Resources Department as well as in the Safety Department.

- The person responsible for maintaining and providing access to the records. Contact your supervisor to initiate this request.
- Notification can be accomplished by sending an annual letter to all employees or bulletin board postings that specify the above bullet points. The supervisor in charge is responsible for seeing that notification is accomplished.
- The entire section pertaining to the Access to Employee Exposure and Medical Records is available for employee review by contacting the Safety Department.

If you are exposed to a toxic substance or a harmful physical agent in the workplace, you, or your designated representative, are entitled to review and copy:

- Exposure records relevant to your actual or potential exposure.
- Your medical records.
- Analysis using exposure or medical records concerning your working conditions or workplace.
- OSHA's rule 29 CFR 1910.1020 regarding access to employee exposure and medical records.

Recordkeeping

C & C Oilfield's employee exposure and medical records shall be maintained for the duration of employment and for 30 years thereafter and should include the following:

- Environmental (workplace) monitoring including personal, area, grab, swipe (wipe over a designated area), etc. type samples.
- Biological monitoring such as level of chemical in the blood, urine, hair, fingernails, etc.
- Safety Data Sheets (SDS) refer to the Hazard Communication Program for additional information.

Transfer of Records

When an employer is ceasing to do business, the employer shall transfer all records subject to the section to the successor employer. Whenever an employer either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty years, the employer shall:

- Notify company employees of their rights to access those records at least three months prior to the cessation of business.
- Transfer the records to the Director of the National Institute for Occupational Safety and Health (NIOSH) if so required by specific occupational safety and health standard.

Accident-Incident Reporting and Investigation

All incidents, no matter how minor, must be reported to a supervisor immediately. Subcontractors must also comply with this requirement. "Immediately" is defined as within fifteen (15) minutes of the incident, or sooner if the situation dictates. When an incident occurs, it must be reported in a specified manner. The reporting sequence must be posted. The employer must verbally report required incidents to OSHA within 8 hours of their discovery. Incidents must also be reported to the Owner Client as soon as possible or within 24 hours of the incident.

Incidents that are required to be reported to OSHA are work related incidents resulting in the death of an employee, hospitalization, amputation or loss of an eye.

Owner Clients require all incidents to be reported including injuries, spills, property damage, fires, explosions, and vehicle damage.

C & C Oilfield implemented this program in order to establish a protocol for incident reporting and investigation. The Safety Coordinator will be responsible for investigation (or delegating the investigation to another qualified individual) of all incidents (including, but not limited to, fatalities, injuries, illness, and near misses), regardless of size and impact, as soon as is practicable after the incident occurs. The goal of this program is to prevent future incidents by studying the information collected during investigations to determine a root cause and subsequent work practice or procedure changes necessary for safety. This information shall be shared with employees to impede any reoccurrence within current process or like kind processes. Additionally, the investigation will be used to prepare the reports that are required by federal and state regulation, and our insurance provider. These reports are critical in establishing company liability.

In order for the Accident/Incident Investigation Report to be effective, it must contain a detailed answer to the following questions:

1. What was the employee(s) doing?
2. Where was the employee when he/she was injured?
3. What happened -- in detail? Avoid vague responses or statements.
4. What caused the accident? This will be answered in greater detail when a Root-Cause Analysis is completed.
5. What can be done to prevent a similar accident?
6. Employees' name
7. Employees' Supervisor
8. List of witnesses, and their written statements. Locating witnesses, ensuring unbiased testimony, obtaining appropriate interview locations, and use of trained interviewers should be detailed. These witnesses sign and date these statements. The need for a follow-up interview should also be addressed.

9. What was the condition of the equipment involved?
10. What was the proper response to the situation, and could this be improved upon?
11. Did the Job Safety Analysis list the situation that occurred as a potential hazard, and why didn't the method of protection from this hazard prevent the incident from occurring?

At a minimum the following shall also be included in the Accident/Incident Investigation Report:

1. Equipment manuals
2. Industry guidance documents
3. Company policies
4. Maintenance records and schedules (if applicable)
5. Training records
6. Enforcement policy audits and follow-up reports
7. Previous corrective action recommendations

Written incident reports should be prepared and include an incident report form and a detailed narrative statement concerning the events. The format of the narrative report may include an introduction, methodology, summary of the incident, investigation board member names, narrative of the event, findings, immediate corrective actions to be taken, and recommended long term actions required to prevent the recurrence of the incident. Photographs, witness statements, or drawings should be included.

The information gathered in the Investigation Report will be utilized to develop a Root-Cause Analysis—the primary cause of an incident. All incidents will be investigated to the appropriate level with regards to incident severity. Management may require the individuals involved in the incident to meet and discuss the incident. If so, the entire incident scenario will be discussed and recommendations made. The Safety Department will record all notes taken during the Root-Cause Analysis and make the final report available, with recommended actions and date of completion, to all affected employees.

Before investigating, all emergency response needs must be completed and the incident site must be safe and secure for entry and investigation. To prevent further loss, maintenance personnel should be summoned to assess integrity of buildings and equipment, engineering personnel to evaluate the need for bracing of structures, and special equipment/response requirements such as safe rendering of hazardous materials or explosives employed.

The incident investigation should result in corrective actions. Implementation should entail program level improvements and should be supported by senior management.

Training

Prior to an incident occurring, all personnel must be trained in their assigned roles and responsibilities for incident response and investigation techniques. Training requirements relative to incident investigation and reporting should be identified, including but not limited to how and when management is to be notified, who will receive investigation recommendations, and who is responsible for implementing corrective actions. All training should be documented and kept on file.

Employees who could be first responders when an incident occurs should be trained and qualified in first aid techniques to control the degree of loss during the immediate post-incident phase.

Adequate equipment shall be available to perform a proper investigation. The preservation of data collected, isolation of the scene of the incident, and the security of the evidence is a critical attribute of conducting an investigation. The equipment/collection list shall include some if not all of the following:

- Pen
- Paper
    - Witness Statements
    - Notes
    - Confidential Documents
- Measurement equipment (laser distance finder, ruler/tape measures for scene investigation)
- Photography equipment (camera or video/audio recorder)
- Proper PPE
- Marking equipment (Flags, Tape, Stakes, Ribbon, etc.)
- Scene Isolation equipment (Cones, Tape, and/or Guards)

Required evidence includes, but is not limited to, people, equipment, and materials involved, recording of environmental factors (weather conditions, illumination, temperature, noise, ventilation, etc.), physical factors such as age and medical conditions, and witness statements and interviews.

Disciplinary Program

C & C Oilfield considers violations of the safety policy and procedures as serious. A great deal of time and money is spent training employees on the safe and proper way of performing their jobs. When those procedures are violated, progressive documentation of disciplinary actions resulting from those violations shall be completed, utilizing the attached "Employee Violation Form". Failure to follow verbal or written safety procedures, guidelines, and rules, horse play, and failure to wear or abuse of selected PPE constitute a safety violation.

The supervisor of the employee being warned shall complete this form and submit it for review, comment and approval to the Operations Manager and General Manager. When this has been accomplished, a copy shall be placed in the employee's personnel file. The following shall be used as guidelines when completing this form. Under certain situations, however, serious violations may require different or more severe actions, even for first violations. (Example: Drinking/substance abuse on the job).

Physical inspections by management that reveal violations and demonstrate an overall lack of commitment to the C & C Oilfield safety program by supervisors shall also be grounds for disciplinary actions.

The disciplinary protocol is as follows:

1. **First Warning**: Will be grounds for either an oral or written reprimand. An employee's first offense may be grounds for suspension or termination. If the Operations Manager or the General Manager, does not feel that actions taken by the supervisor are in the best interest of the company, documentation must include what actions were taken and justification for non-agreement with the supervisor's actions.

2. **Second Warning**: Will be grounds for a written reprimand or suspension without pay. May be grounds for termination. If the Operations Manager or the General Manager, does not feel that actions taken by the supervisor are in the best interest of the C & C Oilfield, documentation must include what actions were taken and justification for non-agreement with the supervisor's actions.

3. **Third Warning**: Will be grounds for suspension without pay or termination. If the Operations Manager or the General Manager does not feel that actions taken by the supervisor are in the best interest of the company, documentation must include what actions were taken and justification for non-agreement with the supervisor's actions.

Employees Terminated for Safety Related Violations

Any employee terminated for a safety violation will not be eligible for re-hire for a minimum of 180 days from the date of violation. If, after 180 days, a former employee is rehired, that employee will undergo additional training, as necessary, for the previous safety violation.

Employees Terminated for Substance Abuse Violations

Any employee terminated for a substance abuse violation will not be eligible for re-hire for a minimum of 1 year from date of positive test result. The same applies for any pre-employment tests.

Employee Violation Form

Employee Name _____
Date of Warning _____
Employee/Payroll Number _____
Job Number/Location _____

Type of Violation

Attendance	Carelessness	Insubordination
Lateness/Early Quit	Failed to follow instructions	Violated safety rules
Failure to wear or abuse of selected PPE	Willful Damage to Material/Equipment	Lack of commitment to safety program
Unsatisfactory Work Quality	Violation of company Policies or Procedures	Other

Employer Statement Employee Statement

Date of Incident_____ Time _____am pm	_____ I agree with Employer's Statement _____ I disagree with Employer's description of violation. The reasons are:

Action to be taken: Warning Probation Suspension Dismissal
Other_____

Consequences should action occur again:
_____
_____
_____

I have read this Employee Warning Notice and understand it.

_____
Signature of Employee Date

_____
Signature of Supervisor issuing Warning Date

Routing:

Safety Manager (if safety related)/ **Operations Manager**/ **General Manager**/**Personnel File**

Drug, Alcohol and Weapons (Substance Abuse Program)

Purpose of the Policy

C & C Oilfield has established a drug, alcohol, and contraband policy for the following reasons:

1. To assist in providing a safe and healthy working environment for our personnel.
2. To protect our property and the property of our clients,
3. To cooperate with our clients in their efforts to provide safe and efficient operations, and
4. To project a positive image within our community.

Policy Statement

The use, possession, concealment, transportation, promotion, distribution, or sale of the following items or substances by any C & C Oilfield personnel or by any personnel of a C & C Oilfield subcontractor is prohibited on all company premises:

1. Illegal drugs, controlled substances (including trace amounts), look-alike drugs, designer drugs or any other substance which may affect the human body like a narcotic, depressant, stimulant, hallucinogen or cannabinoid.
2. Unauthorized intoxicating beverages.
3. Firearms, weapons, explosives, and ammunition.
4. Unauthorized items: Stolen property, drug paraphernalia, and contraband.
5. Unauthorized prescription drugs.

Working under the influence of any drug is strictly prohibited. Even trace amounts of a drug in an employee's circulatory system are grounds for immediate termination. Remember, what you do at home can and will effect what you do at work.

"Company premises" is defined as any location at which work is performed by C & C Oilfield, or one which is assigned to C & C Oilfield for its use by a client or another contractor, including parking lots and storage areas. Automobiles, trucks and any other vehicle or piece of equipment, whether company-owned or leased, that will be operated in any capacity at a C & C Oilfield location (as defined in this paragraph) is included in this definition.

No prescription drugs shall be brought on company premises by any person other than the person for whom the drug is prescribed by a licensed medical practitioner, and shall be used only in the manner, combination and quantity prescribed. Any employee who is using prescription drugs under a doctor's order must notify his supervisor of the identity and dosage of such prescription drugs prior to beginning work. The employee shall also authorize the company to contact his treating physician to determine if the prescription drug or medication produces side effects, which may be hazardous to the employee's work activity. C & C Oilfield reserves the right to consult with an independent physician to determine the effects of a prescription drug or medication on an employee's ability to work safely and productively. If an employee fails to

inform his supervisor that he or she is taking a prescription medication, disciplinary action will be taken. These policies will be implemented in a manner that will comply with all applicable federal and state laws.

Safety of Workforce--Searches, Inspections, and Drug Testing

In order to ensure the safety of the workplace and the workforce, each employee, as a condition of continued employment may be required upon request of company supervisory personnel to:

1. Submit to a search of any vehicle brought onto or parked on company premises or on any premises on which the company employees are performing work.
2. Submit to a search of any pocket, package, purse, briefcase, tool box, lunch box, clothing, container or materials brought onto company premises or on premises where the company employees are performing work.
3. Submit to searches and inspections of desks, file cabinets, or work areas.

Each employee, as a condition of employment, may be required to submit to blood, urine or other medically approved drug testing procedures to ensure a drug and alcohol free work environment. Drug and alcohol testing for reasonable cause must be determined by a competent person. Employees who are involved in a work related incident will also be submitted for drug and alcohol testing. The drug and alcohol testing may be utilized in, but is not limited to, the following circumstances:

1. Pre-Employment
2. Post Offer
3. Work Related Incident
4. Post-Accident
5. Random testing
6. Reasonable Suspicion
7. Return-to-Duty
8. Follow-up

C & C Oilfield is required to administer drug and alcohol tests to any employees involved in a work-related incident. Any reasonable suspicion drug and/or alcohol testing must be determined by a competent person.

The results of physical examinations and medical testing are confidential and will only be shared with the employee, and those managers who will determine what subsequent action that must be taken, if any. **Employees receiving unacceptable test results will not be allowed to work on Client/Host sites or facilities under any circumstances**.

Random Testing

Selection for random testing shall be done at random times for all employees. Selections shall be made through an unbiased selection process and there shall be no qualifier or exclusions made to limit the availability of the random testing.

Post-Accident Testing

Any C & C Oilfield employee that is involved in a work-related incident or accident, where drug or alcohol use can reasonably be suspected as a contributing factor, must undergo drug or alcohol testing.

Effective Date

The provisions set forth in this policy will be implemented and effective immediately. Each person will be given an opportunity to read the related polices and will sign an acknowledgment that he/she understands the established requirements. Copies will be made available to all employees.

Disciplinary Action

An employee who refuses to submit to a search or inspection, a drug screen, or other approved medical testing procedure will be subject to disciplinary action up to and including discharge. Furthermore, if a detectable quantity of any illegal drug, controlled substance, non-prescription medication, or other substance that has a similar effect on the human body is discovered, disciplinary action, up to and including discharge, will be taken. Compliance with these policies and programs is a condition of employment. The proper law enforcement authorities will be notified whenever necessary or applicable.

Emergency Action Plan

The emergency action plan addresses procedures to be followed by employees when there is an evacuation. It must be in writing, kept in the workplace, and available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees. It must specify who, if any, should remain to operate critical operations during an emergency evacuation. The plan should specify if no employees are to remain. Employees are accounted for by using the JSA/Safety sign-in sheet and or daily time sheet. At the Hallsville office, the role will be taken by the supervisor in the event of an evacuation in the parking area closest to 7220 I-20 W Service Road North. At the Pecos office, the role will be taken by the supervisor in the event of an evacuation in the parking area closest to 22 CR 203. C & C Oilfield does have evacuation routes posted and is compliant with state and federal regulations pertaining to the number of exit routes, identification and lighting.

The plan must contain contact information that will be provided to employees who need additional information pertaining to the plan or their respective duties.

The emergency action plan must state which method the company will use to notify employees of an emergency. The alarm system shall be distinctive and recognizable as a signal to evacuate the work area or perform actions designated under the emergency action plan. For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm provided that all employees can hear the alarm. Procedures for exit route assignments must be assigned.

The employer must designate and train employees to assist in a safe and orderly evacuation of other employees.

C & C Oilfield employees will be trained on the particulars of the site-specific evacuation procedures such as routes, muster points, and accounting for employees.

The emergency action plan should be reviewed with an employee under the following circumstances:

1. When the plan is developed or the employee is assigned initially to a job
2. When the employee's responsibilities under the plan change
3. When the plan is changed

C & C Oilfield has established procedures to follow in the event of an accident, incident, or emergency. Accidents, incidents and emergencies are defined as injuries, releases or spills of company or client product, fires, vehicle incidents, property damage, weather related emergencies, or natural catastrophes. Accidents, incidents and emergencies are differentiated by the cause and magnitude of the event.

The following is a prioritized list of the objectives of a responder to an incident:

1. Reduce human loss and suffering
2. Minimize the loss of public or client property
3. Minimize the loss of C & C Oilfield property

Injury Procedures

When an employee, client, or visitor is injured at a C & C Oilfield work-site, the C & C Oilfield supervisor is responsible for ensuring that first aid is administered, and, if necessary, the proper medical attention is obtained as quickly as possible. In addition, the supervisor must protect other employees and equipment from any resulting or potential hazard, and notify the Safety Coordinator, C & C Oilfield management, and the appropriate client representatives. The supervisor is authorized to delegate these responsibilities in the event that he is an injured party, or his obligation to administer first aid prevents him from completing the subsequent tasks mandated by the incident response. The supervisor must adhere to the following protocol while responding to an accident or emergency that involves an injury:

1. Go to the scene of the incident immediately. Bring first aid materials and a means to record the events.
2. Secure the area and administer first aid to the best of your ability.
3. Summon outside emergency services if necessary.
4. Gather evidence in an attempt to remedy the problem. Look for the underlying causes, such as unsafe conditions or unsafe practices. Proper equipment should be available to assist in conducting an investigation. Equipment may include some or all of the following items; writing equipment such as pens/paper, measurement equipment such as tape measures and rulers, cameras, small tools, audio recorder, PPE, marking devices such as flags, equipment manuals, etc.
5. Collect a statement from the injured person and any witnesses to the accident. Stress the importance of gathering the facts, and discourage employees and/or witnesses from trying to place blame or responsibility. Ask open-ended questions that encourage detailed answers, and listen for additional information in the conversations around you because unsolicited comments often have merit. Initial identification of evidence might include a listing of people, equipment, and materials involved, and a recording of environmental factors such as weather, illumination, temperature, noise, and ventilation.
6. Encourage all employees to voice their ideas for preventing similar accidents.
7. Confer with interested persons about possible solutions.
8. Take photographs of the scene whenever possible.
9. Write the accident report giving complete, accurate accounts of the accident.

10. Follow-up with recommendations to ensure conditions are corrected. Individuals should be assigned responsibilities relative to corrective actions. Lessons learned should be reviewed and communicated. Changes to processes must be placed into effect to prevent reoccurrence of events.

Evidence from an incident, such as people, positions of equipment, parts, and papers must be preserved, secured, and collected through notes, photos, witness statements, flagging, and impoundment of documents and equipment.

Product Spills

While working with or around any chemical, an employee must know what engineering controls, and safe work practices have been implemented for his/her safety, and what personal protective equipment is required while performing the job. Safety Data Sheets will serve as the primary source of information regarding handling, spill, contact, and clean-up procedures.

C & C Oilfield employees work around various chemicals while performing their job. A product release or spill is always feasible, so attention to safety and prevention is critical. These spills pose physical hazards (combustible liquid and/or gases), and health hazards (carcinogens, corrosives). Some spills require professionally trained responders (i.e. Hazwoper), so be certain to reference the appropriate SDS whenever there is a release of product. Response to spills and releases should adhere to the following procedures (each situation will dictate different responses based on spill types/amounts, and these are general procedures):

1. Report all spills to clients and C & C Oilfield immediately (degree of spill amount, reporting and related hazards are left up to the decision of client and management)
2. Summon emergency services per client and management directives.
3. Do not enter the contaminated area without respiratory and skin contact protection. Enter only if you have the appropriate training.
4. Do not try to rescue the person by holding your breath and entering the contaminated area.
5. Even with proper respiratory protection, do not enter a contaminated area without standby help.
6. As soon as the victim is in a safe area, personnel should conduct an assessment to determine if the victim is breathing and perform cardiopulmonary resuscitation (CPR) if needed.
7. Any employee who experiences a significant exposure to any hazardous substance, either liquid or vapor, must report the incident to the supervisor immediately. The supervisor ensures that the safety department has been contacted, and Safety will initiate the applicable protocol for testing and medical response.
8. If toxic materials contact the skin or clothing, remove the contaminated clothing and refer to SDS for first aid procedures. Launder these clothes separately.

9. Clean-up of spilled material is based on Safety Data Sheets and those persons conducting clean-up will be trained and equipped to do so.
10. Personnel should avoid ditches, bell holes, ravines, and other low-lying areas where vapors, fumes, or mists may collect.
11. If necessary, evacuation should be upwind and crosswind.

Fires

C & C Oilfield employees work in environments where there is a potential for fire. Due to this fact, response to fire situations and the reporting of these fires is necessary.

Note: C & C Oilfield does not employ or train fire-fighter level individuals; therefore, fighting fires beyond the incipient stage is not allowed.

1. Notify everyone in area to evacuate and go cross and upwind to a higher elevation.
2. Call emergency response as necessary or send someone to call for emergency response and have that person report back to you as to the status of arrival. Note: Fire departments/emergency response would rather show up to a situation under control than to one that is out of control.
3. Render first aid or summon for first aid assistance.
4. Gather fire suppression equipment. Note: Never fight a fire if there is no adequate fire fighting equipment (the escape path could become blocked), or the fire is spreading beyond control. **Fight fires at the incipient (beginning) stage only. Do not attempt to extinguish a fuel source if the fuel source cannot be eliminated.**
5. Attempt to extinguish fire by aiming at base of fire and using a sweeping motion. Stay at least 4 to 6 feet away.
6. Never turn your back on the extinguished fire. Back away.
7. Stay at area to see if there is re-ignition.
8. If you are alone, and a fire situation occurs, immediately summon help before any other action is taken.
9. Document all actions and occurrences leading up to the fire and all actions taken after the fire started.
10. Have all fire suppression equipment recharged immediately.

Vehicle Incidents

If you are involved in a vehicle incident:

1. Stop at once. Check for personal injuries and send or call for an ambulance if necessary.
2. Do not leave the scene but ask for assistance.
3. Protect the scene. Set emergency signals to prevent further injury or damage.
4. Secure assistance of a law enforcement officer whenever possible. Record Officers' name.

5. Record names and addresses of all witnesses and occupants of involved vehicles. Record vehicle license numbers.
6. Do not argue! Make no statement except to proper authorities. Sign only official police reports. Do not plead guilty or admit fault.
7. Complete accident report stored in vehicle to the best of your ability.
8. Contact your employer.
9. Do not attempt to operate the vehicle. It may have damage that you are not aware of.
10. Assist the Safety Department in their report/investigation process as well as be available for all required drug/alcohol testing.

Property Damage

If any company, public, private, or client property is damaged, follow these procedures:

1. Report the incident to a Supervisor/Management immediately. Even if you think the situation is not serious, the incident must still be reported.
2. Determine if damage is causing or will cause harm to persons and respond appropriately. Example: If a fence is down and cows will get out and onto the road, then this is a situation that could cause harm to persons and does need immediate attention **or** you back over a pipeline riser and bend it slightly, potentially, the stress in the metal could cause line failure.
3. Do not continue to operate equipment until it is deemed safe by a qualified and competent person.
4. Make repairs to the level you are competent for. Never bypass a safety measure or operate unsafe equipment.
5. Document all occurrences.

Weather-Related Emergencies or Natural Catastrophes

1. Hurricanes

The Manager will monitor the phase alerts and assess the situation as the phase alerts are given. He/she will advise all personnel of the hurricane alert and designate responsibilities accordingly. C & C Oilfield management will notify personnel if an evacuation is necessary.

a. A Phase 1 alert will be issued when a tropical storm or a hurricane is formed that could possibly affect area operations.
b. A Phase 2 alert will be issued when it appears that a tropical storm or a hurricane is headed in a direction that will pass through or near area operations.
c. A Phase 3 alert will be issued when it is apparent the hurricane will hit the area of operations, and it is necessary to shut down area operations and evacuate all personnel.

2. Tornadoes

C & C Oilfield management will monitor the two-phase tornado alert system posted by weather agencies:

a. A Tornado Watch is issued when weather conditions are conducive to a tornado.
b. A Tornado Warning is issued when a tornado has been sighted in the area.

C & C Oilfield Supervisors will assess the situation and notify personnel of the severe weather conditions and actions to be taken. All loose materials and tools should be moved inside or secured in place. Following a storm, all personnel must be accounted for. If injuries have been sustained, they must be attended to accordingly.

If a tornado is sighted, and it appears that it will come close or pass over a location, seek shelter if possible. If a shelter is not available, move away from the tornado's path at a right angle. If there is not time to escape, lie flat in the nearest depression, such as a ditch or ravine.

In buildings without basements, take cover in the smallest room with sturdy walls, or under heavy furniture, or a tipped-over couch or chair in the center part of the building. The first floor is safer than higher floors. If there is time, open windows partly on the side away from the storm's approach, but stay away from windows due to debris and flying glass. Mobile buildings, or buildings on blocks, are particularly vulnerable to overturning and destruction during strong winds, and should be abandoned in favor of a pre-selected shelter, or even a ditch in the open.

Parked cars are dangerous during a tornado or severe windstorm; however, as a last resort, if no ravine or ditch is nearby, they may provide some shelter from flying debris to those who lay on the floorboard inside the car. In preparation for storm season, battery-operated radios should be obtained in case of a power loss, related safety rules and procedures should be reviewed, and a training on identifying an approaching tornado, and the subsequent change of work plans to remain near a shelter during a severe storm threat should be conducted.

3. Floods

Carefully determine the area affected by the high water. If possible, do the following:

a. Move equipment and materials to higher ground.
b. Sandbag areas where water can be diverted.
c. Monitor exits to be certain they are not blocked by floodwater.

When driving a vehicle, do the following:

a. Be cautious of obstacles and low spots hidden by the water.
b. Beware of low spots where water currents may be high enough to sweep a person or even a vehicle off the road.

c. Be cautious of driving through water high enough to kill an engine and/or damage a vehicle.
d. If necessary, use vehicles with high ground clearance to ferry personnel through high water.

Be sure the water is not too deep to drive through.

Beware of equipment that is submerged, especially when there is a potential for electrical shock.

Be cautious of snakes, animals, and insects driven from their natural habitat by high water.

Flash Floods

If a flash flood is expected to occur and time permits, supervisors should coordinate the following activities:

a. Shut down the operations.
b. Evacuate all non-essential people out of danger area.
c. Secure all loose material, equipment, etc.
d. Move mobile equipment to higher ground.
e. Evacuate remaining people out of the danger area

After a flash flood has hit the location, do the following:

a. Administer first aid to any injured people and arrange for medical assistance.
b. If a fire, explosion, equipment failure has occurred, follow appropriate procedures.
c. Survey and report damages.

4. Freezing Rain/Ice Storms

When driving in freezing rain or ice, do the following:

a. Minimize traveling until road conditions improve.
b. Be cautious of bridges and overpasses during icy conditions.
c. Watch for fallen power lines, tree branches, etc.
d. If it is necessary to cross a frozen bridge or overpass, reduce speed, approach straight on and drive straight across. Do not touch the brakes, turn the wheels, or accelerate while crossing.

When working in potentially icy conditions at a C & C Oilfield jobsite, do the following:

a. Use salt or sand on slippery surfaces.
b. Be aware of the increase potential for icy conditions on elevated walkways, steps, and ramps, etc. Use salt or sand on these surfaces to minimize the potential.

5. Other Natural Emergency Conditions

Think through what must be done in the event of other natural emergency conditions and be prepared. Discuss emergency procedures and arrange communications, first aid, transportation, and other details before an emergency occurs.

SUPERVISOR'S INCIDENT INVESTIGATION REPORT

THE SUPERVISOR IN CHARGE OF THE JOB SITE IS RESPONSIBLE FOR THE COMPLETION AND ROUTING OF THIS REPORT

EMPLOYEE INFORMATION			**SITE INFORMATION**
1. Date of Report:	2. Date of Incident	3. Time of Incident	10. Customer Name
4. Name of Employee Involved:			11. Location
5. Last 4 Digits Social Security Number			12. Unit or Plant
6. Job Title	7. Pipeline or Facility or Station		13. Name of Supervisor On Site
8. Home Phone Number:			14. Customer Contact and Phone Number
9. Employer: C & C Oilfield Services, LLC			15. Was Customer Notified of Incident? ☐YES ☐NO ☐N/A

TASK INFORMATION

16. Scope of Work (describe)	17. List Tools or Equipment Being Used and Condition
18. Describe Task Being Done At Time of Incident	19. List All PPE Used At Time of Incident

INJURY INFORMATION

20. Describe Injury and Indicate Body Part Affected:

21. Describe Object, Tool, or Substance Involved in Injury:

22. List Witnesses

Name	Employer	Phone Number

23. Describe Immediate Actions (First Aid, Transportation of Injured, Actions to Prevent Recurrence)

TREATMENT INFORMATION

24. Describe Treatment Given:

Was Drug & Alcohol Tests Administered ☐yes ☐no

25. List any Medications Given	26. Name and Address of Hospital or Doctor:

INCIDENT CAUSE

27. Check Causes That Contributed to the Accident/Incident

☐ Design of equipment or facility.	☐ Improper or inadequate personal protective equipment
☐ Job planning or instructions	☐ Personal protective equipment not used
☐ Rules or procedures not followed	☐ Chemical Exposure
☐ Incorrect body position	☐ Improper vehicle operation
☐ Incorrect or misuse of tools	☐ Environmental factors (weather, wet floors, high winds, etc,)
☐ Guarding or protective device missing	☐ Animal, Reptile, or insect
☐ Improper operation of equipment	☐ Inattention
☐ Housekeeping	☐ Action of others
☐ Lack of maintenance or inspection	☐ Other

28. Root Cause Identification

CORRECTIVE ACTIONS

29. Describe Corrective Actions:

30. Describe Follow-Up Actions –

31. Completion Date for Corrective Actions	32. Responsible Individual & Title
32. Prepared By / Title:	33. Reviewed By / Title:

OSHA REPORTING **(to be completed by General Manager)**

Status	Category		MANAGEMENT REVIEW
☐ Recordable	☐ Medical Treatment (other than first aid)	Number of Lost Days 0	Monthly Management Review – Sign & Date
☐ Not Recordable	☐ Lost Time (one or more days)	Date of First Lost Day N/A	
☐ Pending	☐ Restricted Work or Motion	Number of Restricted Days N/A	Initials Please:
	☐ First Aid Only		
	☐ Vehicle Accident		
	☐ Near Miss	Date of First Restricted Day N//A	

General Safety Policy

C & C Oilfield believes that all work can be performed without people being injured or the environment being damaged. To help make this philosophy a reality and to allow C & C Oilfield employees to apply it to their daily activities, a health and safety and environmental management system was created.

C & C Oilfield is committed to providing a safe and healthful work environment, and has developed a Safe Work Manual to provide a framework for leadership at all levels in the company. This emphasis on health and safety culture is part of what makes C & C Oilfield a great place to work. The management team is committed to providing the leadership and resources to achieve a *world-class* safety system with *world class* results. Indeed, this is what our customers expect. It is our belief that both C & C Oilfield employees and subcontractors will share in the successful implementation of the Safety Management System.

Management is continually taking initiative to strategically improve the safety culture by:

- Improving safety awareness by providing orientation, training and education
- Employing best industry work practices
- Ensuring proper assessment and mitigation of hazards in the workplace
- Ensuring frequent and regular inspections of job sites, materials and equipment by a competent person
- Ensuring proper reporting and investigation of incidents
- Implementing behavior-based techniques to instill safety as a value
- Establishing rules for situations where employees refuse to work due to imminent danger
- Controlling documents and records
- Ensuring only qualified employees are allowed to operate equipment
- Reviewing performance and setting annual goals and objectives for safety performance

An overall safety policy has been developed to provide guidance to the health and safety performance C & C Oilfield intends to achieve. The policy is supported by the Safety Values, which is signed by all members of senior management. The policy is made available to our employees, clients, sub-contractors and the general public. The Safety Values posting is prominently displayed in C & C Oilfield offices and includes the signatures of the employees at that location.

Safety management is integral to all aspects of operations at C & C Oilfield, and composed of eight structured and documented elements designed to ensure and demonstrate that health and safety objectives are met. These elements are:

1. Policy
2. Organization, Responsibilities, and Objectives

3. Risk and Regulatory Management
4. Administration
5. Operations
6. Monitoring and Control
7. Audit
8. Management Review and Continual Improvement

Company Safety Values

The safety values of C & C Oilfield are an integral part of the overall corporate philosophy towards safety. Each office has a copy of this as a printed pledge with room for both managers and employees to sign showing their commitment to the Values. New employees are asked to sign during the orientation process.

We Believe:

- All incidents and injuries are preventable
- Leadership is required for success in safety
- Each of us has a personal responsibility for our safety and the safety of others, both on and off the job.
- No job is so important that it will be pursued at the sacrifice of safety
- Working safely is a condition of employment

We Will:

- Dedicate the appropriate time, energy and resources to making safety an everyday part of what we do
- Perform a hazard analysis prior to each job task
- Report all safety hazards, injuries and incidents, including near misses and first aid cases
- Refuse any request to perform work that is unsafe
- Actively participate in creating a culture that embraces safety

Specific Guidance for Use of Tools and Machinery

The proper use of tools and equipment is a key concern to C & C Oilfield. Employees must be sure to follow all manufacturer procedures for the use of tools and equipment. First, employees must have training in the use of tools or machinery. For hand tools, this can be done locally by experienced personnel. For complex machines, such as aerial lifts, the training will be structured, taught by certified professionals and documented. Specific procedures for this type of equipment are contained elsewhere in this manual.

Most importantly, employees are instructed not to use a defective tool, one in need of repair or calibration. Use of such tools (or machinery) is prohibited. Defective tools must be clearly tagged "Out Of Service," and placed out of the work area until repaired and ready for use.

Safety Management System Policy

The management of C & C Oilfield expects that all personnel will work in a safe manner. The management will support all safety practices and codes recognized in our industry and will ensure that all employees have access to the approved personal protective equipment, proper tools, a safe environment and appropriate training. We expect the employees of C & C Oilfield to practice safe working procedures and habits so as not to incur injury to themselves, their co-workers, clients or the general public.

It is a C & C Oilfield philosophy that a goal of *Zero Injuries* is possible, and we are committed to continually develop a strong culture to ensure a positive attitude toward safety. This policy of protecting our employees is also protecting their families, friends, fellow workers, the public and the environment from the ripple effect of serious incidents.

It is our goal to become industry leaders through our performance, adherence to regulations and our Safety Management System.

All employees of C & C Oilfield are able to access the contents of this safety manual and other safety related documents. We welcome suggestions with respect to improvements in our Safety Management System.

Housekeeping And General Waste Management

Good housekeeping must be maintained to assure the safety of all C & C Oilfield employees. The more aware employees are of hazards, the safer the workplace will be. Good housekeeping will prevent injuries, cultivate to a safer work place, and promote a more efficient jobsite.

- Maintain all work, lunch, and break areas in a clean and orderly manner.
- Work areas, stairways, walkways, etc. must be kept clear of portable tools, materials, equipment, and other trip hazards. Return tools and other materials to their appropriate storage location, and clean up messes periodically as you work to maintain tidy work spaces.
- C & C Oilfield must estimate the waste that will be generated **prior** to work being performed so that the need for containers and waste removal, if necessary, can be determined.
- C & C Oilfield employees must be instructed on the proper handling, storage, and disposal method of wastes, whether they be hazardous or not. This may include general instruction on disposal of non-hazardous wastes or scrap materials.
- Employees shall be trained on the site-specific waste management procedures prior to their initial assignment and upon any changes in the site-specific waste management plan.
- The contractor must ensure the owner is aware of whether wastes and scrap materials will be taken off site by the contractor or will be disposed of on the owner's site.
- Provide adequate space for tools, supplies, and material storage. Everything needs a place.
- Electrical cords are not to be placed across walkways. Secure cords to prevent tripping hazards. All unused electric cords, welding leads, etc. shall be rolled up and placed out of the walking path of any workers.
- Combustible scrap, leftover materials and debris should be removed from work area at regular intervals.
- Waste materials should be properly stored and handled to minimize the potential for a spill or impact to the environment. During outdoor activities, receptacles must be covered to prevent dispersion of waste materials and to control the potential for run-off.
- Proper waste receptacles must be provided for trash and materials that may be reused or recycled during a project.
- Nails, staples, and wires protruding from boards, boxes, shipping containers, etc. must be removed or bent down immediately.
- Provided containers must be used. Deliberate and willful scattering of trash will not be tolerated.
- Any and all work areas must be cleaned before the job can be accepted as being complete.

- Washrooms are provided for personal needs and must be used for these purposes. They are to be kept clean and orderly at all times.
- Electrical cords are not to be placed across walkways. Secure cords to prevent tripping hazard.
- All spills, no matter the substance, should be cleaned up immediately and disposed of properly. Spills may cause slips and falls. If a spill occurs, please protect yourself and others by cleaning it up.
- In order to work efficiently, the work place must be clean and orderly.
- Keep tools out of aisles and returned to their proper storage place. You can prevent a serious accident by picking up tripping hazards.
- Provide adequate space for temporary storage of tools, supplies, and materials during processing.
- Containers shall be provided for collection and separation of all refuse. Covers shall be provided on containers used for flammable or harmful substances.
- Proper segregation of waste materials should be practiced to ensure opportunities for reuse or recycling.
- Store oily rags in approved containers to prevent spontaneous combustion and/or exposure to ignition sources.
- Throw all trash and scrap in the proper containers.
- It is the responsibility of each C & C Oilfield employee to keep his/her assigned area as clean as possible. To ensure proper disposal or reuse, the employer must assign the responsibility for proper waste or scrap materials disposal to an employee either by title or position. Good housekeeping shall be maintained on a shift-to-shift basis.

Preventive Maintenance

The purpose of the Preventive Maintenance program is to identify and correct potential problems before they become failures. Preventive maintenance will also help to maximize the life span of our equipment.

C & C Oilfield will maintain an inventory of all machinery and equipment. This inventory list will be kept current with any additions and deletions of equipment.

C & C Oilfield will create a file for each piece of equipment that is included in the preventive maintenance programs. The file should contain any applicable records regarding the use, maintenance, and ownership of the equipment. Maintenance must be documented, and the records will be retained for the life of the machinery or equipment.

A preventative maintenance schedule will be established for each piece of equipment that is covered by this program. The preventive maintenance schedule must comply with the manufacturer requirements, and must incorporate considerations for the industry standards, and the environment the equipment will be operated in. For example, certain geographical and/or climate conditions may necessitate service more frequently than the manufacturer's recommendations.

Equipment and machinery operators are expected to inspect equipment prior to use. If an operator discovers a problem, the defective equipment must be removed from service, locked and or tagged out-of-service appropriately, and the problem must be reported to a supervisor. The equipment cannot be used until all necessary repairs are made, or the defective components are replaced.

Record Keeping

Documentation and record keeping is a critical component of any effective safety program. Furthermore, documentation is necessary to substantiate the training and other performance markers the company maintains to support the demands of federal regulations, and operator/client requirements.

OSHA Logs (OSHA 300 & 300A Logs)

OSHA logs are used to document work-related injuries, illnesses, and fatalities. Proper record keeping is paramount to maintaining accurate logs. Employees charged with the responsibility to maintain the company's OSHA logs must be properly trained on the federal recording protocols prior to assuming the responsibility.

Only recordable cases are added to the OSHA 300 Log. The employee responsible for maintaining the log must ensure that an injury or illness meets the following stipulations:

1. Injury or illness is work-related
2. Injury or illness is a new case (new injury/illness—not the result of a previous recordable)
3. Injury or illness meets one or more of the general recording criteria

Recordable cases must be investigated and documented within seven (7) calendar days of receiving information that a recordable injury or illness has occurred. An OSHA 301 Incident Report, or other equivalent form must be completed within the same time period. (Follow the guidelines of the **Accident/Incident Reporting and Investigation** chapter of this manual while completing the investigation.)

At the end of the year, the employee(s) responsible for maintaining the OSHA 300 Log must complete the OSHA 300A Summary utilizing the information contained in the 300 Log. A company executive must certify that he or she has examined the OSHA 300 Log and that he or she reasonably believes that the annual summary is correct and complete. The OSHA 300A Summary must be posted from February 1st through April 30th in a visible location such that all employees can view it. The posting must be in a conspicuous place where notices to employees are customarily posted. If the document is obstructed, tampered with or otherwise damaged during the allotted timeframe, it must be replaced.

All of the relevant injury, and illness information and documentation collected, including the OSHA 300, 301, and 300A Logs) must be maintained for at least five (5) years following the end of the calendar year that the incident occurred.

ALL OSHA LOGS (300, 301, 300A) MUST BE MAINTAINED AS COMPLETELY AS POSSIBLE WITH THE INFORMATION AVAILABLE. EVERY EFFORT MUST BE

MADE TO ENSURE THAT THE DOCUMENTED INFORMATION IS COMPLETE AND ACCURATE.

Additional Records

Below is a table of required records, minimum retention times, and inspection/audit frequencies. While C & C Oilfield does not generate all of these records at this time, work situations may change that would require additional record retention.

The Safety Department, along with Human Resources, is responsible for generating and storing these records. These records shall be stored in a manner where there is no potential for damage.

Note: When C & C Oilfield joins a client in completion of a work permit, the C & C Oilfield Supervisor shall make an attempt to obtain a copy of the permit for record keeping purposes.

Safety records are kept for the following reasons:

- Trend analysis
- Medical and health records
- Training documentation
- Audit requirements
- Legal requirements
- OSHA requirements
- Personal protective equipment requirements
- Client requirements

Required Records	Minimum Retention Period	Inspection/ Audit Frequency
Accident/Incident reports	6 years (indefinitely)	As needed
Audiometric Tests	Indefinite	Annually
Dosimetry samples	Duration of Employment + 30 years	When a change occurs
Hearing Conservation Program	3 years	As needed
Sound Level Surveys	Indefinite	As needed
Location Diagram of Sound Levels	Current	As needed
Employee notification of Dosimetry results	Duration of Employment + 30 years	As needed
Employee exposure records (including monitoring, samples, medical records)	Duration of employment + 30 years	As needed
Bloodborne Pathogen Exposure Control Plan	Current	Annually

Bloodborne Pathogen Immunization/Declination Forms	Duration of employment + 30 years	As needed
Bloodborne Pathogen Incidents and Exposures	Duration of employment + 30 years	As needed
Bloodborne Pathogen Training	3 years	As needed
CPR/1st Aid Training Records	3 years	As needed
CDL Driver Qualification File	Duration of employment + 30 Years	Annually
Confined Space Entry Permits	Current year + 1 Year	Annually
Confined Space Program Review	Current	Annually
Confined Space Training Records	3 years	As needed
Safety Data Sheets	Indefinitely	Annually
OSHA 5-in-1 poster	Current	Annually
OSHA citations	Current/Hold Indefinitely	Annually if applicable
Hazard Communication Program	Current	Annually
Master Chemical List	Current	Annually
Hazard Communication Training Records	3 years	As needed
HAZWOPER Incident Management Plan	Current	Annually
HAZWOPER Training Records	3 years	Annually
Employee Orientation	Duration of Employment	As needed
Job Safety Analysis (JSA)	Current + 6 months	As needed
Safety Meeting attendance	3 years	As needed
Safety Training Records	3 years	As needed
Vehicle Registration, Insurance	Current	As needed
Insulating equipment test documentation and certification	Life of Equipment	Annually
Electrical Safety Training	3 years	Annually
Emergency Alarm and Evacuation Procedures (Drills)	Current	Annually
Forklift Training Records	3 years	As needed
Daily Forklift Inspections	1 year	Daily
Lock Out/Tag Out training records	3 years	Annually
LO/TO program review	Current	Annually
Personal Protective Equipment Hazard Assessment	Current	As needed
PPE Training Records	3 years	As needed (such as change in hazards)
Respiratory Protection Program Evaluation	Current	Annually

Respiratory Hazard Assessment	Current	As needed
Respiratory Protection Procedures	Current	As needed
Respiratory Protection Training	3 years	As needed
Medical Evaluations	Duration of employment + 30 Years	Annually
Respirator Use Questionnaire	Duration of employment + 30 Years	As needed
Fit Tests	Current	As needed
Respirator Inspections	Current	Monthly
Grade D Breathing Air: 1. Purchased Air 2. Produced Air	 1. 10 years 2. 10 years	 1. Batch 2. Every 90 days or before each use
Hot Work Permits	Current, 1 – 6 months	As needed
NORM Survey	Indefinitely	As needed
H2S Training	3 years	As needed
H2S Medical Records	Duration of employment + 30 Years	As needed

Restricted/Light Duty and Case Management

Restricted duty provides employees who have experienced a work-related illness or injury with work during the time that they are unable to complete all of their regular job duties. C & C Oilfield, based on the health care provider's input, will arrange restricted duty work to accommodate the needs of the company and the needs of the employee. While on restricted duty, C & C Oilfield, and the healthcare provider will monitor the employee's progress. At no time will the employee on restricted (light) duty exceed the physical limits established by the healthcare provider. The healthcare provider will be provided a statement of company letterhead stating that C & C Oilfield is providing modified work duties to employees who are unable to perform their regular duties.

Proper authorization for restricted duty should be obtained in writing prior to an employee's starting any restricted duty work. All such medical correspondence will be maintained in the employee's file. Human Resources are responsible for sending to the employee a Bonafide Offer of Employment that corresponds with the work limitations established by the healthcare provider. ***Whenever possible, restricted duty should be recommended over absence from work, unless the healthcare provider feels that any work in any capacity is not medically advisable.***

Restricted Work: Purposes and Benefits

Employees are our most valued assets. Their safety and well-being are a major concern for C & C Oilfield. When our employees are injured or ill, it is our intent to assist them with a quick recovery and return them to meaningful employment as soon as possible.

To that end, a period of Restricted Duty work:

1. Minimizes the injury's impact on the employee and C & C Oilfield
2. Promotes rapid recovery from injuries/illness
3. Provides a safe and timely transition back to work

The employee and company benefit when C & C Oilfield can offer an injured employee meaningful temporary Restricted Duty:

The Employee:

1. Tends to recover more quickly;
2. Participates in some type of work activity as soon as he/she is medically able;
3. Experiences a smoother transition back to regular duty;
4. Feels improved self-esteem in spite of medical condition;
5. Maintains relationships with co-workers and management; and
6. Sees management's commitment to employee welfare.

The Employer:

1. Keeps a trained and experienced worker;
2. Reduces the costs associated with the loss of production and replacement of an employee;
3. Improves work ethic;
4. Promotes employee morale/security; and
5. Fosters better communications with employees.
6. Communicates safe return to work through a:
    - Safety meeting
    - Safety talk
    - New hire orientation
    - Bulletin board

Restricted Duty is recommended by C & C Oilfield when:

1. The employee's medical condition temporarily prevents the employee from performing his or her full regular duties, including full-time work; or
2. The C & C Oilfield physician:
    a. Believes the employee's condition is temporary, and will probably improve with an appropriate amount of time and/or treatment;
    b. Feels that the maximum medical improvement has not yet been attained
    c. Has provided instructions for specific restrictions in writing to the employer

General Information – Guidelines

C & C Oilfield will closely evaluate physician recommendations for Restricted Duty. The physician will re-evaluate all employees on Restricted Duty on a periodic basis to be established by the company and its Safety Department. C & C Oilfield management and the physician will continuously review the appropriateness of continuing Restricted Duty. The following are some general guidelines about Restricted Duty:

1. Restricted work assignments are temporary and are intended to facilitate a return to regular duty. Restricted duty assignments are not intended or permitted to become permanent.
2. Only the healthcare provider can recommend permanent limitations, since these may impact employment (This is not generally done by the healthcare provider unless maximum medical improvement has been reached.).
3. Extension of Restricted Duty beyond 30 days should be based upon discussions with the healthcare provider and upper C & C Oilfield management. (The advisability of extending the restrictions beyond 30 days may vary related to the medical condition/injury or manpower needs.)

4. Restricted Duty should be extended only when it is determined by the healthcare provider that the additional time would facilitate a return to full regular duties.
5. Restricted Duty extensions should not adversely affect the Department's operational goals or the objectives of the transitional work process.
6. Restricted Duty assignments must be offered to the employee as soon as he/she is released for Restricted Duty by the healthcare provider.
7. There is no set limit on the number of employees permitted to participate in Restricted Duty at any one time. However, multiple Restricted Duty assignments at any given time may impact company operations; consequently, limits on the number of employees, and the amount of time on Restricted Duty shall be at the sole discretion of C & C Oilfield.
8. The healthcare provider's recommendations will be taken into consideration when offering the number of hours and days on Restricted Duty.
9. The assignment can be less than 40 hours per week but cannot exceed 40 hours per week.
10. The employee will get paid at his full customary rate while on Restricted Duty.

Communication Responsibilities of Employees and Supervisors

Employees are required to either arrive for work on time, or to notify their supervisor before the start of their shift, so that he has time to replace or cover the absent or tardy employee.

When an employee does not show up for work, he must call his supervisor the first day that he fails to come to work and tell the supervisor the reason, explicitly noting if the reason is a work related injury or illness. He or she must contact C & C Oilfield before going to the healthcare provider for work-related injuries or illnesses. If an employee is absent and does not call by noon, the supervisor should attempt to contact the employee by phone. If the employee informs his Supervisor that his absence from work is due to a work-related injury, the C & C Oilfield Supervisor shall immediately contact the Safety Department to coordinate the medical attention for the injured employee.

Supervisors should communicate with employees who are on Restricted Duty status on a regular basis. This can be done via phone, mail or e-mail.

C & C Oilfield Supervisors and the safety department must document all information related to the employee's injury or illness and it must be kept confidential.

The Supervisor will attend a monthly meeting with Safety and C & C Oilfield management to discuss the Restricted Duty cases and to develop pro-active plans to return the employee to regular duty. The injured employee should attend these meetings and give thoughts about his ability to return to work, date of next doctor's appointment, and the need for modification of duties to support progress toward return to full duties.

Those employees who are not working due to a work-related injury must be contacted by their immediate supervisor weekly. These contacts must be documented. Supervisors will review the employee's condition with the employee and verify that the employee's needs are being met, and

discuss plans to return to work (restricted or regular duty). Furthermore, the Supervisor will secure the employee's ideas on recovery and return-to-work opportunities.

Supervisors should review Restricted Duty assignments with the employee weekly to:

1. Review appropriateness of the work assignment
2. Reinforce safe work behaviors
3. Request revisions in the Restricted Duty from the healthcare provider if it seems relevant
4. Provide appropriate communications with employee's supervisor when the employee is working in a different C & C Oilfield work area

Restricted Duty Assignments

Supervisors and Safety should contact C & C Oilfield management as soon as they are aware that a worker is to go on Restricted Duty.

Employees that are on Restricted Duty are to be assigned to the same general work shift, and to the same workweek that they were assigned to prior to their injury. If Restricted Duty is not available in the same work area, management will attempt to provide an alternative.

No overtime is allowed for Restricted Duty participants.

The assignments must be designed to provide meaningful tasks to the employee, assist with the employee's recovery, enhance productivity and reduce cost.

Restricted Duty is not	Restricted Duty is
Punitive	Productive and necessary
Permanent	Temporary
A promotion	Supervised
A "Job"	Rotational/variable tasks

Restricted Duty Offer/Refusal of Restricted Duty Assignment

After the employee is seen by the healthcare provider and is given the appropriate Restricted (Light) Duty paperwork, he must provide a copy to both the safety department, and his immediate Supervisor.

While the company has the option of limiting the type and amount of Restricted Duty based on feedback from the healthcare provider and according to operational needs, a company request for an employee to report to work in a specific capacity (e.g., in a "restricted duty capacity" or a "normal duty capacity") is a fundamental job requirement. As such, employees are required to comply with the request to report for work in order to maintain his or her employment. Failure to report on time, to work in the requested capacity, or to perform the designated duties could result in the termination of employment.

Training

All employees shall be trained in and be familiar with this policy.

Subcontractor Management Plan

C & C Oilfield utilizes subcontractors, and all subcontractors are expected to adhere to the safety standards outlined within this policy. In addition, all company subcontractors will abide by the requirements provided by C & C Oilfield's clients. Adherence with the safety policies of C & C Oilfield, and the client, is expected; failure to follow both company and client safety procedures is grounds for removal from the jobsite and potential termination of all future work relationships.

C & C Oilfield strives to complete all of its projects without any incidents. Subcontractors are expected to strive for the same and to utilize communication, stop-work authority, morning tailgate safety meetings, and the JSA to accomplish this goal.

C & C Oilfield utilizes several factors while evaluating subcontractors for hire; these factors include, but are not limited to, past safety and productivity performance, a risk analysis, and job-site personnel.

Past performance

It is the intent of this program to make the selection of subcontractors an equitable process. In order to ensure an equitable process, C & C Oilfield will utilize a matrix to evaluate the past performance of its potential subcontractors—evaluating key performance indicators in both safety and productivity against subcontractor's industry and competitor standards. It is the intention of C & C Oilfield to utilize subcontractors whose safety and productivity performance exceeds their industry standard in the following criterion.

Evaluations include:

1. Ability to manage the project cost (minimize change orders)
2. Ability to maintain project schedule (complete on time or early)
3. Quality of workmanship
4. Safety Performance Indicators (evaluating at least the following)
    a. OSHA logs
    b. Total Recordable Incident Rate
        i. A TRIR of less than 1.0 is always preferred.
        ii. Utilizing a contractor with a TRIR greater than 1.5 requires a variance by both the safety department and senior management following an in-depth examination of the incidents on the OSHA log.
    c. Experience Modifier Rate (if applicable)
        i. An EMR of less than 1.0 is preferred.
        ii. Utilizing a contractor with an EMR greater than 1.15 requires a variance by both the safety department and senior management following a review of the contractor's safety performance during the previous 3 years.

    d. Request for any applicable citations from regulatory agencies within the last 36 months. Subcontractors that have received a citation within the last 36 months have to receive a variance from the safety department and upper management before hiring.
    e. Review a sample of recent jobsite safety analyses (JSAs)
    f. Review of the subcontractor's safety manual—ensuring that the appropriate safety standards are included and covered adequately.
5. Professionalism and ability to manage (include responses and prompt payment to suppliers and subcontractors)
6. Close-out process (no punch list on turnover; warranties, as-builts, operating manuals tax clearance, etc. submitted promptly)
7. Communication, explanation of risk and documentation
8. Ability to follow the user's rules, regulations and requirements (housekeeping, safety, etc.)
9. Overall customer satisfaction and hiring again based on performance (comfort level in rehiring contractor)

Risk Analysis

The risk analysis should not be complex. In fact, it should be brief and concise. In most cases the risk analysis should not be longer than two pages. On some very complex or large projects, it may be necessary to add a couple of pages. The risk analysis should only address those issues that are unique to the project that will present unique challenges, or require special treatment.

Job-site personnel

The key jobsite personnel should be reviewed prior to the start of the job to ensure they are qualified for the project. Management and crews with the appropriate experience, qualifications, and expertise are essential to the successful completion of every project.

Inclusion and Participation of Subcontractors in Project Safety Initiatives

Everybody working for C & C Oilfield, including employees and subcontractors, is expected to abide by the safety standards outlined in this program.

1. Subcontractors assigned by the company to a project will attend the initial safety and kick-off meetings, project safety orientations, and all incident, injury, and illness response planning and coordination meetings.
2. Subcontractor personnel will participate in these and other such activities as schedule in preparation for working safely at the project location.
3. Subcontractor personnel will utilize, cooperate with, attend and support all pertinent components of safety programs and procedures; safety orientations, training, etc.

4. Subcontractors will attend and participate in C & C Oilfield' Jobsite Safety Analysis (JSA) and any tailgate safety meetings conducted each day at every job site. This attendance does not take the place of the subcontractors' regularly scheduled safety meetings/training. C & C Oilfield is not responsible for training subcontractor employees.
5. Subcontractors will designate a qualified Safety Representative for each job. This person will work in conjunction with C & C Oilfield Management and Safety.
6. All subcontractor employees will work in conjunction with C & C Oilfield employees in order to ensure workplace safety. All parties, whether individually or as a group, are responsible for stopping work if a hazard exists. Subcontractors are responsible for bringing safety concerns to C & C Oilfield management.
7. Subcontractors will abide by all local, Federal, and State laws.
8. Subcontractors' suppliers will abide by the same conditions herein.
9. Subcontractor will report all near misses and incidents to C & C Oilfield immediately.

Each subcontractor is responsible for the safety of his employees. The Subcontractor is responsible for the action or inactions of his employees. Subcontractor is responsible for protecting his employees from the byproducts of work conducted, i.e. fumes, silica, and chemical exposure.

These guidelines and procedures are minimum requirements and are not a substitute for an active subcontractor safety program. Likewise, each subcontractor will institute safety per job/client specific requirements.

Subcontractor will maintain the following records, and these records are subject to C & C Oilfield inspection for pre-qualification:

1. Record of all industrial injuries;
2. Individual injury reports;
3. Safety training rosters;
4. Job site inspection reports;
5. Results of any OSHA or regulatory agency report;
6. Subcontractor HSE Employee Manual
7. All other safety-related documentation

C & C Oilfield reserves the right to employ subcontractors or discontinue employment of subcontractors based on safety history and performance.

Subcontractors are responsible for providing trained and qualified employees that are willing to follow all applicable safety regulations.

General Safety Rules for Subcontractors

The following rules are guidelines that reinforce the subcontractors' safety programs. These guidelines are not intended to provide the exact, written context of the subject matter. The following information highlights key information. The final application of all safety requirements is the sole responsibility of each Subcontractor.

- Unsafe workmanship, hazardous risk taking, and horseplay will not be tolerated at any time.
- Subcontractors will limit access to those areas which are deemed within the subcontractors' scope of work.
- Subcontractors will provide necessary facilities to meet the needs of their employees.
- Subcontractor will provide adequate storage for equipment brought to the job. C & C Oilfield is not responsible for subcontractor equipment.
- Fighting, gambling, possession of firearms, possession or use of alcohol or unauthorized drugs will be reasons for subcontractor removal from jobsite.
- Smoking is allowed in authorized areas only.
- All personal protective equipment will be worn on the job as hazards and/or the client dictate. At a minimum, hard hat, steel toe foot protection and safety glasses will be worn.
- Grinding shields will be worn when grinding or buffing.
- Splash goggles will be worn when handling chemicals.
- All vehicles operated on C & C Oilfield or client property will be operated in a manner that reduces the chance for injury or property damage.
- Good housekeeping is mandatory.
- Subcontractors will provide first aid services for their employees.
- If friable asbestos materials are found at a jobsite, work will cease and this discovery reported to the C & C Oilfield Supervisor. Do not disturb asbestos unless properly trained and the proper equipment is available.
- Fall protection is required anytime an employee is exposed to a 6 feet fall hazard or more.
- Defective or damaged tools or equipment shall not be used.
- Tools and equipment shall be used for the purpose for which they were designed.
- Ground-fault circuit interrupters will be used for all 120-volt service.
- A competent person will inspect all work areas for safety hazards, report hazards to C & C Oilfield if found, and assist in the correction of any hazard.
- Combustible materials and hazardous chemicals will be properly stored.
- Subcontractor will determine, before work begins, whether or not a work permit is required or special considerations are to be met.
- Compressed gas cylinders will be stored properly by tying back and installing caps on unused bottles.
- Care will be taken to minimize trip hazards.
- Equipment will not be fueled while it is hot.
- Subcontractors will provide fire extinguishers as the job situation dictates.

- Subcontractors will not fight fire beyond the incipient stage.
- Subcontractors will participate in lockout/tagout by applying their locking device, and by being available to remove the lock and supervise the subsequent start up.
- Subcontractors will be aware of emergency procedures and must be capable of summoning emergency assistance.
- All potential underground facilities will be marked and the location of each known before the ground is broken
- Unless authorized in writing, subcontractors are not allowed to operate C & C Oilfield equipment.
- If a subcontractor does not completely understand the task at hand, he will stop and ask for further clarification from the subcontractor supervisor and then the C & C Oilfield supervisor if enough information is not obtained.
- Equipment will be chocked when parked on uneven terrain, and the emergency brake must be set.
- Sparks, heat, flame or non-intrinsically safe equipment will not be introduced into areas that may have explosive or hazardous atmospheres. If sparks, heat, flame or non-intrinsically safe equipment must be introduced into these areas, a Hot Work Permit must be completed.

Post-job Safety Performance

1. On conclusion of a project, the Company will make a timely review of each subcontractor's safety performance, incident and injury experience, and other factors that will be helpful in evaluating the subcontractor's suitability for future projects.
2. In the event that a subcontractor exits or is terminated from a project that remains in progress, a review will be performed.
3. Post-project evaluations will be performed by the Company Safety Coordinator in coordination with company managers and supervisors who worked with the subcontractor during the specific project under review.

At the end of each contract, the subcontractor's performance will be inspected to ensure:

- Proper housekeeping
- No damage has occurred to the premises.
- Work was completed in accordance with specifications.
- Generated wastes have been properly handled and disposed of per the contract between the company and the Subcontractor.
- No hazardous materials are left on the premises.

Abrasive Blasting

Scope

These procedures apply to all C & C Oilfield employees. The procedures must be used where applicable in conjunction with other established safe work procedures such as:

- Hot Work
- Confined Space Permits
- Lockout/Tagout
- Respiratory protection
- Personal protective equipment
- Lead handling and asbestos

Requirements and Guidelines

Employees operating abrasive blasting equipment must be trained in the safe operation of that equipment in accordance with manufacturers' user instructions as well as best industry practices and C & C Oilfield safety procedures.

Employees will be trained on the appropriate techniques for inspecting equipment, and the procedures to follow if equipment is not functioning properly.

Designated blasting areas must be established based on the size of the project and composition of materials being used and removed. Note: Designated areas may also include areas downwind of the blasting operation (i.e. harmful atmospheres and damage to property). Access to designated areas should be limited to workers involved in the abrasive blasting operation.

Shielding may be required for coatings containing lead or asbestos. Unless documented and proven to C & C Oilfield, all materials must be tested to determine their composition before blasting. Work area preparation includes but is not limited to:

- Marking the area with warning signs
- Covering any sewer drains
- Covering air intakes and protecting instrumentation

Appropriate work permits in accordance with safe work procedures must be completed.

Equipment

Equipment must be installed, operated, and maintained in a safe and productive manner in accordance with the manufacturer's operating guidelines. Equipment must be inspected daily to ensure that all equipment is in working order, and there is no visible damage. If blasting

equipment is ever in need of repair, the equipment must be taken out of service until it is properly repaired or replaced.

Breathing air compressors (oil-less air pump) capable of providing Grade D breathing air must be located in a dust-free, contaminant-free area. If an oil-lubricated breathing air compressor is used to supply respirators, it should be equipped with a high-temperature monitor and a carbon monoxide monitor. A breathing air filter for the removal of moisture and particulate matter must be present.

The blast air compressor must be sized to provide sufficient volume (cfm) for the nozzle and other tools, plus a 50% reserve to allow for nozzle wear. Ensure the compressor has a large outlet and large air hose (4-times the nozzle orifice size). Follow the manufacturer's maintenance instructions.

The blast hose must have an internal diameter of 3 to 4 times the size of the nozzle orifice. Lines should be run as straight as possible from machine to work area with no sharp bends.

Abrasive blast material must be properly sized and free of harmful substances, such as free silica. C & C Oilfield personnel will refer to SDS for chemical hazards.

Static Electricity

Organic abrasives which are combustible shall be used only in automatic systems. Where flammable or explosive dust mixtures may be present, the construction of the equipment, including the exhaust system and all electric wiring, shall conform to the requirements of American National Standard Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, Z33.1-1961 (NFPA 91-1961), and Subpart S of this part. The blast nozzle shall be bonded and grounded to prevent the build up of static charges. Where flammable or explosive dust mixtures may be present, the abrasive blasting enclosure, the ducts, and the dust collector shall be constructed with loose panels or explosion venting areas, located on sides away from any occupied area, to provide for pressure relief in case of explosion, following the principles set forth in the National Fire Protection Association Explosion venting Guide. NFPA 68-1954.

Waste Disposal

C & C Oilfield will properly dispose of all waste or byproducts of abrasive blasting. Some surfaces containing lead, asbestos, arsenic, barium, cadmium, chromium, zinc, or nickel may require special disposal. C & C Oilfield will contact client representative for waste disposal instructions. C & C Oilfield employees will use engineering means and then personal protective equipment to protect themselves from these byproducts.

Workplace Monitoring

The exposure of affected C & C Oilfield employees via inhalation, ingestion, skin absorption, or any contact with any substance or material at a level of concentration above those recommended by the "Threshold Limit Values of Airborne Contaminants for 1970," published by the American Conference of Governmental Industrial Hygienist (ACGIH), and subsequent publications must be avoided.

Abrasives and surface coatings on the materials blasted are shattered and pulverized during blasting operations and the dust formed will contain particles. The composition and toxicity of the dust from these sources shall be considered in making an evaluation of the potential health hazards.

Unless exact concentrations of hazardous substances are known, (in the absence of analysis), any concentrations and/or amount of substance shall be considered IDLH. When this condition does exist, personal protective equipment shall be provided for extreme (high) concentrations (worst case scenario). Full shift personnel samples are to be a representative of the employee's regular, daily exposure to silica.

If analysis is conducted, personal protective equipment shall follow all Safety Data Sheet requirements as to the found concentration levels. For example, Lead exposures (at a minimum) must not exceed the OSHA interim final PEL of 50 micrograms per cubic meter of air (50 ug/m(3)) averaged over an 8-hour-period. When feasible engineering controls and work practice controls cannot reduce worker exposure to lead at or below 50 ug/m(3), respirators must be used to supplement the use of engineering and work practice controls.

At all times, engineering practices, such as: exhaust ventilation, enclosure/encapsulation, isolation, etc., will be utilized initially to remove hazardous substances. If ventilation is used, analysis must still be conducted to determine that levels are below the Threshold Limit Values (TLV's). In the absence of analysis, even when engineering practices are used, condition remains IDLH.

Personal Protective Equipment

All personnel who are performing abrasive blasting operations and anyone working inside the designated area must wear PPE. Protective clothing should include heavy coveralls or a special blast suit, designed to protect the employee from flying debris. Some area may require fire-retardant clothing. PPE for eyes, face, and hands will be issued to all employees involved in abrasive blasting operations at no cost to the employee. **NOTE:** Leather gloves, eye protection, and safety shoes must be worn.

Personal Hygiene

1. All sandblasters MUST wash their hands and faces before eating, drinking, or smoking.

2. No eating, drinking, or tobacco products in the blasting area (sign marked area).
3. Workers should wash themselves as much as possible before leaving the worksite.
4. Workers should change into clean clothes before leaving the worksite.
5. Workers should change into disposable or washable work clothes when arriving at the worksite.
6. Vehicles should not be parked in contaminated areas.

Respirators

Supplied air helmets or hoods are generally required for those directly involved with abrasive blasting. Supplied air respirators used for abrasive blasting must be National Institute for Occupational Safety and Health (NIOSH) approved for this purpose. Employees outside the immediate blast area but within the direct hazard area (dust vicinity) are required to wear air-purifying respirators with the appropriate cartridges. Refer to the C & C Oilfield Respiratory Protection Policy.

Air utilized for abrasive blasting respirators must be free from harmful quantities of dusts, mists, or noxious gases.

Atmospheric Hazard	Work Activity	Concentration	Respirator	End of Service Life
Metal Dusts	Machining, Grinding	<50 mg/m3	Filtering Face piece: 3M 8710	8 hrs.
Acid Gas	Escape	IDLH	90 AG Scott Escape Mouth Bite with Acid Gas Cartridge	NA
Ammonia	Escape	IDLH	3M 6200 Half Face Mask with 6004 Ammonia – Methylamine Cartridge	NA
Misc.	Escape	IDLH	Scott SCBA	30 Minutes

Respirators shall only be distributed by personnel who are trained to ensure that proper respirators are issued. At C & C Oilfield the Safety Coordinator is responsible for issuing respirators. They are responsible for verifying that personnel have been Medically Evaluated, Fit Tested, and Trained before the respirator is issued. Respirators shall be used in

accordance with the recommendations and requirements of the manufacturer. Copies of the instruction manual shall be available for the applicable respirator upon request.

TYPES OF RESPIRATORS C & C Oilfield employees may use:

1. **Air-purifying respirator**

   These respirators remove air contaminants by filtering, absorbing, adsorbing, or chemical reaction with the contaminants as they pass through the respirator canister or cartridge. The respirator is to be used only where adequate oxygen (19.5 to 23.5 percent by volume) is available. Air-purifying respirators can be classified as follows:

   a. Particulate-removing respirators filter out dust, fibers, fumes and mists. These respirators may be single-use disposable respirators or respirators with replaceable filters.
   b. Gas- and vapor-removing respirators remove specific individual contaminants, or a combination or contaminants by absorption, adsorption or by a chemical reaction. Gas masks and chemical-cartridge respirators are examples of gas- and vapor-removing respirators.
   c. Combination particulate/gas-and-vapor-removing respirators, which combine the respirator characteristics of both kinds of air purifying respirators.

2. **Supplied-Air Respirators**

   These respirators provide breathing air independent of the environment. Such respirators are to be used when the contaminant has insufficient odor, taste or irritating warning properties, or when the contaminant is of such high concentration or toxicity that an air-purifying respirator is inadequate. Supplied-air respirators, also called airline respirators, are classified as follows:

3. **Demand**

   This respirator supplies air to the user on demand (inhalation), which creates a negative pressure within the face piece. Leakage into the face piece may occur if there is a poor seal between the respirator and the user's face.

4. **Pressure-Demand**

   This respirator maintains a continuous positive pressure within the face piece, thus preventing leakage into the face piece.

5. **Continuous Flow**

   This respirator maintains a continuous flow of air through the face piece and prevents leakage into the face piece.

6. **Self-Contained Breathing Apparatus (SCBA)**

   This type of respirator allows the user complete independence from a fixed source of air and offers the greatest degree of protection but is also the most complex. Training and practice in its use and maintenance is essential. The type of device will be used in emergency situations only.

Identification of Respirator Cartridges and Gas Mask Canisters

Respirator cartridges and canisters are designed to protect against individual or a combination of potentially hazardous atmospheric contaminants, and are specifically labeled and color-coded to indicate the type and nature of protection they provide. C & C Oilfield employees, through the assistance of the Safety Department, will ensure all respiratory protection matches the hazards present.

All C & C Oilfield employees will understand the NIOSH-approval and limitations of the particular respirator being used.

Selection of N, R, and P-series filters:

When determining the type of respirator to choose for non-powered particulate respirators, C & C Oilfield will abide by the following directives:

- If no oil particles are present in the work environment, use a filter of any series (i.e., N-, R-, or P-series)
- If oil particles (e.g., lubricants, cutting fluids, glycerin, etc.) are present, use an R- or P- series filter.

Note: If oil particles are present and the filter is to be used for more than one work shift, use only a P-series filter. N-Series filters cannot be used if oil particles are present.

Note: To help you remember the filter-series, use the following guide: N for Not resistant to oil, R for resistant to oil and P- for oil Proof.

C & C Oilfield will always attempt to purchase and use 99.97% efficiency filters. If these are not available, 99% efficiency will be purchased next, followed by 95% efficiency as a last alternative.

Respirator Selection Guide

C & C Oilfield will use the following Respiratory Selection Guide. If a process, hazard, or material is not listed, consult the SDS before selecting a respirator.

Task	Hazard	Type of Respirator
Abrasive Blasting	Abrasive Blasting	Silica Abrasive: Airline With abrasive blasting Helmet/ hood
Welding & Cutting	Fumes/ gases	Half-face piece respirator with fume cartridge or airline respirator
Spray painting (Organic solvents, Paints)	Vapors/ mists	Half-face piece respirator with organic cartridge Airline Systems Depending on type of paint; Note: If lead Based paints, must Use a combination HEPA and organic vapor cartridge.
Road dusts/ Construction	Dust	Depending on levels from total or toxic dust, disposable Respirator or half-Face piece respirator With dust filter or HEPA cartridge
Herbicides/ Pesticides	Depends on Formulation	Refer to SDS
Carbon Monoxide	Carbon Monoxide	Airline Respirators, Special approved gas masks with ESLI
Confined space entry	Toxic Atmosphere Deficiency Possible IDLH If IDLH environment	Pressure-demand Airline, Full-face piece respirator A minimum of 5-minute escape Cylinder is required to be worn in conjunction with the airline
Emergency Response	Toxic atmosphere	SCBA

NOTE: All employees will refer to the chemical SDS to determine the proper and necessary respiratory protection.

Hearing Protection

Due to the noise generated by abrasive blasting, hearing protection must be worn at all times in blasting areas.

Eye Protection

All employees involved with abrasive blasting must wear eye protection. Blast helmets and hoods will have built-in eye protection.

Personnel that are not blasting but are within the regulated areas must wear safety goggles. Face shields with built-in safety goggles are available for additional eye protection.

Abrasive Blasting of Storage Tanks Containing Volatile Liquids

The following conditions must be met before tanks containing volatile liquids can be blasted.

- Abrasive blasting must not be conducted during periods of product movement either into or out of the tank. Ensure that the suction and fill lines have been blocked and locked, in accordance with Lockout/Tagout procedures.
- All leaking or weeping seams must be properly caulked to prevent escaping vapors (remember pressure build-up). After caulking, the seams are to be tested for combustible vapors.
- Two 10-pound fire extinguishers must be present and certified. All vents are to be covered with appropriate material to help prevent vapors escaping or air entering.
- Abrasive blasting hose must be wire-wrapped (conductive type) and bonded to the tank being abrasive blasted.
- All open sewers must be covered, vents or drains must be closed, and air must be checked to ensure an acceptable atmosphere.
- Abrasive blasting must not be conducted within 6 feet of vents, gauge hatches, or any other uncovered opening.
- Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.

Abrasive Blasting Inspection

The items below should be inspected before each work shift during which abrasive blasting will be conducted. The C & C Oilfield Painting/Blasting Foreman or designee will conduct and document the inspections. The inspection should insure that all employees:

- Wear proper PPE in or adjacent to the blasting area.
- Use properly maintained NIOSH-approved respirators. All respirator components will be present. Helmets will never be used without inner lens in place. Inspect all respirator components for cleanliness and wear.

- Verify that the breathing air hoses have the correct fittings and that they are in proper working order. Also check the condition of the hose for excessive wear or abuse.
- Check breathing air source. Breathing air should be regulated for correct pressure, according to the hood manufacturer's recommendations.
- If using a breathing air compressor, check the first filter for color change. Color change takes place as a part of the normal process of filtering. The filter should be changed according to the filter manufacturer's recommendations.
- Before using a breathing air cylinder, check the cylinder pressure and confirm the proper oxygen content in the breathing range of 19.5 to 23%.
- Ensure potential atmospheric releases are directed away form the work area, and open drains are covered to protect drain systems.

Equipment to be sand blasted

Ensure the necessary permits have been completed, the equipment isolated, and the atmosphere tested.

Ensure that all C & C Oilfield client property is protected as well as C & C Oilfield property to include sight glasses, nameplates, electrical fixtures, etc.

Blasting Equipment Inspection

Blasting equipment must be inspected on a daily basis. The following are a list of components that must be inspected:

- Ensure hose couplings and nozzle holders are fitted snugly to the hose-end and installed using the proper coupling screws.
- Inspect the fittings and components to be sure that they are correctly sized and will not hamper airflow.
- To maintain the proper air pressure, worn coupling gaskets and fittings that are leaking should be replaced before blasting commences.
- Coupling lugs must be snapped firmly into the locking position.
- The blast cleaning nozzles shall be equipped with an operating valve which must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.
- Gaskets must form a positive seal with safety pins inserted through pinholes. Replace gaskets if they show signs of wear, softness, or distortion.
- Safety cables are installed at every connection to prevent disengagement.
- Check nozzle holder for worn threads. Replace nozzle when it is 1/16 inch larger than original size or if liner appears cracked.
- Inspect and test remote controls without turning on abrasive metering valves.
- Check precise start and stop response times.

- Check hood for sanitation.
- Check the windows on the hood to see that they are clear and that the rubber seals around the windows are in good condition.
- Verify that the interior sock fits closely around the neck and the exterior cape seals with the hood. Verify all parts of the hood assembly are in good condition.

CAUTION: Never mix brands of components.

Control of Visible Emissions

Abrasive blasting should be conducted in such a manner that does not interfere with the adjacent property. If abrasive blasting causes materials to drift onto adjacent property or roadways, shrouding or other control measures must be taken.

Dust shall not be permitted to accumulate on the floor or on ledges outside of an abrasive-blasting enclosure, and dust spills shall be cleaned up promptly. Aisles and walkways shall be kept clear of steel shot or similar abrasive which may create a slipping hazard.

Employee Training

No employee is permitted to sandblast until he/she has fulfilled the Respiratory Protection policy requirements, including a respirator fit test, medical evaluation, and respiratory protection training. All sandblasters will be medically evaluated annually.

All C & C Oilfield employees that participate in abrasive blasting will receive training, as well as refresher training, in the following areas:

- Information about the potential harmful effects of silica exposure
- Safety Data Sheets for silica, alternative abrasives, or other hazardous materials
- Instruction about obeying signs that mark boundaries of work areas containing crystalline silica
- Information about safe handling, labeling and storage of toxic materials
- Discussion about the importance of engineering controls, personal hygiene, and work practices in reducing crystalline silica exposure
- Instruction about the use and care of appropriate protective equipment (including protective clothing and respiratory protection)

Employee Reporting of Illness

C & C Oilfield requires all employees to report any signs of illness and this includes any respiratory illness. Failure to follow abrasive blasting policies may cause illness. C & C Oilfield will properly report all cases of silicosis to the State Health Department and to OSHA or MSHA.

Silicosis: Signs and Symptoms and Adverse Health Effects

When workers inhale the crystalline silica used in abrasive blasting, the lung tissue reacts by developing fibrotic nodules and scarring around the trapped silica particles. This fibrotic condition of the lung is called silicosis. If the nodules grow too large, breathing becomes difficult and death may occur. Silicosis victims are also at high risk of developing active tuberculosis.

The silica sand used in abrasive blasting typically fractures into fine particles and becomes airborne. Inhalation of such silica appears to produce a more severe lung reaction than silica that is not freshly fractured. This factor may contribute to the development of acute and accelerated forms of silicosis among sandblasters.

A worker may develop any of three types of silicosis, depending on the airborne concentration of crystalline silica:

- **Chronic silicosis** usually occurs after 10 or more years of exposure to crystalline silica at relatively low concentrations.
- **Accelerated silicosis** results from exposure to high concentrations of crystalline silica and develops 5 to 10 years after the initial exposure.
- **Acute silicosis**, which occurs where exposure concentrations are the highest and can cause symptoms to develop within a few weeks to 4 or 5 years after the initial exposure.

Silicosis is characterized by shortness of breath, fever, and cyanosis (bluish skin); it may often be misdiagnosed as pulmonary edema (fluid in the lungs), pneumonia, or tuberculosis. Silica dust causes severe fungal infections to develop. This condition could be fatal.

Aerial Lifts: Vehicle-Mounted Elevating and Rotating Work Platforms

Extendable and articulating boom work platforms, and vehicle mounted elevating and rotating aerial devices may be used in daily operations at C & C Oilfield, and may be utilized in the future. Mechanical equipment, particularly load and personnel bearing equipment, must be inspected regularly to insure the health and safety of employees. The following safe work practice guidelines and inspection criteria have been established to minimize the risks associated with the operation of this type of equipment.

Aerial lifts acquired for use on or after January 22, 1973 shall be designed and constructed in conformance with the applicable requirements of the American National Standards for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before January 22, 1973 which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they shall have been modified so as to conform with the applicable design and construction requirements of ANSI A92.2-1969.

General Safe Work Guidelines

- Only authorized persons shall operate an aerial lift.
- Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.
- Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.
- Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
- An approved fall restraint system shall be worn and attached to the boom or basket when working from an aerial lift and is not permitted to be attached to adjacent poles or structures.
- Boom and basket load limits specified by the manufacturer shall not be exceeded.
- The brakes shall be set and outriggers, when used, shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline.
- An aerial lift truck may not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation.
- Articulating boom and extendable boom platforms, primarily designed as personnel carriers, shall have both platform upper and lower controls. Upper controls shall be in or

beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

- The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.
- Use outrigger pads when necessary to provide firm footing.

Operation

Before Operation

Before being authorized to use the work platform, the operator shall:

1. Be instructed by a qualified person in the intended purpose and function of each of the controls
2. Understand by reading or by having a qualified person explain all decals, warnings, and instructions displayed on the work platform.

Prior to use on each work shift, the work platform shall be inspected for defects that would affect its safe operation and use. The inspection shall consist of the following:

1. Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition. Tests shall be made at the beginning of each shift during which the equipment is to be used to determine that the brakes and operating systems are in proper working condition.
2. Visual inspection for cracked welds or other structural defects, hydraulic leaks, damaged control cables, loose wire connection, and tire damage.
3. Operating controls and associated mechanisms for conditions interfering with proper operation.
4. Visual and audible safety devices for malfunction.
5. Fiberglass and other insulating components for visible damage or contamination. (if applicable)
6. Missing or illegible operational markings.
7. Electrical apparatus for malfunction, signs or excessive deterioration, dirt, and moisture accumulation.

Any suspect items shall be carefully examined and a determination made by a qualified person as to whether they constitute a safety hazard. All unsafe items shall be replaced or repaired per manufacturer specifications.

Before the work platform is used and during use, the job site shall be checked for hazards such as ditches, drop-offs or holes, bumps and floor obstructions, debris, overhead obstructions and high-voltage conductors, and other possible hazardous conditions.

During Operation

The work platform shall be used only in accordance with the manufacturer's/owner's operating instructions and safety rules.

Before each elevation of the work platform, the operator shall:

1. Check for overhead obstructions and high-voltage conductors. A minimum distance from energized high-voltage conductors shall be maintained at all times in accordance with applicable regulations and standards.
2. For lines rated 50 kV. or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet.
3. Make sure the work platform is elevated only on a firm and level surface.
4. Make sure the load and its distribution on the platform and/or load lifting devices are in accordance with the manufacturer's rated capacity. The manufacturer's rated work load shall never be exceeded.
5. Any loading which includes a horizontal load shall be avoided unless the mobile unit is designed for that application.
6. Make sure outriggers or stabilizers, if required, are used in accordance with manufacturer's instructions.
7. Make sure platform guardrails are properly installed and gates or openings are closed.
8. Check to see that all occupants' safety belts are on and properly attached.

Before driving with an elevated boom or platform, the operator shall:

1. Look in the direction of, and keep a clear view of, the path of travel, and make sure that the path is firm and level.
2. Maintain a safe distance from obstacles, debris, drop-offs, holes, depressions, ramps, and other hazards to safe elevated travel.

3. Maintain a safe distance from overhead obstacles.

4. Not use a vehicle with an obstructed view to the rear, unless the vehicle has a reverse signal alarm audible above the surrounding noise level or the vehicle is backed up only when an observer signals that it is safe to do so.

Under all travel conditions the operator shall limit travel speed according to conditions of ground surface, congestion, slope, location of personnel, and other factors causing hazard of collision or injury to personnel. ***Stunt driving and horseplay shall not be permitted.***

Personnel shall maintain a firm footing on the platform while working thereon. Safety harness/lanyard devices fixed to attachment points provided and approved by the manufacturer shall be used by all occupants. Use of railings, planks, ladders, or any other device on the work platform shall be prohibited.

The operator shall immediately report to his supervisor any defects or malfunctions which become evident during operation. Any defects or malfunctions that affect the safety of operations shall be repaired prior to continued use of the work platform.

Altering, modifying, or disabling safety devices or interlocks is prohibited.

Care shall be taken to prevent ropes, electric cords, hoses, and the like from becoming entangled in the work platform when it is being elevated, lowered, or moved.

Work platform rated capacities shall not be exceeded when live loads are transferred to the platform at elevated heights.

The operator shall ensure that the area surrounding the work platform is clear of personnel and equipment before lowering the platform.

Maintain communications between the driver and the operator.

The vehicle parking brake(s) shall be set at all times when the boom is elevated except when the aerial device is being used for mobile operation.

Additional Requirements

Fuel Tanks. Fuel tanks shall not be filled while the engine is running. Caution shall be used while filling tanks to avoid spilling fuel.

Battery Charging. Batteries shall not be charged except in an open, well-ventilated area free of flame, smoking, spark, and fire.

Modification or Alteration. There shall be no modification or alteration to work platforms without the modifications being approved and certified in writing by the manufacturer or other equivalent entity, such as a nationally recognized testing laboratory.

Inspection

Prior to operation, the work platform shall be inspected. Any discrepancy found shall be reported and documented.

Inspection and Test Records

The operator will be responsible for daily inspection prior to initial use each day. Records of these inspections need not be made. However, where a safety hazard is found, it shall be reported in writing to a person responsible for the corrective action.

Maintenance

Maintenance and frequency of maintenance shall be determined by the user based on the recommendation of the manufacturer.

Maintenance referred to as critical by the manufacturer's manual shall be strictly adhered to.

Welding repairs or welded components, designated as critical in the manufacturer's recommendations must be performed by a certified and authorized repair technician. Should the original manufacturer no longer exist an equivalent entity may determine the required procedure.

Asbestos Program

C & C Oilfield employees will occasionally be assigned to a job that involves asbestos. In most cases, this asbestos will be found in pipe coating. While working with or around asbestos, employees must follow the guidelines outlined in this program. Asbestos awareness training shall be provided to employees who do not perform asbestos abatement or removal, but have the potential to come into contact with asbestos in the performance of their duties.

C & C Oilfield employees will not be exposed to any airborne asbestos unless he/she has been trained on and abides by these guidelines.

Scope and Application

Covers asbestos exposure in all work as defined in 1910.12(b), regardless of the type of worksite or location. Affected work activities include, but are not limited to the following:

- Demolition or salvage of structures
- Removal or encapsulation of materials
- Construction, alteration, repair, maintenance, or renovation
- Installation of products containing asbestos
- Spill/emergency clean up
- Transportation, disposal, storage, containment and housekeeping activities are performed
- Manufacturing of heat-resistant clothing
- Automotive brake and clutch linings
- Variety of building materials including insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet and fire-resistant drywall
- Pipe and boiler insulation materials
- Pipeline wrap and sprayed-on materials located on beams, in crawlspaces, and between walls

All employees who perform work in regulated areas are covered by this program.

Definitions

Asbestos: chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically altered; includes PACM. Asbestos can be defined as friable which means that the material can be crumbled with hand pressure which will likely cause it to emit fibers. Non-friable forms would generally not emit fibers unless they were subjected to sanding or sawing operations.

ACM: asbestos-containing material," any material containing>1% asbestos

PACM: "presumed asbestos-containing material"

Competent Person: An individual capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure and has the authority to take prompt corrective action to eliminate them (complies with 1926.32(f)).

Permissible Exposure Limits

- Time-Weighted Average Limit: 0.1 fiber/cubic centimeter as an 8-hour TWA
- Excursion Limit: 1.0 fiber/cubic centimeter as averaged over 30 minutes

Exposure Assessments and Monitoring – *General*

- For each workplace or work operation where monitoring is required
- Breathing zone samples representative of 8-hour TWA and 30-minute to Excursion Limit of each employee
- An initial exposure assessment shall be performed if employees are working adjacent to a Class I asbestos job in which the employees are exposed to asbestos from lack of containment. This may occur when employees are working on multi-contractor worksites

Excursion Limit samples must be taken for operations most likely to produce exposures above the excursion limit for each shift, for each job classification, in each work area. If the excursion limit is exceeded, a written program to reduce employee exposure is implemented.

Regulated Areas

- Implemented for Class I, II, and III asbestos work; also other operations where PEL is or may reasonably be exceeded—the TWA and/or excursion limit must be monitored and documented.
- Regulated areas must be separated from the rest of the jobsite in an effective manner: critical barriers or negative pressure enclosures may be used, and signs must be provided.
- Access will be limited to persons authorized by the employer or the OSH Act
- Respirators are to be provided according to 29 CFR 1926.1101(h)(2)
- No eating, drinking, smoking, chewing tobacco or gum, or application of cosmetics

Work within regulated areas must be supervised by a competent person.

Methods of Compliance

1. Engineering controls and work practices required regardless of level of exposure
    a. Vacuum cleaners with HEPA filters for cleanup
    b. Wet methods or wetting agents during handling, mixing, removal, cutting, application, and cleanup, unless infeasible due to creation of other hazards; see (g)(8)(ii) for roofing exceptions
    c. Prompt cleanup and disposal of wastes and debris in leak-tight containers

2. Engineering controls and work practices required to achieve the PELs
    a. Local exhaust ventilation with HEPA filter dust collection system
    b. Enclosure or isolation of processes producing asbestos dust
    c. Ventilation of the regulated area to move air from the employee's breathing zone toward HEPA-filtered collection device or exhaust

    Note: Other controls that are shown to be feasible

If the above are not sufficient to reduce employee exposure to or below the PELs, they shall still be used and supplemented with PPE and respiratory protection

Respiratory Protection

Respirators shall be provided and used in the following 4 circumstances:

- As a component of work practice controls
- In work operations
- In order to reduce exposure in any work area where PELs are exceeded.
- In emergencies.

Employees shall be provided NIOSH approved respirators at no cost to the employees. Powered, air-purifying respirators should be available when the employees choose to use this type, or when the respirator will provide adequate protection.

Fit Testing

- Employees shall be fit-tested for negative-pressure respirators at the time of initial fitting and at least annually thereafter.
- Qualitative fit tests may be used for half-mask respirators or for full-facepiece air-purifying respirators.

Protective Clothing

- Coveralls, head coverings, gloves, and foot coverings, face shields and vented goggles are required for
    - Any employee exposed above the PELs
    - Any employee doing work for which a required negative exposure assessment is not produced
- A competent person must examine work suits at least once per work shift for rips or tears
- Rips must be immediately mended, or the work suit replaced

A poorly fitting face mask, or a tear in protective clothing can render the PPE ineffective. Be conscientious about the condition and fit of your PPE.

Prohibited tools and activities

- High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA-filtered exhaust air
- Compressed air to remove asbestos or ACM except in conjunction with an enclosed ventilation system
- Dry sweeping, shoveling, or other cleanup of ACM or PACM dust and debris
- Employee rotation as a means of reducing employee exposure

Communication of Hazards

All employees will abide by warning signs and labels. Materials containing Asbestos will not be disturbed.

Signs

- Warning signs must be used to establish and separate regulated areas
- Wording for signs:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

- Additional wording where applicable:

RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

Labels

- Labels must be affixed to
  - Products containing asbestos
  - Containers containing such products, including waste containers
  - Installed asbestos products, where feasible, including previously installed material identified as ACM/PACM
- Exemptions from labeling include
  - Products where asbestos fibers have been modified by a bonding agent, coating, binder, or other material, if no concentration of fibers PELs will be produced any reasonable foreseeable use, handling, etc.
  - Products where asbestos is < 1.0% by weight
  - Installed materials where signs providing same information are posted

- Wording on labels:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

- Additionally, labels must contain a warning statement against breathing asbestos fibers

Training

- Must be provided prior to or at the time of initial assignment and at least annually thereafter
- Must be conducted in a manner that the employee is able to understand.
- A certificate of training should be provided and maintained.

Training must include the following:

- Methods of recognizing asbestos, including PACM
- Health effects such as lung disease, cancer, asbestosis, mesothelioma and various types of cancer
- Relationship between smoking and asbestos in producing lung cancer
- Operations that could result in exposure and protective measures and their use, as applicable, including appropriate work practices for the job
- Purpose, proper use, fitting instructions, and limitations of respirators and other PPE
- Medical Surveillance program requirements
- Requirements concerning signs and labels

Note: Written materials relating to the employee training program will be readily available to affected employees, the assistant Secretary of Labor for OSHA and the director of the NIOSH.

ATV/UTV Safety Program

Purpose

The purpose of this program is to prevent incidents and injuries to contractors and employees related to the use of all-terrain vehicles through proper training, personal protective equipment, accident prevention measures, and safe operating techniques.

This program applies to all contractor personnel who operate all-terrain vehicles on C & C Oilfield property, facilities and right-of-ways.

Policy

It is the policy of C & C Oilfield that all-terrain vehicles be operated safety and properly. This will be accomplished by ensuring that ATVs are properly maintained, equipped, and operated in accordance with applicable C & C Oilfield policies as well as state, local and federal laws and regulations.

Training

Prior to operating an ATV or UTV, contractor management will ensure that each operator is trained and competent to operate the ATV or UTV safely according to the manufacturer's operating manual recommendations.

Contractor employees will demonstrate competence by the successful completion of a training and evaluation program. Contractor management will be responsible for ensuring that their employees receive appropriate training and are qualified to operate an ATV or UTV.

Contractor/contracted personnel will furnish documentation indicating that they have been trained in the operation of the specific ATV or UTV that they will be operating on C & C Oilfield property, facilities and right-of-ways.

Personal Protection

- Contractor employees involved in all-terrain vehicle operation will use the appropriate personal protective equipment, including, but not limited to, those listed is this section.
- A safety helmet that meets federal standards should be worn and be securely fastened.
- Safety glasses, a face shield or goggles must be worn.
- Proper boots, gloves and long pants are required. A long sleeve shirt is recommended.

Training Records

The most recent training outline and attendance roster for each active contractor employee will be retained at the contractor's office, ISNetworld, and made available to C & C Oilfield on request.

Performance Evaluation

These documents will be retained with the training records. The documentation will include the name of the ATV or UTV operator, the make and model of vehicle trained on, the date of training, the date of evaluation, and the person performing the training and evaluation. The initial performance evaluation will be retained for the employment of the contractor employee.

Procedures

- Only authorized and trained contractor employees will use ATVs or UTVs on C & C Oilfield property, facilities and right-of-ways.
- Verbal or written permission should be obtained from the land owner prior to accessing their land.
- Each operator will have access to a copy of the manufacturer's operating instructions.
- Prior to operating an ATV or UTV, each operator will meet the training requirements defined in this program.
- ATVs and UTVs will be inspected daily before use.
- If an ATV or UTV is found to be in need of repair or in any way unsafe, it will be removed from service until it has been restored to safe operating condition.
- All maintenance, repairs and replacement of ATV/UTVs will be the sole responsibility of the contractor or contractor's employee.
- Any part of the vehicle requiring replacement will be replaced only by parts equivalent in safety and quality with the original design.
- The fuel tank will not be filled while the engine is running. Spillage of fuel must be wiped away and completely evaporated and the fuel tank cap replaced before restarting the engine.
- Stunt driving and horseplay is prohibited.
- Operators may not carry a passenger on an ATV unless the ATV is designed by the manufacturer to transport a passenger.
- Operating speed will be appropriate for the given conditions.
- No one will be allowed on the ATV other than the authorized operator except for those vehicles such as UTVs designed to carry more than one person, equipped with the necessary safety features such as seat belts, roll bars, etc.
- The type of ATV or UTV used will be appropriate for the terrain.
- Truck and trailer brakes will be set and wheels blocked to prevent movement while loading or unloading the ATV or UTV.
- Headlights and taillights must be illuminated at least 30 minutes before sunset and 30 minutes after sunrise, and any time visibility is reduced.

- Loading ramps and trailers with the proper load capacity will be utilized. Only loading ramps with safety tie off/anti-slip cables are to be used. Tie offs are designed to prevent the ramp from slipping while loading the ATV or UTV. Tie offs should be inspected periodically for wear and replaced as needed.
- ATV/UTV tires should be free of mud or other debris that would allow the vehicle to slip off of the ramps.
- When using ramps, the vehicle should always be loaded forward into the trailer or truck bed, not backed onto.
- Ramps should be placed at no greater angle than a 45° angle to the bed of the pick-up or trailer. If this angle cannot be met due to terrain features, then the vehicle or trailer should be backed into a ditch or against a dirt bank to keep the angle at 45° or less.
- Do not attempt to ascend, descend, or traverse any slope greater than what is recommended by the ATV or UTV manufacturer.
- Avoid operating the ATV or UTV on public roadways.

Behavior Based Safety Program

Goals:

1. To encourage active employee participation in our safety program.
2. To encourage safe behaviors and discourage unsafe behaviors on an individual employee basis as well as departments.

Method to achieve goals:

- Employee motivation
- Peer recognition
- Creating employee based audits
- Observations of safety behaviors

Observation Process

The training program shall:

- Define who is trained and to what extent
- Ensure employee awareness
- Ensure that all employees involved in the process are trained in the classroom and/or on the jobsite

Types of training shall include:

- Management training
- New employee training
- Refresher training

This training will include:

- Program objectives and incident metrics reviewed
- How to conduct the observation
- How to complete the observation form
- A definition of both safe and unsafe behavior for better understanding of the employees
- Feedback training and role play or mentoring and coaching
- C & C Oilfield employees should be aware they may be observed at any time

The observer will:

- Review the observation with observed employee
- Start with positive comments
- Reinforce safe behaviors observed first

- Describe and discuss what was unsafe
- Solicit from observed employees explanation of his/her unsafe behavior with open-ended questions
- Re-emphasize no consequence to observed employee

How will employee/unit be selected?

- C & C Oilfield employees can be nominated by peers, supervisors, Safety Committee or Safety Director. An employee who best represents an active, positive impact on our health and safety program will be selected for "Employee Safety Recognition".
- A department may be selected and recognized for its outstanding efforts at integrating safety procedures or improving its safety performance.
- Performance may be measured by:
    - Results of observations of safety behaviors
    - Formal audit results
    - Workers compensation accident claim data.

Behavior Guidelines:

Positive Safety Behaviors

- Changing the way you usually do your job to a safer method
- Reminding co-workers about taking safety precautions
- Consistently wearing your personal protective equipment
- Consistently using safety program procedures
- Reminding co-workers that they should be wearing personal protective equipment – motivating them
- Providing feedback to supervisors that some employees are not following safety procedures or wearing their personal protective equipment.

Negative Safety Behaviors

- Not wearing personal protective equipment or using general safety equipment
- Not following safety procedures/programs [welding procedures, lockout-tagout, equipment safety, ladder safety]. ***Taking shortcuts.***
- These behaviors are considered unacceptable and are not fair to rest of the department. They reflect negatively on the department as a whole.

Trend Analysis

Individual departments, as well as C & C Oilfield as a whole, will compare these measurements and track these results by an acceptable method so that numerical and statistical comparisons can be made over time.

Action planning will include:

- Evaluation of unsafe behaviors from trend analysis and prioritize
- Develop action plan for unsafe behaviors based on comments and feedback from data sheets
- Designate responsible parties and timeframes within the action plan
- Define who is responsible for action planning
- Ensure management support

The follow-up process will include:

- Define a frequency for review of action plans
- Assign accountability for closeout of action plan within the organization
- Archive action plans

Recognition Guidelines:

- A safety recognition certificate will be presented to the employee/department at a group meeting to celebrate and recognize their contributions to the safety program. The certificate should be mounted in a bulletin board area for department wide recognition.
- A lunch certificate may be awarded to an employee to have a lunch meeting with the safety director.
- Departmental recognition as appropriate.
- C & C Oilfield supervisors/managers should make special note of and recognize the employee at a departmental meeting.
- At the end of each calendar year a special lunch celebration may be arranged with all nominated employees, safety director, and department directors to recognize our safety program accomplishments in creating a safer work environment at C & C Oilfield.

Note: Everyone has a clear responsibility to themselves, their co-workers, and the company. They are expected to practice the "highest degree of safety". This program is designed to help us change behaviors so that safety becomes part of the standard operating procedure and is widely valued across all departments. It is designed as a motivational tool to get employees "involved". Data and information on departments that need to improve will be provided and communicated, so that everyone has a clear understanding of the challenges we need to overcome.

C & C Oilfield

Behavioral Audit Form

Date: _____ **Auditor Name:_____**

Dept.:_____ **Accompanying Auditor_____**

		OK	Not OK	IF NOT OK, WHAT BEHAVIOR DID YOU SEE HAPPEN?	CORRECTIVE ACTION	SPECIAL INSTRUCTIONS
1	**PPE worn 100%** Glasses w/shields, boots, hearing, gloves, face shield, respirators, etc.					Observe all employees during walk through.
2	**Haz. Communication** All safety cans, cleaning materials, fuels, solvents, etc are clearly labeled & stored properly.					
3	**Line of Fire** Are employees positioning body, hands, etc in the correct manner to avoid pinch points, impact hazards, etc.					If line of fire behavior is not observed, ask employee what would be the proper position to be in and what hazards they are being exposed to if not in the correct position.
4	**Pushing/Pulling**					If pushing/pulling behavior is not observed ask employee about proper pushing/pulling techniques (include getting help when necessary and use of ergonomic aids)
5	**Lifting**					If lifting behavior is not observed, ask employee about proper lifting techniques (including getting help when needed)
6	**Eyes on Path**					For those operating equipment make sure they are looking behind before backing up. Observe employees for paying attention where they are walking, etc.
7	**House Keeping**					Check the area for trash and whether individual employees are keeping their work areas manageable.
8	**Equipment Operators**					Are equipment operators observed operating equipment in a safe manner. If not ask employee about safe operating procedures and what hazards could be avoided.
9	**Portable Power Tools**					Are employees observed using portable power tools in a safe manner, if not ask employee what the proper procedures would be and what hazards would be encountered if not used.
	Misc. Instructions			**Audits can be done by walking through areas or from one vantage point. Include as many employees as possible.**		

Benzene Exposure (Awareness)

C & C Oilfield employees may be exposed to various chemicals or products in the workplace. All C & C Oilfield employees shall be aware of the hazards posed by chemicals and shall be protected from any harm potentially caused by these hazards. Safety Data Sheets will be referenced for hazards and guidelines adhered to.

Benzene is a clear, colorless, flammable, toxic liquid. Benzene is considered a carcinogen which is cancer-causing. It has a strong, sweet odor. Hazards associated with benzene include respiratory and skin and may cause eye irritation at certain concentrations. 1 ppm is the permissible exposure level (8 hours per OSHA). ACGIH and NIOSH standards are different and C & C Oilfield clients determine which standard applies. The standards and program shall be reviewed and changed to reflect current permissible exposure limits as needed.

Benzene is extremely flammable. Its flash point (the temperature where an ignition source can ignite benzene vapors) is -11° C. Its flammable range (concentration of vapors in the air) is from 1.2 to 7.8 percent. The vapor is heavier than air, so it can spread long distances and ignite far from the source and flashback. The liquid is lighter than water and it floats on top of water if mixed. Mixing or contact with strong oxidizers (i.e. peroxides, chlorine, ozone, and nitric acid) can result in combustion and, potentially, an explosion. Consequently, Fire Extinguisher must be readily available to all employees within the Regulated Area and all ignition sources must be controlled when benzene is used, handled, or stored.

Note: Employees need to be aware that there may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level. The above exposure levels are for air levels only. When skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above. All chemical contact will be kept to a minimum, PPE shall be utilized and the SDS will be referenced for all hazards.

Potential locations of Benzene exposure:

1. Petroleum refining sites
2. Tank Gauging (tanks at producing, pipeline & refining operations)
3. Field maintenance

C & C Oilfield does not produce any product that contains benzene but may work around the following products or operations:

Gasoline	Crude Oils	Paints
Thinners	Degreasers	Cleaners
Tank bottoms	Commercial Aviation Fuels	Prover barrels
Sumps	Strainers and filters	Pig traps
Pipeline repairs		

Benzene Monitoring and Respiratory Protection

If employee exposure is at or above the permissible exposure limit (PEL), the engineering controls and work practices must be implemented to reduce and maintain employee exposure to benzene below the PEL. If the engineering and work practices are not sufficient to restrict employee exposure, then respiratory protection must be used. If an employee is to work in the following levels, the subscribed respiratory protection will be used:

- At concentrations between 1 ppm and 10 ppm, a half-mask, air-purifying respiratory is required.
- At concentrations between 10 ppm and 50 ppm a full-face, air-purifying respirator is required.
- At concentrations of 50 ppm or more, atmosphere-supplying respiratory protection is required. Benzene is considered Immediately Dangerous to Life or Health (IDLH) at concentrations of 500 ppm or higher.

Work Practices implemented by this program are to include:

- Mandatory participation in Training
- Good hygiene practices—no eating, drinking, or tobacco use allowed inside of the Regulated Area. Employees are also expected to wash their face and hands before eating, drinking, using tobacco, and/or leaving the job site at the end of their shift.
- Maintaining engineering controls.
- Storing benzene properly.
- The strict enforcement of the Regulated Area rules.
- Using the appropriate PPE (including but not limited to, respirators, protective clothing, safety goggles, and face shields).
- Quick and efficient confinement and clean up of spills.
- NO SMOKING in or around Regulated Areas or in the proximity of Benzene.

Engineering Controls used on job sites can include:

- Ventilation hoods
- Enclosures around work processes (fume hoods, glove boxes)
- Use of automatic systems to pump benzene from storage containers to process containers

C & C Oilfield relies on its client to inform C & C Oilfield of the potential for benzene exposure. C & C Oilfield reserves the right to test for benzene when working around benzene-containing products.

Employer should be aware of Owners contingency plan provisions. Employees must be informed where benzene is used in host facility and aware of additional plant safety rules.

Note: A schedule shall be developed and implemented based upon the most recent monitoring results and shall dictate what work practices and engineering controls are utilized.

Benzene Regulated Areas

Regulated areas are defined as any area that contains benzene vapors at or above 1 ppm. Benzene Regulated Areas will be identified by placement of Benzene Danger signs at all entrances. C & C Oilfield employees will not enter these areas until they are properly trained, fit tested for, and equipped with the appropriate PPE at no cost—respirators (Respiratory Protection p. 1), boots, gloves, sleeves, eye protection, and aprons, etc. Work practices and Engineering controls covered on page 2 of this program.

PPE must be worn by affected employees to, at a minimum, prevent eye contact and limit dermal exposure to liquid benzene.

Training

Training will include definition of benzene, where benzene is found, engineering methods to reduce benzene levels, personal protective equipment, signs and symptoms of benzene exposure, benzene hazards to include acute and chronic effects, fire hazards, monitoring (smell is not an adequate warning), physical properties, workplace limits, exposure reporting, and safe work practices.

Potential health effects caused by benzene to be covered in training shall include, but not be limited to:

- Inflammation of the nasal airways and throat;
- Sever damage to the lungs, causing fluid accumulation and bleeding;
- Harmful effects to blood, including harmful effects on bone marrow, which can cause a decrease in red blood cells, leading to anemia;
- Females that have breathed high levels of benzene for many months experienced irregular menstrual periods and decrease in the size of their ovaries;
- Some cancers, including leukemia.

Employees must report any significant exposure to benzene (0.1 or more by volume of benzene present) to the C & C Oilfield Supervisor immediately.

In the event of a sudden release of benzene-containing material, all responders to the scene are to be equipped with respiratory protection and complete skin covering, until the benzene level is determined to be at a safe level.

The written plan shall be made available to the following:

- Assistant Secretary (OSHA)
- Director (OSHA)

- Affected employees
- Designated employee representatives

The medical surveillance program shall be made available to employees exposed to:

- Benzene at or above the action level 30 or more days
- Benzene at or above the PEL 10 or more days
- Benzene at or above 10 ppm for 30 or more days

Employees who do not work directly with, but have potential to be exposed to, benzene shall be provided benzene awareness training at a minimum.

Benzene Exposure Symptoms

- Dizziness
- Giddy, anxious feeling
- Nausea
- Shortness of breath
- Respiratory, skin, and eye irritation
- Severe headaches
- Unsteadiness

Bloodborne Pathogens

Purpose

The purpose of this program is to prevent C & C Oilfield employees from being exposed to bloodborne pathogens, to minimize the risk of exposure, where there may be a potential for exposure to a bloodborne pathogen through an Exposure Control Program (ECP), and to assure compliance with 29 CFR 1910.1030.

Responsibilities

It is management's responsibility to implement and enforce this program. It is the responsibility of all employees to comply with this program and encourage their peers to do the same. Compliance with this program is mandatory, and employees are obligated to report all violations.

Employee Involvement

Employees are encouraged to offer suggestions for the improvement of this and any safety program; suggestions should be submitted to the C & C Oilfield corporate office, either by the employee or his/her supervisor.

C & C Oilfield welcomes all suggestions because it is committed to creating a safe workplace for its employees. A safe and effective bloodborne pathogen exposure prevention and control program is an important component of the overall safety plan.

Covered Employees

If an employee is trained in first aid and designated by C & C Oilfield as responsible for rendering medical assistance as part of his/her job duties, that employee may have occupational exposure to bloodborne pathogens and is therefore covered by the Bloodborne Pathogen Standard, 29 CFR 1910.1030.

Occupational Exposure means reasonably anticipated skin, eye, mucous membrane, or other contact with blood or other potentially infectious materials (including, but not limited to, blood, mucus, and saliva) that may result from the performance of an employee's duties.

Hepatitis B Vaccine Exemption

Where first aid providers have completely unrelated job duties and have little actual likelihood of occupational exposure, such as with C & C Oilfield employees, OSHA has issued an official exemption from the pre-exposure hepatitis B vaccination requirement of the standard. All other requirements, including the written exposure control plan (ECP) of the bloodborne pathogens standard still apply to workers exempted from the HBV vaccination requirements.

First Aid Training

First aid trainers are responsible to make sure that employees are trained in bloodborne pathogen hazards and controls upon hire, at least annually thereafter, and at the time the first aid training is provided. Training should include:

- Symptoms of bloodborne diseases
- Modes of transmission of bloodborne pathogens
- Recognition of tasks that may involve exposure
- Use and limitations of methods to reduce exposure, for example, use of plastic gloves, and other personal protective equipment (PPE)
- Types, use, location, removal, handling, decontamination, and disposal of PPE
- The basis of selection of PPE
- Hepatitis B vaccination efficacy, safety, method of administration, and benefits

Exposure Control Plan (ECP)

This document serves as the written procedures Bloodborne Pathogens Exposure Control Plan (ECP) for C & C Oilfield. These guidelines provide policy and safe practices to prevent the spread of disease resulting from handling blood or other potentially infectious materials (OPIM) during the course of work.

This ECP has been developed in accordance with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030. This plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. This plan is made available to all employees in the Employee Handbook in a reasonable time, place and manner. Each employee is given this handbook at time of hire and again as revisions are made. The purpose of this ECP includes:

- Universal Precautions procedures will be observed at all times: All body fluids will be considered potentially infectious.
- Eliminating or minimizing occupational exposure of employees to blood or certain other body fluids
- Complying with OSHA's Bloodborne Pathogens Standard, 29 CFR 1910.1030
- Assuring adequate protection for those employees who are designated first aid responders

1. Exposure Determination

Designated first aid responders may incur occupational exposure to blood or OPIM. The exposure determination is made without regard to the use of personal protective equipment (i.e., employees are considered to be exposed even if they wear personal protective equipment).

2. Work Practice Controls

Work practice controls shall be used to eliminate or minimize exposure to employees, including:

- The appropriate PPE (including, but not limited to, gloves, masks, and gowns) shall be made available to all employees at no cost to the employees. C & C Oilfield will insure that the appropriate PPE in the appropriate sizes is distributed. PPE will be cleaned, laundered and properly disposed of as needed. PPE shall be used unless employees temporarily declined to use under rare circumstances. C & C Oilfield will replace or repair PPE that is damaged to maintain its effectiveness.
- All equipment or environmental surfaces shall be cleaned and decontaminated after contact with blood or other infectious materials
- Removing contaminated PPE as soon as possible
- Cleaning and disinfecting contaminated equipment and work surfaces with a solution of 1/4 cup chlorine bleach per gallon of water
- Thorough hand washing with soap and water immediately after providing care or provision of antiseptic towelettes or hand cleanser where hand washing facilities are not available
- Use of leak-proof, labeled containers for contaminated disposable waste or laundry
- Barricading exposed areas

3. Hand washing Facilities

Hand washing facilities are normally available to employees who have exposure to blood or OPIM.

When circumstances require hand washing and facilities are not available, either an antiseptic cleanser and paper towels or antiseptic towelettes shall be provided. Employees must then wash their hands with soap and water as soon as possible.

4. Handling Regulated Wastes

When handling regulated wastes, the procedures detailed below shall be followed:

- Placed in containers which are closeable, constructed to contain all contents, and prevent fluid leaks during handling, storage, transportation, or shipping
- Labeled or color coded and closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
- Identified with the wording, "Potential Bloodborne Pathogen"

Note: Disposal of all regulated waste is in accordance with applicable Unites States, state and local regulations.

5. Handling Contaminated Laundry

Laundry contaminated with blood or OPIM shall be handled as little as possible. Such laundry shall be placed in appropriately marked (biohazard labeled, or color coded red bag) bags at the location where it was used. Such laundry shall not be sorted or rinsed in the area of use.

Hepatitis B Vaccination Program

1. Hepatitis B vaccination

C & C Oilfield offers: the Hepatitis B vaccine and vaccination series to all employees who have had an occupational exposure to bloodborne pathogens; and post exposure follow-up to employees who have had an exposure incident.

All medical evaluations and procedures including the Hepatitis B vaccine and vaccination series and post exposure follow up, and prophylaxis shall be:

- Made available at no cost to the employee
- Made available to the employee at a reasonable time and place
- Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional
- Provided according to the recommendations of the U.S. Public Health Service

2. Post-Exposure Evaluation and Follow-Up

All exposure incidents shall be reported, investigated, and documented via the C & C Oilfield accident investigation process. When the employee is exposed to blood or OPIM, the incident shall be reported to the C & C Oilfield Safety and Environmental Manager.

When an employee is exposed, he or she will receive a confidential medical evaluation and follow-up, including at least the following elements:

- Documentation of the route of exposure, and the circumstances under which the exposure-occurred
- Identification and documentation of the source individual, unless it can be established that identification is infeasible or prohibited by state or local law
- The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity.
- When the source individual's consent is not required by law, the source individual's blood, if available, will be tested and the results documented
- When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated

- Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual

Collection and testing of blood for HBV and HIV serological status shall comply with the following:

- The exposed employee's blood shall be collected as soon as possible and tested after consent is obtained
- The employee shall be offered the option of having their blood collected for testing of the employee's HIV/HBV serological status. The blood sample shall be preserved for up to 90 days to allow the employee to decide if the blood should be tested for HIV serological status

All employees who incur an exposure incident shall be offered post-exposure evaluation and follow-up according to the OSHA standard.

The healthcare professional responsible for the employee's Hepatitis B vaccination shall be provided with the following:

- A copy of 29 CFR 1910.1030
- A written description of the exposed employee's duties as they relate to the exposure incident
- Written documentation of the route of exposure and circumstances under which exposure occurred
- Results of the source individuals blood testing, if available
- All medical records relevant to the appropriate treatment of the employee including vaccination status

C & C Oilfield shall obtain and provide to the employee a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation. The healthcare professional's written opinion for HBV vaccination shall be limited to whether HBV vaccination shall be indicated for an employee, and if the employee has received such vaccination.

The healthcare professional's written opinion for post-exposure follow-up shall be limited to the following information:

- A statement that the employee has been informed of the results of the evaluation
- A statement that the employee has been told about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment

Note: All other findings or diagnosis shall remain confidential and shall not be included in

the written report.

Recordkeeping

1. Records Maintenance

First aid, and other bloodborne training records shall be maintained for three years from the date of training. The following information shall be documented:

- The dates of the training sessions
- An outline describing the material presented
- The names and qualifications of persons conducting the training
- The names and job titles of all persons attending the training sessions

Medical records shall be maintained in accordance with OSHA Standard 29 CFR 1910.1020. These records shall be kept confidential, and must be maintained for at least the duration of employment plus 30 years. The records shall include the following:

- Employee's name and social security number
- A copy of the employee's HBV vaccination status, including the dates of vaccination
- A copy of all results of examinations, medical testing, and follow-up procedures
- A copy of the information provided to the healthcare professional, including a description of the employee's duties as they relate to the exposure incident, and documentation of the routes of exposure and circumstances of the exposure

2. Availability

All employee records shall be made available to the employee in accordance with 29 CFR 1910.1020 and to the Assistant Secretary of Labor for the Occupational Safety and Health Administration and/or the Director of the National Institute for Occupational Safety and Health upon request.

3. Transfer of Records

Medical records must have written consent of employee before being released. C & C Oilfield will comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h). If bloodborne pathogen exposure records cannot be maintained for the prescribed period, the Director of the NIOSH shall be contacted for final disposition.

Labels and Signs

All containers of regulated waste used for storage; transport or shipping of potentially infectious materials shall be clearly marked with a warning label. This warning label shall be fluorescent orange or orange-red with lettering or symbols in a contrasting color.

Wherever applicable, red bags or red containers may be used instead of the warning label.

The Safety Director, or his designee is responsible for ensuring that all containers are properly labeled at all times.

Individual containers of infectious materials that are placed in labeled containers for storage, transport or shipping need not be individually labeled.

Training will be provided to employees as follows:

- At the time of initial assignment to tasks where occupational exposure may take place.
- Within 90 days after the effective date of the standard; and
- At least annually thereafter.

Business Continuity Plan

Overview

The purpose of this Business Continuity Plan (BCP) is to outline the requirements for pandemic response related to most varieties of infectious disease, but specifically the COVID-19 (Coronavirus), which is mostly transmitted via ingestion or inhalation of airborne agents. This BCP provides the necessary information to assist all C & C Oilfield employees to plan effectively to limit the impact and severity of a pandemic on employees, their families, and company operations.

This BCP also outlines requirements for assessing the required levels of personnel necessary to maintain project/site work, placing project/site personnel under a framework of surveillance, and activating various levels of occupational health response in relation to workforce impact. All employees shall undergo training specific to their roles and responsibilities outlined in this BCP.

Authority and Ownership

The corporate response team has been delegated authority by the President of C & C Oilfield to implement this BCP and the Novel Coronavirus Safety Action Plan (SAP) on behalf of C & C Oilfield. Any exceptions or deviations from this BCP must be granted by the Corporate Response Team.

The Project Manager or Site Superintendent shall ensure that pandemic response procedures and actions are implemented. The Project Manager and Site Superintendent may delegate aspects of this implementation to Subject Matter Experts (SMEs) such as the Site Safety Coordinator, and others as deemed appropriate.

The Project Manager, Site Superintendent, and/or their delegates are responsible for ensuring that only qualified employees perform pandemic response operations and shall ensure that all applicable programs are implemented and maintained at their locations.

Employees are responsible for adhering to hygiene practices and personal protective equipment use according to this procedure, for attending required training sessions, and to immediately report unsafe conditions to their supervisors.

Processes and Procedures

Project/Site Pandemic Response Activation and Communication

The Project Manager or Site Superintendent may activate, at any time, the pandemic response program in consultation with clients and/or at the discretion of project/site management and C & C Oilfield safety. The Site Superintendent will be the liaison of communications between the client, project managers, and the site response team. Any implementation, changes, or additions

to the BCP/Pandemic Response Plan and/or updates to recovery operations will be communicated to all appropriate parties by the most effective means available at the time (including, but not limited to, telephone, email, etc.)

The Project Manager or Site Superintendent shall appoint a project/site response team consisting of key personnel and C & C Oilfield Safety; the Project Manager or Site Superintendent shall serve as a member of the Site Response Team.

The project/site response team shall report periodically regarding risk status and current action to the Safety Director and C & C Oilfield management.

C & C Oilfield will periodically update contact information for all personnel to establish effective means of communication with employees. Clients/customers will be updated as needed with relevant information regarding business disruptions.

Employees are asked to stay home if they are sick or are presenting signs/symptoms of becoming sick. Essential personnel will work from home if category 4 measures are implemented.

Workforce Exposure Limit

It is the duty of C & C Oilfield to limit the exposure of employees to potentially harmful or dangerous situations. Therefore, during any time of increased risk due to a contagion, the situation will be carefully monitored and limit employee exposure to the greatest extent possible while still providing service to customers.

At no time will an employee be expected to perform his or her duties when sick and/or exhibiting symptoms. The employee is responsible for communicating any physical distress or limitations to their supervisor, who will document and communicate the same information to the Site Superintendent. It is imperative that if an employee feels unwell or sick, that they stay away.

Risk Analysis Report

The Safety Department shall report on a weekly basis to the project/site response team and Corporate Response Team the Project/Site Exposure Category and include the corresponding statistical analysis.

The Safety Department shall provide detailed statistical analysis to the project/site response team including descriptive statistics, determination of the 95^{th} percentile, and decision recommendations where appropriate.

Both the Corporate Response Team and project/site response team will monitor local, state, and federal guidelines and follow through with implementing the best response to the job site.

Periodically, members of the management team will perform analyses of the potential risks and impacts that could occur from disruptions to normal business operations. These analyses should

identify the potential areas that could be most severely disrupted, legal obligations, key activities that help provide goods and services, the persons and other entities dependent on C & C Oilfield operations, the impact of being unable to deliver on obligations, and anything else that may be affected in a significant disruption.

The risk analysis shall identify the category and level of awareness, specific to the individual project and/or locality.

Exposure Categories

The corporate Response team and project/site response team shall, in coordination with the safety department and clients, review each category and its corresponding actions periodically and update as necessary.

The exposure categories are ranked from Category 0 representing an initial response up to Category 4 representing the response to a prolonged and/or sever pandemic adversely affecting a project/site workforce:

Category 0 – Awareness

- Initiated when a high threat contagion risk is present or likely
- The corporate response team will trigger the project site response team and conduct daily conference calls updating the current project condition and communicating any governmental guidelines.
- Identify critical suppliers and subcontractors to coordinate response planning.
- Communicate to the project personnel mitigation methods (i.e. proper hygiene, yearly training on illness prevention, avoiding spread of disease, and company policies regarding illness).
- Maintain a sufficient amount of handwashing/hygiene stations on site.

Category 1 – Governmental Declaration

- Maintain all actions in Category 0.
- Install handwashing/hygiene stations in high traffic area entries and exits (e.g. lunch areas, office trailers, shops).
- Identify business critical tasks/functions and personnel and discuss potential impacts.
- Begin daily update conference calls including the client representatives.

Category 2 – Confirmed Local Infections

- Maintain all actions in Categories 0 through 1.
- Meet with local Public Health Department for updates and advisories.
- Acquire critical operational supplies and/or equipment.
- Begin developing a security plan in the event of a complete project shutdown.

- Prepare to implement small crew based daily safety meetings. Employees will be encouraged to limit crowded gatherings of 50 people or more.

Category 3 – Community Spread

- Maintain all actions in Categories 0 through 2.
- Confirm security plan.
- Prepare for imminent project shut down.
- Confirm critical operational resources (e.g. fuel).
- Increase janitorial coverage to include high-risk areas and lunch area disinfection. All equipment and working surfaces shall be cleaned and disinfected periodically

Category 4 – Project Shutdown

- Maintain all actions in Categories 0 through 3.
- Implement when:
    - Confirmed case of employee onsite testing positive
    - Ordered by governmental body
    - Unavailability of resources (e.g. fuel)
- Implement security plan
- Request point of contact from client and setup regular communication chain to ensure re-mobilization plan.
- Essential personnel work from home, if possible.

Field Investigations

The project/site response team and the safety department shall conduct field investigations when employees have been identified as out sick. All absences (including vendor, subcontractor, and site inspection) will be subject to a phone call by the project/site response team to confirm type and degree of illness and whether the symptoms meet those of the contagion.

The project/site response team shall refer all investigation findings to the corporate response team and the safety department for further action in coordination with appropriate federal, state, and local response efforts.

The project/site response team shall coordinate project/site efforts to address any action items stemming from field investigations and/or directive from federal, state, and local authorities.

Additional Considerations

The exposure categories, and corresponding action items referred to in this BCP are intended as guidelines to inform the project/site response team of common pandemic response best practices.

The project/site response team may seek outside information and resources from stakeholders, governmental organizations, or other sources and incorporate them into their decision-making processes.

The project/site response team in consultation with the corporate response team and the safety department may choose to elevate their response beyond the recommendations provided by this document.

Lessons learned following a pandemic event will be reviewed by the safety department and senior management to be implemented in this program.

This plan will be reviewed and updated by the safety department and senior management as needed, and after any business disruption occurs.

Regardless of current events, all employees are encouraged to maintain regular vaccinations and immunizations.

In all situations, the safety and welfare of employees will take the highest priority.

Chain Saw Safety Policy

Objective

The objective of this policy is to reduce the risk of injury or fatality from use of chain saws for felling, cutting or trimming trees or wood by C & C Oilfield employees, and contractors under direct C & C Oilfield.

Policy

This policy sets forth the requirements for work with chain saws by C & C Oilfield personnel.

Responsibilities

Environmental Health and Safety (EH&S)

EH&S has the primary responsibility for the development and administration of the Chain Saw Safety Program.

Departments

Departments have the primary responsibility for purchasing work equipment, tools and personal protective equipment that meets current recognized standards.

Supervisors

Supervisors have the primary responsibility for ensuring safe use of chain saws, tree trimming and tree removal operations including:

- Conducting hazard assessments and developing site safety plans for particular operations.
- Supplying the necessary safety equipment that is maintained and meets current standards.
- Ensuring the employees are trained on the policy and procedures included in this section.
- Assuring that safe work practices are utilized and prohibit the use of poor of forbidden practices.

Employees

Employees have the primary responsibility for following supervisory direction, abiding by the prescribed work practices and wearing appropriate personal protective equipment described in this section and inspecting tool before and after use.

Procedures

General

Chain saws are among the most hazardous power tools used. The unguarded blade, difficult terrain upon which one must often work and stresses applied to the materials to be cut creates high potential hazard. The use of proper operating procedures, personal protective equipment, safeguards on saws and proper work planning and execution can greatly reduce these potential hazards.

Note: safe use of a chain saw requires an alert operator. Do not operate a chain saw if feeling fatigued or are taking prescription medication or non-prescription drugs that cause drowsiness or may otherwise impair the ability to function.

Required Saw Components

- All chains saws used by C & C Oilfield employees or must be equipped with the following safety components:
- **Chain catcher** to prevent a broken or dislodged chain from striking the operator
- **Throttle/Throttle interlock** which will stop the chain when pressure on the throttle is released
- **Muffler** to reduce engine noise
- **Hand guard** minimizes chain saw kickback for saws placed into service before February 9, 1995 **OR**
- **Chain brake** lever to stop the chain if disengaged, for saws placed into service after February 9, 1995

An Anti-vibration handle system is recommended to limit ergonomic stress to the operator's hands and fingers.

Required Personal Protective Equipment

See Minimum Personal Protective Equipment for Chainsaw Operators and Tree Trimmer Assistant for a completed PPE Certification of Hazard Assessment for chain saw use.

Head Protection: Hardhats must be worn when overhead hazards are present. On-ground helpers must wear hard hats whenever overhead work is conducted. Chain saw operators should wear hardhats during felling operations or when working from a bucket truck. The hard hats must comply with ANSI standards (Subpart I, ANSI Z89.1-1986).

Eye and Face Protection: Logger-type mesh screens provide adequate protection for chain-saw operation. Mesh screens provide adequate protection to keep small limbs, branches, and saplings from poking the employee's eye or cutting the employee's face. Polycarbonate face shields provide adequate protection but have the disadvantage of fogging and becoming scratched.

Leg Protection: Each employee who operates a chain saw must wear leg protection made of cut-resistant material (e.g. ballistic nylon, polyester, Kevlar, etc.) The leg protection must extend from the upper thigh down to the boot top and adequately cover the leg (e.g. chaps, logger pants). Underwriters Laboratories (UL) labels leg protection which meets cut resistance requirements. (ASTM F1414-92a)

Foot Protection: Each employee involved in chain saw operations as an operator or a helper must wear heavy-duty steel-toe boots (ANSI Z 41-1991). These should be waterproof or water repellant and cover and provide support to the ankle. In addition, the chain saw operator must wear boots made with cut-resistant material that will protect against contact with a running chain saw. Underwriters Laboratories (UL) tests and labels foot protection that meets cut resistance requirements. (ASTM F1818-97) Material is considered "chain-saw cut-resistant" if it provides enough resistance to give the employee time to react before the chain saw cuts through the boot material or jams the flywheel and chains, thereby causing the saw to stop.

The chain-saw cut-resistant foot protection requirement applies to all employees who operate a chain saw regardless of the frequency of chain saw usage.

Hearing Protection: Earmuffs or earplugs must be worn to protect the ears from the loud noise produced by the chainsaw, which can cause hearing damage over time.

Respiratory Protection: Dust masks or respirators with appropriate filters must be worn to prevent inhalation of dust particles created during cutting, especially in confined or poorly ventilated spaces.

Gloves: Sturdy work gloves with a good grip are essential to protect the hands and fingers from cuts and abrasions. Gloves should fit well and allow safe handling of the chainsaw.

Saw Maintenance

Proper saw maintenance increases safety and productivity. Check controls, chain tension, and all bolts and handles to ensure they are functioning properly and adjusted according to the manufacturer's instructions.

Properly sharpened teeth will cut quickly, smoothly and more safely. Wear leather gloves when sharpening the saw teeth. The saw teeth can easily inflict injury. File or grind according to instructions for best performance.

Check the chain tension and lubrication system for proper function. Proper chain tension helps to ensure long chain life and safer cutting. A chain that is too loose may derail and whip dangerously. A chain that is too tight will bind and wear prematurely. All chains stretch with use and frequently need checking and readjusting. Good lubrication helps prolong chain life and maintain tension adjustment. Check the oil often and refill according to instructions. Use the bar oil recommended by the manufacturer.

Follow the manufacturer's instructions in the operator's manual when making adjustments to the chain or engine.

Operating Procedures

Never work alone with a chainsaw.

Fueling: Fuel saw outdoors only. Always shut off engine and allow it to cool before fueling. Fuel the saw at least 10 feet from sources of ignition on bare earth if possible. Wipe up any spilled fuel and check for leaks especially around the cap. The chain saw must be started at least 10 feet from the fueling area. Chainsaw fuel must be stored in a 3 gallon or smaller approved (FM or UL) safety can.

Transporting Saw: The chain saw should be transported in a level position with the gas cap up, the bar behind you and the muffler on the side away from you. Carrying the saw with the engine running is dangerous and should be avoided. The saw should never be carried more than 50 feet with the engine running unless the chain brake is engaged. Shut off or engage the chain brake whenever the saw is carried on hazardous terrain

Always turn off the saw before putting it down.

Do not carry the saw in the passenger area of a vehicle. The saw should be transported in a case but if one is not available then keep the bar in a chain guard.

Starting Saw

Never "Drop Start" a Chain Saw! This is a dangerous practice and specifically prohibited by OSHA. Always start it on the ground or on a stable surface.

There is one acceptable method for starting a chain saw on the ground. Review operator's manual for specific instructions for the equipment used.

Ground Start: Engage/lock the chain brake. Place the saw on the ground where good balance and secure footing can be maintained. Make sure the chain is off the ground and not touching anything. Grip the front handlebar firmly and press down. If the saw has a rear handle that is level with the ground, place toe of foot into the handle and place weight on foot. Turn the ignition on. Pull out the starter rope until resistance is felt then give a brisk, strong pull.

Felling Trees:

There are many things to do and consider before starting to cut a tree.

Determine the fall direction.

Consider:

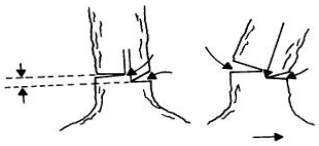
- Rot or defect in the tree
- Tree lean
- Wind – will it have an effect on how and where the tree will fall?
- Crown shape and limb weight
- Surrounding terrain
- Other trees – a very dangerous hazard is made when the cut tree entangles with another and does not fall completely

Identify all electrical lines in area. If an electric power line is in the vicinity of the tree, don't attempt to work on the tree unless you are absolutely certain that it will not interfere with the electric line. If the tree must be removed and you suspect there will be a problem, call the power supplier, they have the expertise to do it safely.

Clear the area of people and vehicles. Set up barricades or safety monitors to keep people out of the danger zone. Generally, employees must not approach any closer than 2 tree-lengths of the trees being cut or under the branch canopy of trees being trimmed until the chain saw operator has acknowledged that it is safe to do so. Trees must be trimmed and felled in a manner that does not create a hazard to employees (i.e. work areas must be assigned so that trees cannot fall into adjacent occupied areas).

Plan a safe, unobstructed path of retreat before making a cut. The path should be at approximately a 45-degree angle away from the line of fall. Remove branches and debris that might be trip or fall hazards when retreating from a falling tree.

Plan and make the cuts carefully. Cutting must be done uphill from or on the same level as previously felled trees. Always keep in mind where the chain will go if it breaks; never position yourself or other people in line with the chain.



Smaller trees (up to a 5-inch diameter) may be cut clear through with one pass (ANSI Z133). Larger trees may require a series of cuts. Start with a 45-degree notch on the side that the tree will fall towards. Cut the bottom of the notch first, about one third of the way through the diameter. The second cut is made at a 45-degree angle that will meet the depth of the first cut. The felling cut should be made from the opposite side, about 2 inches higher than the floor of the notch. Do not cut all the way through but leave a hinge that will keep the tree from kicking back and upward as it falls. The hinge will be about 1/8 to 1/6 of the diameter where you are cutting but it may vary depending on when the tree starts to fall.

Retreat when the tree starts to fall. Shut off the chain saw, set it down safely (don't throw it), and leave by the planned escape route. Do not return to the site until the tree is down and no longer moving. If the tree should roll, let it; one person cannot stop or control a moving tree.

If a tree happens to be so well balanced that it does not fall after a felling cut has been made, two wedges can be used to start the fall and influence its direction. Always use two wedges and a sledge that has a face 1/3 larger than the face of the wedge.

Plastic wedges are safer than metal since they will not damage the saw teeth or chain. Always remove the chain saw when wedges are being driven into the cut. Strike the wedge carefully since a careless blow may cause the wedge to pop out of the cut and allow the tree to fall backward.

Never use an axe as the wedge or driver; the head of the axe may shatter and you could be injured by pieces of it. If cutting must be continued, insert the chain saw into the cut very carefully since the conditions are extremely dangerous.

Special precautions must be taken with "danger trees". These include spring poles and hung-up trees or when any loose overhead debris is present such as limbs or tree tops that may fall at any time. Overhead debris is extremely dangerous and presents the crew with a continual source of danger.

Each danger tree must be felled or removed using mechanical or other techniques to minimize employee exposure before work is begun in the area of the danger tree. If the danger tree cannot be felled or removed, it must be marked and there shall be no work allowed within 2 tree-lengths of it, unless the supervisor demonstrates that a shorter distance will not create a hazard for an employee.

When cutting trees under stress, no employee other than the feller must be within 2 tree-lengths of the tree when the stress is released.

Trimming/Limbing the Tree

Cutting a limb while you have only one hand controlling the saw is very dangerous. Never force a chain saw through a cut, if it is properly sharpened and adjusted it will cut, almost by itself. Keep in mind that the hardness of the wood will have a major effect on how quickly it cuts.

Be sure that the fallen tree is stable and will not move as you work. Examine the situation at every limb to be removed. Be certain that the limb will not bind against the saw. Cut on the opposite side of the tree trunk whenever possible, this keeps the trunk between you and the saw. Never make cuts with the saw between your legs, always cut with the saw to the outside of your legs. Don't stand on a log and saw between your feet.

Never cut above shoulder height.

Never stand on the downhill side when removing limbs. Always keep in mind that the tree trunk may roll as limbs are removed. Watch for limbs that may spring out when they are cut due to the released tension. These limbs can cause injury.

Whenever possible, keep the tree limb or similar barrier between yourself and the saw blade.

Always stand to one side of the limb you are to cut, never straddle it.

Larger limbs may require more than one cut to be removed safely. Plan the cuts so that there will be no binding. Remember that stored energy can cause a cut to pinch the blade and immobilize your saw. Wedges can be used as previously mentioned. Always plan an escape route when removing large limbs since they may roll when they become free of the tree trunk.

When cutting large limbs and the trunk of the tree into convenient lengths be sure the trunk is supported along its entire length and will not roll. Block or wedge the trunk in place, if needed. Cut downward from the top of the trunk about one-third of the diameter and then roll it over to make final cuts.

Wedges can be used to keep the cut open if the log cannot be rolled over. They must be driven with care so they will not come into contact with the chain saw. Even though this should prevent pinching, always be alert to the situation.

Stand on uphill side when cutting because log may roll.

If the limb or tree trunk is supported by both ends as shown in Figure 7, cut downward one-third of the way and then finish by cutting upward from the underside to meet the first cut. Be careful to keep the saw out of the dirt, the teeth will throw debris and be dulled, and wear on the chain will be increased.

Prevent Kick Back

Saw kickback is one of the primary hazards of chainsaw work. Kickback of a chainsaw is when the teeth on the chain catch on something as they rotate around the tip of the blade. The teeth may have enough force to cause the blade to kick back violently toward you, hence the term “kickback.” There are three primary situations that can cause kickback:

- When the nose of the blade strikes another object.
- Starting a bore cut improperly.
- When the blade nose or tip catches the bottom or side of a saw cut during reinsertion.

The best defense against kickback is to keep the tip guard on the chain saw. However, this does limit what you can do with the tool.

Some kickback control can be maintained by keeping a firm hold on the saw and using a saw which has a chain-brake or kickback guard.

Be alert for blade-pinching situations.

Cut branches at the base of the blade; don't saw with the tip of the blade. Use a high chain speed when reinserting the blade in a cut or removing it from a cut. Keep the saw teeth sharp so they will cut; dull teeth are more likely to cause a kickback.

Always cut below shoulder height, otherwise the saw is difficult to control and is too close to your face.

Helpers should never work so close to the chainsaw operator that they may be struck by the saw if it kicks back, or by a limb or a tree segment, which may spring due to stress.

Training

Training must be provided to all personnel assigned to use or work on a crew that uses chain saws.

The training shall include:

- Safe performance of work tasks
- Safe use, operation and maintenance of chain saws and other tools used
- Review of the manufacturer's operating and maintenance instructions, warnings and precautions
- Recognition, prevention and control of other safety and health hazards that may be encountered during typical work tasks
- Review of the requirements of C & C Oilfield policies pertaining to the required tasks

Each new employee and each employee who is required to be trained shall work under the close supervision of a designated person until the employee demonstrates to the supervisor the ability to safely perform their new duties independently.

Cold Weather Safety/Cold Stress

Purpose

This document establishes practices for working in cold temperatures to prevent cold weather injuries for C & C Oilfield employees. When the body is unable to warm itself, serious cold weather illnesses and injuries (such as frost nip, frostbite, hypothermia, and trench foot) may occur, and potentially result in permanent tissue damage or death.

Definitions

Anemometer- An instrument for recording the speed and often the direction of winds.

Frost Nip - Local area of frostbite where skin appears red and cold and there may be an associated prickling numbness.

Frostbite - The freezing of body tissue. It may range from minor injury (frost nip) to complete freezing of an extremity. Untreated frostbitten areas will first become reddened, and then become gray or white. Left untreated the skin becomes numb and dead white.

Frostbite Prevention (SITE REPRESENTATIVE) - The person responsible to oversee all employees performing work under this procedure. The site representative for C & C Oilfield may perform work along with the workers being monitored; similar to a Person in Charge.

Hypothermia - An abnormally low body temperature, often caused by prolonged exposure to cold.

Trench Foot – Caused by having feet submerged in cold water at temperatures above freezing for long periods of time. Symptoms consist of tingling, itching or burning sensation.

General Requirements

Training

1. **Scope**

   Each C & C Oilfield employee must be knowledgeable in signs and symptoms of cold injury, engineering and administrative controls, and proper levels of PPE. Training will consist of the following:

   - Environmental and workplace conditions that can lead to cold injuries
   - Symptoms of cold injuries
   - Cold weather injury prevention
   - Selection of proper clothing for cold, wet, and windy conditions

- Site representative receiving practical training in use of an anemometer and thermometer to produce wind chill temperatures.
- The contents of this procedure.
- Appropriate first aid treatment measures for injuries and/or illnesses resulting from working in the cold.
- All employees receive initial training at time of hire and at least an annual refresher training prior to the start of the winter season.

2. **Individuals Working in Cold Temperatures**

   The individual will be required to review and sign each Cold Weather Injury Prevention Plan and abide by the parameters for work which it sets. Therefore, each employee who will work under the requirements of this procedure will be trained on the contents of this procedure. Training records shall be maintained including the name of the employee trained, the date of training, the subject and the trainer's name. Annual refresher training is required.

Engineering Controls

Wind greatly influences temperature effects on skin. Whenever feasible, engineering controls should be utilized to reduce the impact of cold and wind effects to the job site and personnel. Listed below are engineering control options to consider.

- Basic wind block (i.e. polypropylene attached to surrounding structures)
- Tube and Clamp scaffold frame with polypropylene attached (shelter)
- Heated shelter
- Barriers or insulation placed on metal surfaces to reduce heat loss from extremities
- Sand, salt, or other means for clearing snow and ice on traveled paths such as walkways

Administrative Controls

Administrative controls will be utilized to assist in mitigating hazards associated with working in cold temperatures. Each site will have a site representative who is responsible for defining administrative controls and monitoring the individuals working in cold for compliance. Listed below are administrative controls to consider.

- **Rotational work** –The site representative will define the number of workers exposed, and the time intervals for exposure and rest. Consideration should be given to the type of task being performed, current weather conditions, distance to warm-up/break area, and individual risk factors for crew members.
- **Cold Weather Assessment** -This will serve as additional hazard recognition for the specific site where work is occurring and identify the jobs, tasks, and/or employees at risk for exposure.

- **On Site Temperature/Wind Chill** - The site representative will record on site temperature and wind speed using a temperature gauge and an anemometer in the area where work is to be performed, or when a change in conditions is noticed, or when an affected worker requests an assessment.
- **Multiple Vehicles** – It is recommended that 2 vehicles be utilized during periods of cold unless a warm shelter is within reasonable proximity to the work site for one vehicle with two or more people.
- **Visual Inspection –**Visual inspection should consist of looking for exposed skin, signs of discomfort, numbness, etc…….
- **Warm Liquids -** Warm liquids shall be provided, at no cost to employees, to combat dehydration and to manage core temperatures. Note that caffeinated beverages will lessen circulation and are discouraged.
- **Adequate Breaks -** Breaks should be taken at intervals as determined by the site representative. Work periods can be shortened based on assessments by the site representative. While on break C & C Oilfield personnel should remove outer layers of clothing to ensure adequate warming of the core and extremities. Individuals should assess their condition, and the site representative should assess the physical condition of all workers during breaks. Do not return to work in the cold until adequately warmed. If engineering controls, such as shelters are used, the ambient temperature/wind chill where the work is taking place will be used to determine the work / warm–up schedule.

The site representative will determine the maximum duration of the exposure time to the cold dependent on the following considerations:

- Ambient or wind chill temperature
- Risk factors of crew
- Type of work being performed
- Distance to break area
- Provision of engineering controls
- Other factors that could contribute to a cold weather injury

Personal Protective Equipment (PPE)

Cold weather PPE consists of standard gear issued to workers. It is important to layer clothing when working in a cold environment. Listed below are recommendations for proper implementation of PPE.

- The outer layer of clothing must be fire retardant.
- The outer most layers should consist of cold weather clothing (i.e. bibs, bomber or parka, head sock, insulated boots).
- Under layers (insulation) should consist of one or more thin garments. Type of fabric used for this layer is important: when wet, cotton will lose its insulation but wool, silk,

and most synthetics will retain their insulation. Outer layers should be removed prior to insulation layers becoming wet with perspiration.

- Wet clothing should not be worn. The site representative will monitor clothing condition during breaks. A best practice is to bring extra insulating clothing and change clothes if they become wet.
- Exposed skin shall be avoided in cold temperatures to minimize the risk of frostbite. The site representative will check for exposed skin and may require workers to adjust clothing to cover exposed skin at any time.
- Regular inspection of PPE should be conducted and any items that need to be re-furbished or re-stocked shall be identified and replaced.

Cold Injury Risk Factors and Warning Signs

1. **Risk Factors**

   All individuals working in cold should be aware of personal risk factors that make workers more susceptible to cold injury. The most susceptible areas are the fingers, toes, ears, cheeks and neck. The following non-comprehensive personal risk factors could lead to higher susceptibility of cold injury and should be considered for all individuals working in cold:

   - Age
   - Circulatory Problems
   - Not accustomed or acclimated to cold
   - Previous cold injuries, especially to the extremities or head/facial area
   - Use of Beta blocker drugs for treatment of high blood pressure or heart problems
   - Tobacco use (smoking or chewing tobacco)
   - Diabetes
   - Reynaud's syndrome-a condition in which cold temperatures or stress cause blood vessel spasms that reduce blood flow to the fingers, toes, ears, and nose
   - Dehydration
   - Wearing wet or damp clothing
   - Contact with fuels or liquids that evaporate

2. **Warning Signs**

   Listed below are common warning signs that an individual is suffering from a cold related injury.

   - Shivering
   - Frost nip (red, cold skin, prickling numbness)
   - Superficial frostbite (white, pale skin)

- Excessive fatigue
- Drowsiness
- Irritability
- Euphoria

It is the responsibility of all employees of C & C Oilfield working in cold to immediately report these symptoms for themselves or others to the site representative on site.

Key Responsibilities

1. **Leadership**

- Responsible for verifying that contractor leadership understands their responsibility and that of their employees, primarily the site representative pertaining to their role in cold conditions and training set forth by this procedure
- Responsible for verifying training records and periodic audits of procedure implementation and coherence
- Responsible for ensuring all criteria set forth by this procedure are followed

2. **Contractor Leadership**

- Responsible for ensuring that all employees working in cold conditions receive required training set forth by this procedure
- Responsible for ensuring all criteria set forth by this procedure are followed

3. **Supervisors in charge of employees working under this procedure**

- Providing engineering controls
- Ensuring workers have proper cold weather clothing

4. **Frostbite Prevention (SITE REPRESENTATIVE)**

- The site representative can be a working position
- Must observe of all crew members
- Be aware of peer pressure to return to work
- Being aware of the warning signs of cold weather injuries
- Being aware of risk factors that make crew members more susceptible to injury from cold temperatures
- Observing crew members for signs and symptoms of cold injuries
- Assuring individuals under their oversight have been properly trained
- Ensure that any and all necessary engineering, administrative, and PPE controls are in place and used correctly prior to work beginning

- Ensure that Cold Weather Injury Prevention Plan is filled out correctly and is communicated to the Issuing Authority
- Ensure all employees have reviewed the plan and understand its contents
- Monitoring temperature/wind chill on site using appropriate tools.
- Monitoring all personnel listed on the injury prevention plan for signs and symptoms of cold stress or hypothermia
- Responsible for ensuring all employees abide by work / break time intervals defined during the pre-job meeting. The Issuing Authority will be inform of the work / break intervals and may add any additional frequency or concerns on permit.

5. Individuals Working in Cold

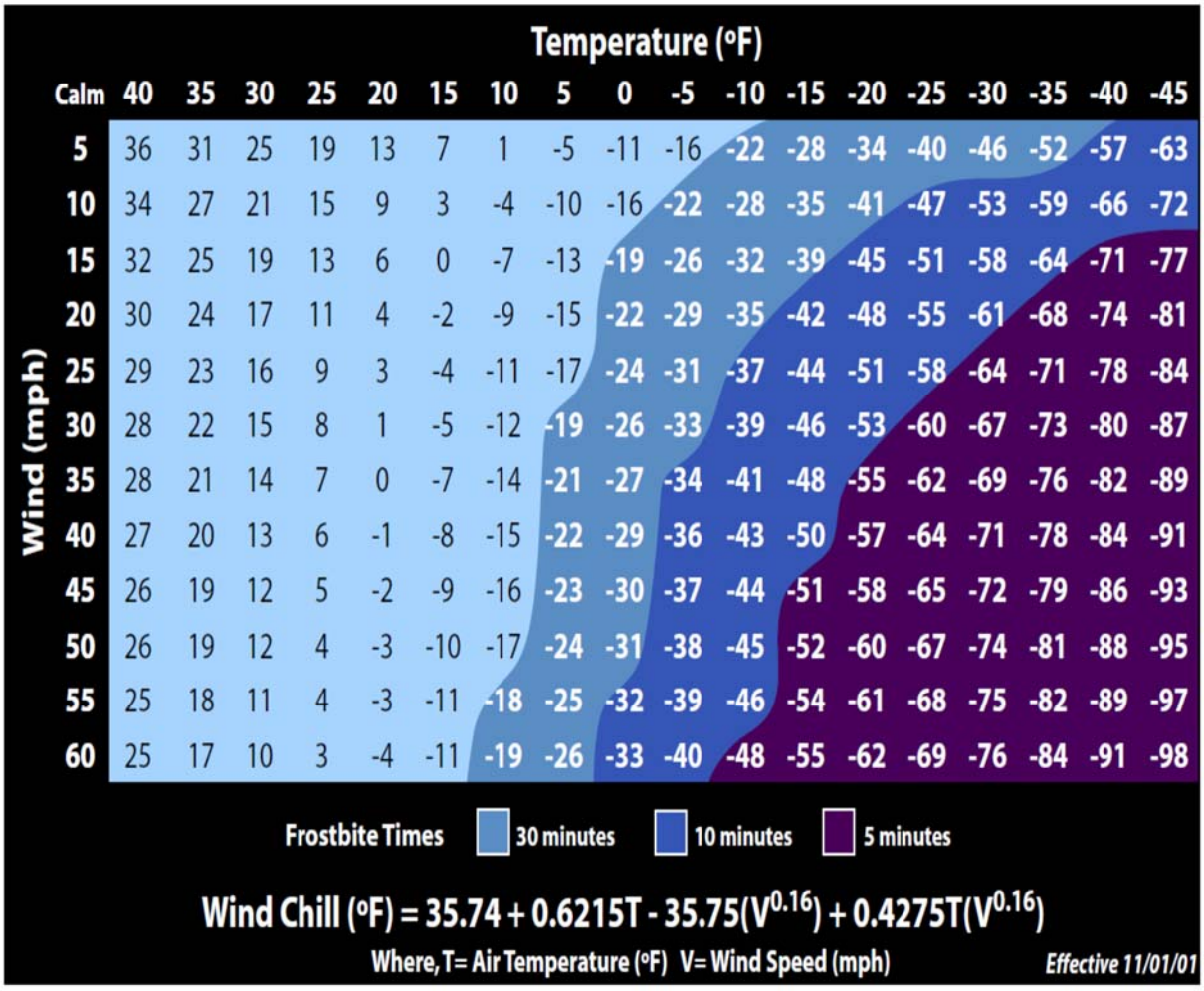
- Understanding and abiding by all control measures put into place while working in cold
- Communicating any unforeseen risks to site representative for consideration
- Donning the appropriate level of PPE for conditions as defined in the pre-job assessment
- Monitoring self and others for the signs and symptoms of cold injury
- Using engineering controls as described in this procedure
- Knowing the warning signs of cold weather injuries
- Knowing the proper first aid treatments for injuries sustained in cold weather or temperatures
- Knowing the risk factors that make persons susceptible to injury from cold temperatures
- Knowing the characteristics and dangers of snow and ice build ups that may accumulate and how to prevent an injury or accident caused by them.
- Following the work / warm-up schedule as directed
- Lone workers shall not be allowed to work in cold weather.

Key Documents/Tools/References

- Alaska Safety Handbook “Cold Related Injuries” Section
- ACGIH TLV Handbook
- NOAA NWS Wind Chill Chart

Attachment A–Wind Chill Chart

Wind Chill Chart



Compressed Gas Cylinders/Compressed Air

Many industrial and construction operations require the use of compressed gases for a variety of different operations. Compressed gases present a unique hazard. Depending on the particular gas, there is a potential for simultaneous exposure to both mechanical and chemical hazards. Gases may be:

- Flammable or combustible
- Explosive
- Corrosive
- Poisonous
- Inert
- A combination of hazards

Safety Procedures

Careful procedures are necessary for handling the various compressed gases, the cylinders containing the compressed gases, regulators, or valves used to control gas flow, and the piping used to confine gases during flow.

C & C Oilfield employees must be trained on the proper use, handling and storage of compressed gas cylinders. C & C Oilfield has established the following safety procedures for compressed gas cylinders:

1. Handle cylinders gently; rough handling can lead to leaks, which might result in explosions. Do not use ropes or chains to lift a cylinder, and do not lift it by its cap.
2. Store cylinders in shaded, well-ventilated, dry areas away from flammable substances (oil, gasoline, or waste). Separate the oxygen cylinders from flammable gases. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards. Storage areas for full and empty cylinders must be designated and labeled. Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways.
3. Post “No Smoking” and “Caution–Flammable Gas” signs on all cylinders. Secure them with chains or rope, in an upright position, with caps in place.
4. Cylinders should be marked as “MT” and dated when empty. Never mix gases in a cylinder and only professionals should refill cylinders. Empty cylinders must be handled as carefully as full cylinders.
5. Never use cylinders that have been defaced or had suppliers’ identification information (labels, tags, decals) removed. The color of a cylinder cannot be relied upon to indicate a particular gas.
6. Gas identification should be stenciled or stamped on the cylinder or affixed with a label. No compressed gas cylinder should be accepted for use that does not legibly identify its content by name.

7. When a cylinder cap cannot be removed by hand, cylinder shall be tagged “Do Not Use” and returned to the designated storage area for return to vendor.
8. Visual and other inspections shall be conducted to determine that compressed gas cylinders are a safe condition.
9. Do not attempt to mix two gases in one cylinder, or transfer gas from one cylinder to another.
10. Use regulators, gauges, hoses, and so on only for the particular gases for which they are specified. Do not combine these appliances with cylinders containing gases that have different properties. Use properly fitted and recommended wrenches with cylinder valve accessories.
11. Only tools provided by the supplier should be used to open and close cylinder valves.
12. Cylinders must be equipped with the correct regulators. Regulators and cylinder valves should be inspected for grease, oil, dirt and solvents. Furthermore, the cylinders shall be equipped with a pressure indicating gauge along with a pressure relief valve. The pressure relief valve shall not allow pressures to exceed 10% over MAOP (Maximum Allowable Operating Pressure).
13. Soap tests shall be conducted routinely on manifolds, gauges, hoses, and fittings to disclose leaks. Do not attempt to repair valves or plugs on a leaking gas cylinder; such cylinders shall not be used. Leaking cylinders should be moved to an isolated, well ventilated area, away from ignition sources. Notify the supplier for assistance.
14. Keep cylinder valves closed and protector caps in place at all times, except when the cylinder is in use. Release the regulator adjusting screw and pressure gauges before opening the cylinder valve. Open cylinder valves slowly with the hose end of the valve pointing away from personnel. Never force a cylinder valve open. If it does not open in a normal fashion, set it aside and notify the supplier.
15. Never leave cylinder valves open when they are not being used. When you finish a job or take a break, close the cylinder valves and release the regulator adjusting screw to relieve the pressure on the hose. Coil the hoses near or on top of the cylinders, but do not wrap them around the cylinder.
16. Air receivers equipped with a drain valve shall be drained at recommended manufacturer intervals. This shall prevent the buildup of internal corrosion due to excessive moisture.
17. Hoses and connections should be inspected regularly for damage. Hoses should be stored in cool areas and protected from damage.
18. Never use cylinders for purposes they were not designed for, such as rollers, supports, dusting off clothing, and so on.

19. When transporting cylinders in a vehicle, secure the cylinders in a vertical secured position using a basket or cart so they cannot move or fall while the vehicle is moving. Regulators should be removed and cylinders capped for movement. Keep cylinders of different types of gases separated as much as possible to avoid taking the wrong one off the vehicle and to reduce the possibility of an accident or reaction should two cylinders be leaking slightly. Cylinders should not be dropped or permitted to strike violently and protective caps are not used to lift cylinders.
20. Cylinders must be secured at all times in such a way as to avoid them being knocked over or damaged, must be stored in a vertical position, not stored in public hallways, and segregated bases upon contents. 20 feet should be maintained between oxidizers and flammables or firewalls erected at least 5 feet high and with a fire rating of 30 minutes. Cylinders should be capped when they are not being used.

Oxygen and Acetylene

- Do not store oxygen and acetylene together. Keep them separated by 20 feet or by a five-foot-high firewall.
- Always use and store acetylene cylinders in an upright position (valve end up) to prevent the acetone (a stabilizing agent) from draining into the valves or fittings. Without acetone present to stabilize the acetylene, it can explode.
- Never use acetylene at a hose pressure in excess of 15 pounds per square inch (gauge). Above 15 psig, acetylene is extremely unstable and can explode.
- Do not allow oxygen to come in contact with oil or grease; it can cause an explosion and fire. Never lubricate or allow oil or grease to get on oxygen connections; use only those types of fittings that do not require lubrication.
- Never use oxygen as a substitute for compressed air.
- Be aware that oxygen connections for hoses and regulators have right-handed threads. Acetylene and cutting gas connections have left-handed threads.

Compressed Air

- Never point an open-air hose at another person. Never use it to blow dirt from clothing. Compressed air can penetrate the blood stream without breaking the skin. The resulting air bubbles are extremely painful, and can cause death.
- Wear goggles if the use of compressed air stirs up dust and flying particles.
- Direct pressure equipment, such as grease guns and spray paint guns, away from the body and other personnel in the area.
- Regulator pressure shall be reduced to 30 psi prior to conducting cleaning activities.

Natural Gas

- Never use natural gas to power pneumatic tools.

- Use natural gas only as fuel for internal combustion machines or to power pumps, pneumatic controls, or starters. Use only in areas free of other combustion sources. Any other use of natural gas requires prior approval by the team leader.
- Do not vent or exhaust natural gas to confined areas, enclosures, or other areas where gas can be trapped.
- Never use rubber hose for supply or exhaust lines for natural gas-powered equipment.
- Isolate natural gas from air supply systems. Never co-mingle any type of natural gas and air supply system.
- Natural gas used at some locations may be purchased from an oil-producing lease and may not have been odorized for domestic use. Extra precautions should be taken at these locations, as natural gas itself does not have a detectable odor. Delivery lines and equipment lines should be checked periodically for leaks.

Safety Relief Valves

Only qualified C & C Oilfield personnel shall be allowed to service safety relief devices. Any servicing or repairs that require resetting of safety valves must be done only by or after consultation with the valve manufacturer or after reviewing the service manual provided by the manufacturer.

Confined Space

A Permit-Required Confined Space is any tank, vessel, or similar enclosed area that:

1. Contains an atmospheric or physical hazard, or has the potential to contain such a hazard,
2. Has a restricted means of entry and egress, and
3. Is not designed for continuous human occupancy.

A Permit-Confined space is further defined as any tank, vessel, silo, vault, pit or open-topped space more than 4 feet deep, except open-topped spaces whose width is greater that the depth.

Although OSHA allows confined spaces with no potential for a recognized hazard to be considered Non-Permit Required Confined Spaces, C & C Oilfield shall consider all confined spaces as Permit-Required Confined Spaces.

Examples of Permit-Required Confined Spaces found at C & C Oilfield include:

- Product Storage Tanks;
- Utility Vaults;
- Sumps;
- Septic Tanks;
- Cargo Holds on Tank Trucks, and
- Storm Water Collection Tank.

Each facility will conduct an inventory of confined spaces and attach the list as an appendix to this document.

Warning signs must be posted at all point(s) of entry to identify confined spaces. Signs shall state: **CONFINED SPACE – DANGER – DO NOT ENTER.**

The owner clients are responsible for implementing and enforcing the confined space entry program.

In order to perform work that involves entry into a Permit-Required Confined Space, the following requirements must be met:

- The Operations Manager must specifically approve the entry.
- All hazards and potential hazards must be identified and appropriate precautions taken.
- A Confined Space Entry Permit must be completely filled out and the appropriate signatures obtained.
- All personnel must have completed training appropriate to their duties; and
- An effective Rescue Plan must be developed.

Entry is defined as any part of the body breaking the plane of an opening into the Permit-Required Confined Space.

Preparation of Confined Space

Before entering the interior of any vessel or tank, it shall be drained, washed, purged, and flushed to the extent practical.

Blind all necessary flanges or disconnect all lines that may carry harmful agents to ensure that no vapors or fluids can leak into the confined space area. Lockout and tag all pumps, motors, or any other energy source to ensure complete isolation to the confined space. All established electrical lockout/tagout and blinding procedures for equipment isolation shall be followed.

The use of purging and mechanical ventilation should be considered prior to entering confined spaces unless conditions prevent its use. Ventilation equipment must be hazard classed for the area it will be used in; for example, Class I Division II explosion proof fans may be required if ventilation is used.

C & C Oilfield employees may not enter a confined space where exposed energized parts exist unless illumination is provided to create a safe working environment. Protective shields, barriers, or insulated materials shall be used to prevent contact with equipment when exposed energized parts are present.

Special considerations must be given to tanks that are being purged with an inert gas. "Normal" combustible gas indicators will not accurately measure the combustible gas in a tank being purged. Special instruments, such as a MSA tankscope, must be used to accurately monitor combustible gas in an "inert" atmosphere.

Testing Confined Space Atmospheres

Confined space atmospheres must be tested before entry is allowed. The atmosphere must be tested for oxygen content, flammability (LEL), any other suspected toxic contaminants. The tests must be conducted in the order listed.

Where entry is required to test the atmosphere, the individual conducting the initial test shall wear a SCBA (self-contained breathing apparatus) or airline positive pressure respirator with egress bottle.

All equipment used for atmospheric testing shall be calibrated and operationally checked prior to use according to manufacturer's specifications. The atmospheric tests and operational checks that precede the issuing of a permit should be as close as practical to the time the work is to begin and recorded on the entry permit. All persons associated with the confined space entry will witness equipment calibration before atmosphere is tested and witness the result of initial atmospheric monitoring.

The percentage of oxygen for unprotected entry into a confined space shall be no less than 19.5 percent and no greater than 23.5 percent. The oxygen level must be checked before the flammability test is conducted.

Entry will not be allowed if LEL is greater than 10 percent unless the confined space has been rendered inert.

Direct reading gas testing instruments are the only units approved for Confined Space Entry Jobs. Contact the Safety Coordinator if you have questions.

Those confined spaces that do not require respiratory protection based on the test results shall be continuously monitored with an oxygen meter during the performance of work. The area must be evacuated immediately if the oxygen content falls below 19.5 percent by volume if proper respiratory equipment is not being used. The area must also be evacuated immediately if the oxygen content rises above 23.5 percent by volume.

Continuous monitoring shall also be conducted for toxic gasses and combustible gasses (LEL) which may be released during the course of work. Continuous monitoring for toxic and combustible gases is mandatory on all confined space work regardless of respiratory protection provided. The area must be evacuated if the combustible gasses rise above 10 percent LEL. The area must be ventilated to ensure the LEL is below 10 percent before re-entry is permitted. The confined space is continuously monitored because the LEL may rise above the 10 percent safe level.

If ventilation is required to evacuate the atmospheric area, all entrants will wear 4-gas monitors during the entire entry. These monitors will, at a minimum, check oxygen, lel, hydrogen sulfide, and carbon monoxide. Atmospheric monitoring will match the potentially present hazards. All persons wearing these devices will have received training in device operation before being asked to wear the devices.

Confined Space Entry Permits

The Entry Supervisor is responsible for completing the entry permit, the document that controls entry into a confined space, and enforcing any requirements identified on the permit.

Work in a confined space will not be allowed until a confined space entry permit is completed and a JSA has been held to review the entry permit. Permits must have an expiration time. Permits will not be valid for more than one shift. Entry Supervisor will vacate the space and void the permit at the end of the shift.

The entry permit shall be immediately voided if any condition or circumstance arises that was not anticipated when the permit was completed.

Any C & C Oilfield employee has the right and responsibility to ask to review calibrated air monitoring data before and during entry, especially if he believes the conditions have changed. If conditions change outside the scope of the original permit, the permit will be voided, all persons removed, and a new permit issued if the entry can be done safely. C & C Oilfield, if continuous monitoring is not being utilized, will periodically recheck the atmosphere and make a notation on the permit in the space provided. All persons in the confined space, as well as Attendants and Supervisors, will be made known of the current atmospheric conditions.

A copy of the permit shall be retained on file at the local safety office or field office where the work occurred for at least one year upon completion of the work.

The permit must be posted at the entrance of the confined space during performance of work.

Confined Space Personal Protective Equipment

Authorized Entrants shall be provided with the proper respiratory equipment and operating instructions. This equipment shall be checked prior to use to ensure operability. Contract personnel entering a hazardous atmosphere shall provide their own respiratory protection equipment and it shall be used in accordance with a satisfactory respiratory protection program.

Proper personal protective equipment (gloves, goggles, hearing protection, etc.) shall be worn where applicable. The Safety Coordinator will assist in ensuring that the proper protective equipment is utilized.

All Authorized Entrants shall wear a full body fall protection harness. This shall be done even when no vertical hoisting equipment is provided, such as entries made horizontally, at ground level. Full body harnesses can greatly facilitate quick rescue in many situations, even if they only serve as a “handle”.

Attendant

In all cases of Permit-Required Confined Space entry, the Attendant(s) shall be posted outside of the entry exit in order to monitor the work environment for hazards that have the potential to endanger entrants. The Attendant(s) is also responsible for activating the rescue plan, if necessary.

The Attendant(s) shall be in constant communication, by the most practical and effective means available, with the individual(s) in the confined space. Circumstances may require that more than one Attendant be posted at different access/entry points.

The Attendant must not leave their duty station while Entrants are in the Permit-Required Confined Space, unless relieved by another trained Attendant.

The Attendant shall not perform an entry rescue unless he/she is properly trained and equipped as a Rescuer and another trained Attendant has relieved him/her.

C & C Oilfield does not allow a single attendant to monitor multiple confined spaces.

Rescue

A written rescue plan shall be developed prior to entering a Permit-Required Confined Space. The plan shall include, at a minimum:

- Means of notification;
- An assessment of the hazard;
- Appropriate recovery techniques;
- Personnel required to perform the rescue;
- Precautions to be taken while in the confined space;
- Personal protective equipment to be used;
- Rescue equipment needed;
- Tools or other special equipment needed; and
- Identification of emergency medical resources.

The rescue service shall be designated prior to conducting the entry. The rescue service may consist of training employees, contractors or community resources.

Regardless of the composition of the rescue service, the Safety Coordinator must formally evaluate the rescue service's ability to respond in a timely manner and the rescue service's proficiency with rescue-related tasks and equipment. Alternative or additional rescue services must be obtained if the rescue service is found deficient.

If the Permit-Required Confined Space contains an atmosphere that is Immediately Dangerous to Life or Health (IDLH), the rescue service must be in the immediate vicinity of the jobsite, and they must be prepared to perform a rescue at a moments notice.

The rescue service must be advised of the hazards they may confront when entering the Permit-Required Confined Space, and they must have access to the Permit-Required Confined Space so that they can develop appropriate rescue plans and practice rescue operations.

If the rescue service consists of C & C Oilfield employees, the following measures must be taken:

- Provide affected employees with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train affected employees so they are proficient in the use of that PPE;
- Train affected employees to perform assigned rescue duties;
- Ensure employees successfully complete the training required to establish proficiency as an Authorized Entrant;
- Train affected employees in basic first-aid and cardiopulmonary resuscitation (CPR);

- Ensure that at least one member of the rescue team or service holding a current certification in first aid and CPR is available; and
- Ensure that rescuers practice permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces.

To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an Authorized Entrant enters a Permit-Required Confined Space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

- Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of the entrant.
- The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary.
- A mechanical device shall be available to retrieve personnel from vertical type permit spaces more than 5 feet (1.52 m) deep.

If an injured entrant is exposed to a substance for which a Safety Data Sheet (SDS) or other similar written information is available, that document shall be made available to the medical facility treating the exposed Entrant.

Employee Training

C & C Oilfield shall provide training so that all employees who participate in confined space entry work acquire the understanding, knowledge, and skills necessary for the safe performance of the duties.

Training shall be provided to each employee:

- Before the employee is first assigned duties related to confined space entry;
- Before there is a change in assigned duties;
- Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained; and
- Whenever there is reason to believe either that there are deviations from the permit space entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.

The training shall establish employee proficiency by written tests, oral tests, and/or skills demonstrations.

C & C Oilfield shall certify that training has been accomplished. The certification shall include the employee's name, the trainer's signature/initials, and the dates of training. Certification must be made available to employees and their representative.

Employee Safety

C & C Oilfield management shall protect employees by ensuring that:

1. The space is protected from external hazards. Barriers must be erected if necessary to protect employees and the space from pedestrian, vehicular and/or any other external hazard. All employees are expected to advise the Attendant and/or Entry Supervisor of any situation/condition that is or potentially could be hazardous—including but not limited to hazards not covered by the permit, injury, near miss or misuse of PPE.
2. Authorized positions, including Authorized Entrants, Attendants, and the designated Entry Supervisor will be clearly listed outside of the confined space.

Management will ensure that **Authorized Entrants**:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- Properly use equipment;
- Communicate with the attendant as necessary to enable the attendant to monitor the conditions in the permit space while the permit is in force, and to enable the attendant to alert entrants of the need to evacuate the space;
- Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or the entrant detects a prohibited condition; and exit from the permit space as quickly as possible whenever an order to evacuate is given by the attendant or the entry supervisor either verbally or with an evacuation alarm.

Management will ensure that each **Attendant**:

- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- Monitors only a single confined space at a time—NO EXCEPTIONS;
- Is aware of possible behavioral effects of hazard exposure in authorized entrants;
- Continuously maintains an accurate count of authorized entrants in the permit space and accurately identifies who is in the permit space;
- Remains outside the permit space during entry operations until relieved by another Attendant;
- Communicates with Authorized Entrants as necessary to monitor entrant status and to alert Entrants of the need to evacuate;

- Calls for rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards—site-specific emergency protocol must be established and the equipment tested prior to entrance into the space;
- Monitors activities inside and outside the space to determine if it is safe for Entrants to remain in the space and orders the Authorized Entrants to evacuate the permit space immediately under any of the following conditions:
    a. A prohibited condition is detected;
    b. The behavioral effects of hazard exposure are detected in an authorized entrant;
    c. A situation outside the space that could endanger the authorized entrants is detected
    d. He/she cannot effectively and safely perform all of the required duties.
- Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
    a. Warn the unauthorized persons that they must stay away from the permit space;
    b. Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and
    c. Inform the Authorized Entrants and the Entry Supervisor if unauthorized persons have entered the permit space;
    d. Performs non-entry rescues; and
    e. Performs no duties that might interfere with the attendant's primary duty to monitor and protect the Authorized Entrants.
- An Attendant must be on duty outside the confined space for the duration of entry operations.

Management shall ensure that each **Entry Supervisor**:

- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
- Terminates the entry and cancels the permit when appropriate;
- Verifies that rescue services are available and that the means for summoning them are operable;
- Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
- Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry

operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

Contractors

When C & C Oilfield arranges to have contractors perform work that involves permit space entry, the Safety Coordinator shall:

- Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this section;
- Apprise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space;
- Apprise the contractor of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;
- Coordinate entry operations with the contractor, when both host employer personnel and contractor personnel will be working in or near permit spaces—site-specific coordination procedures must be in place before multiple employers can work within the same space.
- Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.

Each contractor who is retained to perform permit space entry operations shall:

- Obtain any available information regarding permit space hazards and entry operations from C & C Oilfield;
- Coordinate entry operations with C & C Oilfield; and
- Inform C & C Oilfield of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation. See Appendix for a copy of a confined space permit.

Program Review

C & C Oilfield will monitor the confined space program continuously through site reviews and document a program review annually. To ensure program compliance, the following actions and supporting documentation will be reviewed:

- Correct confined space permit completion
- Training adequacy for all persons associated with confined space
- Any client additions or changes to policy
- Review of actual incidents or near misses associated with confined space

C & C Oilfield will have the Safety Director, Superintendent, and at least one member of upper management in the program review meeting. Changes will be made to policy and procedures at this time unless further information is needed.

If no entry is made during the previous 12-month period, no review will be conducted.

All confined space permits must be retained for a period of 12 months for purposes of program review.

Construction Cranes and Material Handling

Introduction

Different types of hoisting and rigging devices and lifting equipment may be used at C & C Oilfield for lifting, pulling, and moving equipment. Only qualified and authorized individuals shall operate these devices. The safety rules and guidance in this program apply to all operations at C & C Oilfield that involve the use of wire rope, slings, and lifting equipment, such as cranes and hoists. The company's Safety Personnel are responsible for the administration and periodic review of this program.

Employee Responsibilities

Supervisors are responsible for:

- Ensuring that employees under their supervision receive the required training and are competent in the use of the lifting equipment they are expected to operate. They must have been specifically trained in the operation and safety of the machinery/equipment.
- Providing training for prospective operators in order to prevent property damage and injury.
- Investigation and documentation of injuries caused by improper lifting and incorporation of investigation findings into work procedures to avoid future injuries.
- The recording and reporting of injuries in accordance with OSHA regulations by 29 CFR Part 1904.
- Evaluating trainees using the equipment and competency testing.
- Ensuring the equipment is inspected and tested monthly by a responsible individual and that rigging equipment is inspected both prior to use and monthly.
- Periodic evaluation of work areas and employees' work techniques to assess the potential for and prevention of injuries.
- Evaluations of new operations to engineer out hazards before work processes are implemented.

Equipment Operators are responsible for:

- Operating lifting and pulling equipment safely
- Conducting functional tests prior to using the equipment
- Selecting and using rigging equipment appropriately
- Selecting the proper sling
- Properly storing all rigging so as to prevent damage
- Determining the sling capacity

- Learning sling configurations
- Identifying and evaluating sling deterioration
- Determining the proper size for slings and components
- Not using manila rope for rigging
- Making sure that shackle pins and shouldered eyebolts are installed in accordance with the manufacturer's recommendations
- Making sure that ordinary (shoulder less) eyebolts are threaded in at least 1.5 times the bolt diameter
- Using safety hoist rings (swivel eyes) as a preferred substitute for eye bolts wherever possible
- Padding sharp edges to protect slings
- Not using slings, eyebolts, shackles or hooks that have been cut, welded or brazed.

Company Safety Personnel are responsible for:

- Ensuring the annual maintenance and inspection of all C & C Oilfield equipment, slings, and pickup lines that are not covered by a program with maintenance responsibility is performed.
- Conducting periodic inspections of wire rope, shackles, eyes, sockets, etc.
- Maintaining written records of inspections and tests, and placing copies of all inspections and test results in a file—periodically verifying monthly test and inspection reports
- The inspection of equipment following modification or extensive repairs
- The training of employees on all mechanical lifting equipment
- Interpreting wire rope and cable safety rules and standards
- Removal of defective slings and cables from service and destroying or disposing of them to prevent inadvertent use
- Checking to ensure that all responsible parties are properly storing rigging and related hardware.

Training

Employees will be trained on the hazards associated with lifting equipment, and the policies and procedures defined in this program. Only trained and certified employees will be permitted to utilize rigging materials and operate lifting equipment.

Only qualified employees who have successfully completed both a knowledge and practical assessment are allowed to operate lifting equipment and machinery. Crane operators must be certified by one of the following methods:

1. Certification by accredited crane operator testing organization

2. Qualification by an audited employer program
3. Qualification by the U.S. military
4. Licensing by a government entity

Pre-Operation Procedure

At the start of each work shift, operators shall follow these steps before using lifting equipment that utilizes wire rope, slings and/or cables:

- Visually inspect the wire rope, eyes and sockets as much as possible; in most instances, this will be done at the work site before starting the job.
- Obtain any necessary safe work permits (e.g. critical or engineered lifts) required by local jurisdiction.
- Never overload the lifting equipment or rigging— lifting and rigging equipment must have identification markings that are legible and permanently affixed to indicate the load capacities that indicate the manufacturer's recommended safe working load. Lifting and rigging equipment in which identification markings are not present or are not legible must not be used.
- Make certain there are no obstructions between the equipment and where the rope is attached.
- Make certain the pickup line is operating smoothly by lifting the equipment up and down to verify that the line is in the sheave groove.
- Plan and check the path of travel, if applicable, to avoid personnel and obstructions.
- Safety barriers should be established and marked with warning lines, cones and chains, railings or similar barriers for the safety of personnel whenever a lift is in process.
- Employees must be clear of the danger zone at all times--do not walk, stand, or work under suspended loads.
- Each person participating in the operation must
    - **BE ALERT!**
    - Watch the crane block, sling and load, and
    - Be able to move freely, if necessary.

General Rigging and Lifting Safety Requirements

1. All rigging equipment will be inspected on a monthly basis including an inspection prior to use per the manufacturer's recommendation by a competent person. All of these inspections will be documented.
2. Defective cables and slings shall be tagged out of, and removed from, service until properly repaired or disposed of. Disposal will consist of destruction of defective equipment. The inspector shall initiate corrective action by notifying the company Safety Officer.
3. Never ride on a load that is being hoisted.

4. Do not damage the load being lifted with the lifting apparatus. Utilize padding for soft edges and establish any potential damage to equipment by previewing stress points created by lifting.
5. Equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met.
6. The manufacturer's procedures and prohibitions must be complied with when assembling and disassembling equipment. The assembly/disassembly of equipment must be supervised by a person who is both qualified by education, training, certification, or experience and is deemed competent to recognize existing and predictable hazards and has the authority to take prompt corrective action or a qualified person who is accompanied and assisted by a competent person during the assembly and disassembly of cranes. The competent person must be designated as the A/D director. The A/D director must be knowledgeable in the processes and procedures involved in the assembly and disassembly of the crane. The competent person deemed the A/D director is required to review the A/D processes and procedures prior to commencing operations unless he or she understands and is familiar with the applicable processes and procedures and has experience in A/D operations regarding the same type and configuration of the crane and associated equipment.
7. All manufacturer procedures applicable to the operational functions of equipment, including its use with attachments, must be complied with.
8. Safety devices such as crane level indicator, boom stops, jib stops, foot pedal brake locks, and horns are required to be on all equipment and must be in proper working order before operations begin. If any devices are not in proper working order, the equipment must be taken out of service and operations must not resume until the device is working properly again.
9. Protect slings from sharp edges. Never set loads down on slings; if necessary, set loads on blocking.
10. Do not side load: this creates uneven stress points.
11. When picking a load, determine the sling angle. Lifting equipment rated capacities are different when stressed at different angles.
12. Flagmen and those persons lifting loads will use hand signals that are understood by all parties. Radio communication is preferred over hand signals.
13. No person may rig a load to be lifted unless they have been properly trained.
14. **C & C Oilfield does not permit the use of chains for lifting.**
15. No one is permitted to make modifications or additions of any sort to lifting equipment which affects the safe operation of the equipment. Modifications may only be made with the manufacturer's **written** approval. A registered professional engineer must be

qualified with respect to the equipment involved, and must ensure the original safety factor of the equipment is not reduced.

16. The load's weight will be known before lifting is conducted.
17. Attach cable clips properly. (The clip saddle should be on the load line)
18. Lifting eyes and points of attachment will match the structural integrity of the lifting equipment. Never wrap lines around a load to be lifted.
19. Whenever internal combustion engine powered equipment exhausts in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.
20. An accessible fire extinguisher of 5BC rating, or higher, shall be available at all operator stations or cabs of equipment.
21. Operators must meet the physical qualifications, pass a physical, a written examination, understand and be able to use a load chart as well as calculate loads for the crane type.

Rigging Integrity Qualification

The following types of slings shall be rejected or destroyed:

Wire rope slings with

- Kinking, crushing, bird-caging, or other distortions
- Evidence of heat damage
- Cracks, deformation, or worn end attachments.
- Six randomly broken wires in a single rope lay
- Three broken wires in one strand of rope
- Cracked hooks, shackles, eyebolts, turnbuckles, or other components that are damaged or deformed.

Note: Rotation resistant rope has different strand break requirements; therefore, follow the manufacturer's requirements.

Rigging Storage

Rigging equipment must be stored in a manner that protects the integrity of the equipment. Sun, dirt, and wet conditions will potentially damage rigging equipment. Lifting equipment that is not being used must be stored out of the elements in storage compartments on equipment or in designated storage cases, and it must be removed from the work area when not in use. Both the equipment operator and rigger are responsible for ensuring that all equipment is stored properly. Equipment will be thoroughly inspected before use. Certification of rigging equipment should include the date of inspection, ID of the rope inspected, and the signature of the person performing the inspection.

Operating Hoisting Equipment

A load must not be left hanging on the hoist any longer than necessary. When possible, use a hoist or crane to lift a heavy load, and always rig the hoist down and secure it after the work is completed.

While operating hoisting equipment, never place a part of the machine or load within fifteen feet, either laterally or vertically, of an energized power line. (See Power Line Restrictions) Never use hoisting equipment for lifting personnel.

Load Capacity

The manufacturer's maximum load specification for the hoist must be noted on the hoist. All operators of cranes, cherry pickers, and other lifting equipment must know the load capacities of the equipment they are operating. Operators are forbidden to exceed the capacities of their equipment. Capacity charts, operating speeds and hazard signs must be posted by the controls so the operator can see them clearly.

Load tests are to be performed by the company Safety Personnel, and the written reports and records of these tests are to be maintained by the safety department. In addition, written reports are to include the testing procedures used and documentation of any repairs made.

Boom angle indicators must be permanently attached to the boom and functioning properly. Indicators must show the operating angle and corresponding radius.

Tag Lines

When safe to do so, tag lines must be used to control loads. Before a hook is moved, personnel using tag lines must inspect the lines for knots. Tag lines must not be wrapped around the employee's hand or wrist. The operator, signal person, and load handlers are responsible for ensuring that the load is never over any person.

Outriggers

USE YOUR OUTRIGGERS! Make sure outriggers are on firm timber or steel matting. Outriggers are better than rubber chocks.

Hooks

Hooks on all blocks, including snatch blocks, must have bolts or latches, which must be used each time a load is lifted. The only time bolts or latches are not mandatory is while lowering-in during pipeline construction.

Handling Cable

Always maintain tension on the cable when reeling it in or out. Leather-palm gloves will be used when handling cables.

Using Slings

- Pad or block sharp corners
- Lift and lower loads slowly
- Use the appropriate chart to ensure that slings of adequate capacity are used
- Know how much weight you are lifting.
- Do not use knots to make slings.
- Do not jerk loads.

Applying Wire Rope Clips

- Use the number and spacing of clips recommended in the following table.
- Make sure the U-bolts of all wire ropes are on the short (dead) end of the rope
- Tighten nuts evenly to the manufacturer's recommended torque
- Before lifting, be sure that all clips have been torqued.
- After several lifts, re-torque all clips.

Number and Spacing of U-Blot Wire Rope Clips

Imp. Plow Steel Rope	Drop Forged	Other Material	Min. Spacing
½	3	4	3
5/8	3	4	3 ¾
¾	4	5	4 ½
7/8	4	5	5 ¼
1	5	6	6
1 1/8	6	6	6 ¾
1 ¼	6	7	7 ½
1 3/8	7	7	8 ¼
1 ½	7	8	9

Hoist Rotation

For a hoist with **manual rotation**, ensure that the locking mechanism is working properly, and lock the hoist in the desired position before lifting the load.

Caution: A load can easily swing out of control if the hoist is not correctly locked.

Do not attempt to manually rotate a loaded hoist until all personnel are positioned clear of the load, and an adequate number of tag lines are in place.

A hoist with **power rotation** should be used, if available, for jobs that require horizontal positioning of a load after it has been picked up.

Signal Persons

A qualified signal person(s) must work with the hoist or crane operator when

- Personnel assisting with the load are out of the range of the operator's vision
- The view is obstructed when the equipment is traveling
- The moving load is out of the range of the operator's vision, or
- The person in charge of the lift determines it to be necessary.
- The appropriate ANSI standard signals will be used, and illustrations of the signals shall be posted at the job site.

Inspecting Hoisting Equipment—Cranes, Slings, Hooks, and other equipment.

All lifting equipment must be inspected by a competent person before each use. If heavy loads are being lifted, periodic inspections of the equipment are mandatory to ensure the condition of the equipment is still within the manufacturers guidelines. If equipment does not pass inspection, it shall be removed from the work area, and the report will show "Removed from Service". The inspections must be documented and include the name and signature of the competent person performing the inspection, the serial number or other identifier of the equipment, the date of inspection, and the results of the inspection. Inspection records will remain with the equipment while it is assigned to a jobsite and forwarded to the administrative offices to be added to the equipment's file once the job is complete. Inspection records must be retained for at least 3 months.

All hooks on hoisting equipment should be visually inspected for cracks and twists before the equipment is used. In addition, a monthly and annual inspection of all hoisting equipment must be performed.

Equipment must not be used if it is not working properly. All wire rope must be taken out of service when wear or corrosion exceeds that allowed by the manufacturer's recommendations.

Inspections should include each sling, the fastenings and attachments. Slings found to be defective must be destroyed. Wire rope slings should be replaced if any of the following is observed during inspection:

- Ten randomly broken wires in one rope lay or five broken wires in one strand in one lay,
- Wearing or scraping of one-third the original diameter of outside wires
- Kinking, gouging, bird caging, or other damage, or
- Cracked or deformed end attachments.

The formal inspection program is as follows: use inspection formats provided by the lifting equipment vendor.

- Measured diameter of main rope
- Measured diameter of auxiliary rope
- Rope damage
- Sheave condition
- Drum condition
- Excessive wear (broken wires, rope corrosion, fitting condition)
- Hooks (hardware loose, cracks, excessive wear, bent)
- Excessive stretch
- Slings (torn, safety thread exposed, worn end connections, rotten)

The crane operator is the competent person that conducts the pre-operational inspections. The competent person must conduct a visual inspection of equipment prior to each shift. The inspection must consist of observation for apparent deficiencies. Some inspection items shall include control mechanisms, pressurized lines, hooks and latches, wire rope, electrical apparatus, tires (when used), and ground conditions.

The crane will not be operated, and will be tagged “Out of Order” if a deficiency is found that could prevent the safe operation of the crane.

Inspections are to be conducted on a monthly basis and are to include all critical components: brakes, crane hooks and ropes. The crane manufacturer’s inspection format found within the Operators Manual (including preventative maintenance) will be utilized for all crane inspections. In addition to the regular periodic, daily, and monthly inspections by the operator and safety personnel, all cranes will be subject to a third-party inspection, and these documents will be kept for record keeping purposes. The inspection record shall include the date of the inspection, the name and signature of the competent person performing the inspection, and an appropriate identification of the equipment inspected.

Requirements for Crane Operators/Cherry Picker Operators

Only designated personnel are authorized to use cranes; these persons must be certified through written and practical testing. The crane operator will not operate the crane until the employees assigned to work with the load have explicit instructions and understand their function. The person responsible for the lift and the crane operator must jointly

- Check the load chart (load chart must be accessible to operator inside cab at all times and this chart must be legible)
- Check the boom length against the chart
- Establish the load weight and maximum operating radius, or

- Establish the corresponding minimum boom angle.

The operator shall have access to procedures applicable to the operation of the equipment ready available in the cab at all times. Procedures include rated capacities, recommended operating speeds, special hazard warnings, instructions and operator's manual. Whenever there is a safety concern, the operator must have the authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured.

For cherry picker operations, transport loads at slow speeds on smooth, level surfaces with the boom over the front and swing lock engaged.

Power Line Restrictions

The work zone shall be identified by demarcating boundaries such as flag and range limiting devices, or defining the work zone as 360 degrees around the equipment up to the maximum working radius. The work zone must be identified with warning lines, railings or similar barriers. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line.

If it is determined that any part of the equipment, load line, or load could get closer than 20 feet to a power line, then at least one of the following measures must be taken:

1. Ensure the power lines have been de-energized and visibly grounded.
2. Ensure no part of the equipment, load line or load gets closer than 20 feet to the power line.
3. Determine the line's voltage and minimum approach distance.

Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 feet is maintained between the energized source and the person and the longest conductive object he or she may contact. If the voltage is higher than 50 kV, the clearance shall be increased 4 inches for every 10kV over 50kV [1910.333(c)(3)(i)].

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 4 feet. If the voltage is higher than 50kV, the clearance shall be increased 4 inches for every 10kV over than voltage.
2. If the lines are de-energized, or if insulating barriers are installed to prevent contact with the lines, and if protective measures such as guarding, isolating or insulating are provided, then the clearance may be reduced to the distance allowed within working dimensions of the insulating barrier.
3. If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the

aerial lift and the power line) may be reduced to the distance in Table S-5 in 29 CFR 1910.133.

Work Practices

Employees shall keep all parts of the body inside the platform during raising, lowering, and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person.

Before employees exit or enter a hoisted personnel platform that is not landed, the platform shall be secured to the structure where the work is to be performed, unless securing tot the structure creates an unsafe situation.

Tag lines shall be used unless their use creates an unsafe condition.

The crane operator shall remain at the controls at all times when the crane engine is running and the platform is occupied.

Hoisting of employees shall be promptly discontinued upon indication of any dangerous weather conditions or other impending danger.

Employees being hoisted shall remain in continuous sight of and in direct communication with the operator or signal person. In those situations where direct visual contact with the operator is not possible, and the use of a signal person would create a greater hazard for the person, direct communication alone, such as by radio, may be used.

Employees occupying the personnel platform shall use a body belt/harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage.

No lifts shall be made on another of the crane's loadlines while personnel are suspended on a platform.

Additional precautions that shall be adhered to include, but are not limited to:

- No sudden acceleration or deceleration of the moving load
- Load does not contact any obstructions
- Cranes shall not be used for side pulls except when a specifically authorized by a responsible person
- No hoisting / lowering / traveling while an employee is on the load or hook
- Operator avoids carrying loads over people
- Load shall not be lowered where there is less than two full wraps of rope on the hoisting drum
- Operator shall not leave their position at the controls while the load is suspended

- Prior to maintenance being performed on cranes, proper Lockout/Tagout procedures shall be followed by an authorized person and out of order signs shall be placed on or near the equipment.

Crane Signaling

The objective of this program is to address the requirements for signaling crane operators. The program will cover when a C & C Oilfield signal person must be provided, acceptable methods of communication, maintaining the lines of communication, qualifications required for signal persons, who can signal a crane operator and the testing of communication devices prior to beginning work activities.

A signal person must be provided when:

1) Load travel or the area near or at load placement is not in full view of the operator.
2) Equipment is traveling or the view in the direction of travel is obstructed
3) The operator or person handling the load determines a signal person is necessary due to site specific safety concerns.

The signal person will use hand signals, voice or an audible method of communicating with operators. Methods of communicating must be suitable and appropriate for site conditions. Hand signals must follow the Standard Method in Appendix A of Subpart CC.

The ability to convey signals between the operator and signal person must be maintained. If the ability to transmit signals between operator and signal person is lost at any time, the operator must safely stop operations that require signals until communications can be restored and a signal is given and understood.

A signal person must:

1) Know and understand the type of signals used
2) Be competent in the use of the types of signals to be used
3) Have a basic understanding of equipment and limitations, including crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads
4) Demonstrate that he or she meets the qualification requirements through an oral or written test and through a practical test

Only one person shall give signals to a crane at a time unless an emergency stop signal is given due to safety reasons.

Devices used to transmit signals must be tested on site before beginning operations to ensure that transmission of the signal is effective, clear and reliable.

Electrical Safety: Qualified/Non-Qualified

This section addresses the safe working practices and the hazards faced by C & C Oilfield employees who perform work on exposed energized and de-energized parts or employees who come near enough to be exposed to the electrical hazards they present. Safe work practices will be employed to prevent C & C Oilfield employees from electric shock or other injuries resulting from either direct or in-direct electrical contacts when work is performed near or on equipment that may be energized. C & C Oilfield employees who face the risk of electric shock but are unqualified will be trained and familiar with electrically related safety practices. Employees will be trained in safety related work practices that pertain to their respective job assignments as well as clearance distances.

1. Only a qualified electrician will perform electrical work or repairs.
2. Electrical components will be locked and tagged out before they are worked on except when necessary to locate a definite problem and then only qualified electricians perform this work. Conductors and parts of electrical equipment that have been de-energized but not locked or tagged out should be treated as live parts.
3. While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized, the circuits energizing the parts shall be locked out or tagged out or both.
4. Live electrical equipment and components will not be worked on without proper non-conductive tools.
5. AC light plants will be grounded immediately when set on location. All other skids with electrical power will have properly sized grounding conductors connected to the generator skid.
6. Switches will never be thrown “in” or “out” under loaded circuit. All lighting fixtures shall be kept in good repair. Broken or burned out bulbs will be replaced as soon as possible, and vapor proof globes and guards will be kept in place over lights.
7. Drop cords and lights will have metal guards surrounding them unless this metal guard can become conductive.
8. All electrical cables will be protected from physical damage. Damaged or cut cables will be repaired, spliced, or replaced as soon as possible. Broken or defective portable cables, such as extension cords, will be cut to shorter length or replaced.
9. Electrically powered hand tools will not be equipped with a trigger locking device for continuous running and all should be properly grounded, or of the double insulated U.L. approved case design.
10. All 120 volt single-phase 15 and 20 ampere receptacle outlets on all jobsites, which are not part of the permanent wiring of the building or structure, shall be protected by an approved ground-fault circuit interrupter (GFCI).
11. Portable GFCI’s shall be tested and inspected before each use.

12. Fuse pullers will be available at all times for changing electrical fuses. Periodic checks for proper circuit grounds of all electric outlets will be performed.
13. All high voltage panes (above 440 volts) will be clearly marked "**DANGER- HIGH VOLTAGE**."
14. Electrical apparatus and areas near electrical equipment will not be washed down with water.
15. Electrical hand tools will not be used while standing in water or outside during foul weather conditions.
16. Personnel rescuing a victim of electrical shock will first switch off the power causing the shock. If this is not possible, do not attempt rescue until proper isolation can be achieved.
17. Jewelry and clothing that are conductive shall not be worn unless they are rendered non-conductive by covering, wrapping or other insulating means.
18. Any vehicular or mechanical equipment that is capable of having its moving parts or its structure elevated near overhead lines, will keep a clearance of at least 10 ft for lines containing 50kV. For every 10kV over 50kV, a distance of 4 inches will be added to the original 10 feet.
19. When an unqualified person is working on a line, he or she may not come close to any unguarded, energized overhead line than:
    a. For voltage to ground 50kV or below- 10 feet
    b. For voltage to ground over 50kV- 10 feet, plus and additional 4 inches added to the original 10 feet for every 10kV over 50kV.
20. If work is going to be performed near overhead lines, the lines will be de-energized and grounded or other protective measures will be provided before work is started
21. Only qualified persons (i.e. those permitted to work on or near exposed energized parts) may work on energized parts or equipment. These qualified people will be made familiar with the use of special pre-cautionary techniques, PPE, insulating & shielding materials and insulated tools.
22. When portable ladders are used near exposed electrical parts, they will have non-conductive side rails.
23. When working in confined spaces where electrical hazards may exist, the employer is responsible for providing the proper protective equipment. Proper lock out/tag out procedures shall be utilized. Furthermore, employees will use protective shields, protective barriers or insulating materials as necessary to avoid contact with these parts.
24. Unless properly illuminated where C & C Oilfield employees can perform the job safely, employees may not enter a confined space containing energized parts.
25. In the event that an employee must handle long dimensional conductive objects in areas with expose live parts, the employer shall institute safe work practices to minimize the hazard. Examples of safe work practices include insulation, guarding and material handling techniques.

All qualified employees must adhere to:

Voltage Range Minimum Approach Distances
300V and less…….**AVOID CONTACT**
Over 300V, not over 750V…….1 ft. 0 in. (30.5 cm)
Over 750V, not over 2kV……..1 ft. 6 in. (46 cm)
Over 2kV, not over 15kV……..2 ft. 0 in. (61 cm)
Over 15kV, not over 37kV……3 ft. 0 in. (91 cm)
Over 37kV, not over 87.5kV……...3 ft. 6 in. (107 cm)
Over 87.5kV, not over 121kV…….4 ft. 0 in. (122 cm)
Over 121kV, not over 140kV……..4 ft. 6 in. (137 cm)

Training

All employees shall be trained in and be familiar with all electrical related safety practices which are necessary for their safety. The training received will be both in the classroom and in the field. The degree to which an employee must be trained will be determined by his/her job-specific risk of electrical-related injury.

The training for **qualified persons**, those authorized to work on or in the proximity of exposed energized parts, shall include, but not be limited to:

1. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
2. The skills and techniques necessary to determine the nominal voltage of exposed live parts.
3. The clearance distances specified in # 19 above.
4. Special precautionary techniques, personal protective equipment, insulating and shielding.

Employees shall receive annual critical performance reviews and will be observed on an occasional basis. If at any time, an employee fails to follow the safety-related work practices mandated by C & C Oilfield, he/she will be retrained. Furthermore, an employee shall be trained (retrained) if he/she has not performed the assigned task within the previous 12 months, or there are new technologies, new types of equipment or changes in procedure.

NOTE: Only qualified persons may work on electric circuit parts or equipment that has not been de-energized. Whenever possible, employees are expected to de-energize equipment or lines prior to working on them.

The training for all other employees, **unauthorized persons**, will include:

1. A comprehensive understanding of the conductive properties of items in the vicinity of high-voltage.

2. Safe operating practices while in the vicinity of equipment that is engaged in work on high-voltage power lines.

   NOTE: Additional precautions, such as the use of barricades or insulation, shall be trained on and implemented to protect employees from hazardous ground potentials, which can develop within the first few feet or more outward from the grounding point.

3. All employees will be trained on and familiar with the clearance distances specified in #19 above, as well as any other electrical hazards relevant to their position.

Fall Protection

General

Fall protection systems shall comply with 29 CFR 1910.66, Appendix C and 1926, Sub-part M. All fall protection systems shall be provided and installed before C & C Oilfield employees start the work that necessitates the fall protection. The fall protection plan shall be prepared by a qualified person for the specified work site.

Fall protection is required whenever employees are exposed to a potential fall from a height of six feet or greater. This includes work near and around excavations. Use of guard rails, a safety net or personal fall arrest systems shall be used when the standard methods of protection are not feasible, or when the standard measures would create a greater hazard. The exposure determination shall be made without regard to the use of PPE. C & C Oilfield shall determine the extent to which scaffolds, ladders or vehicle mounted work platforms can be used.

All accidents and serious incidents (near misses) must be investigated, and, if necessary, changes to the fall protection plan must be made.

Safety Monitoring Systems

C & C Oilfield shall designate a competent person to monitor the safety of other employees and we shall ensure that the safety monitor complies with the following requirements:

1. The safety monitor shall be competent to recognize fall hazards;
2. The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;
3. The safety monitor shall be on the same walking/working surface and within visual sighting distance of the employee being monitored;
4. The safety monitor shall be close enough to communicate orally with the employee; and
5. The safety monitor shall not have other responsibilities that could take the monitor's attention from the monitoring function.

Connectors, D-Rings and Snap Hooks

Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials and shall have corrosion-resistant finish. All surfaces shall be smooth to prevent damage to interfacing parts of the system.

D-rings and snap hooks shall have a minimum tensile strength of 5,000 pounds and shall be sized to be compatible with the member to which they are connected to prevent unintentional disengagement of the snap-hook.

Effective January 1, 1998 only locking type snap hooks shall be used. Unless the snap hook is a locking type and designed for the following connections, snap hooks shall not be engaged:

- Directly to webbing, rope or wire rope;
- To each other;
- To a d-ring to which another snap hook or other connector is attached;
- To a horizontal lifeline; or,
- To any object which is incompatibly shaped or dimensioned in relation to the snap hook such that unintentional disengagement could occur.

Lifelines and Lanyards

Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person, as part of a complete personal fall arrest system, maintaining a safety factor of two.

On suspended scaffolds or similar work platforms with horizontal lifelines (which may become vertical lifelines) the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.

Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.

Except in hoist ways of elevator shafts during construction, when vertical lifelines are used, each employee shall be attached to a separate lifeline. Lifelines shall be protected against being cut or abraded.

Self-retracting lifelines and lanyards that automatically limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds.

Self-retracting lifelines and lanyards that do not limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 5,000 pounds.

Ropes and straps (webbing) used in lanyards, lifelines, the strength components of, and body harnesses shall be made from synthetic fibers.

Components

Waist belts shall <u>not</u> be used. Full body harnesses shall be used in all cases. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head. Harnesses and components shall not be used to hoist materials.

Personal fall protection systems shall be inspected prior to each use for wear, damage and other deterioration; defective components shall be removed from service.

Provisions shall be made for prompt rescue of employees in the event of a fall or employees must be able to rescue themselves promptly. Personal fall arrest systems and components

subjected to impact loading shall be immediately removed from service. The affected equipment shall not be used again until it is inspected by a competent person and determined to be undamaged and suitable for reuse.

Training Requirements

1. C & C Oilfield shall provide a training program for each employee who might be exposed to falling hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.
2. Each employee shall be trained, as necessary, by a competent person qualified in the following areas:
    a. The nature of fall hazards in the work area;
    b. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
    c. The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;
    d. The role of each employee in the safety monitoring system when this system is used;
    e. The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
    f. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and
    g. The role of employees in fall protection plans;
    h. The standards contained in this subpart.
3. C & C Oilfield shall prepare a written certification of training record. The written certification record shall contain the name or other identity of the trained employee, the date(s) of the training as well as the dates the employer determined training was deemed adequate, and the signature of the person who conducted the training or the signature of a designated company person. We will accept training conducted by another employer but the certification record will indicate the date we determined that the prior training was adequate rather than the date of actual training. The latest training certification shall be maintained.
4. When C & C Oilfield has reason to believe that any affected employee who has already been trained does not have the understanding and skill required we shall retrain such employees. Circumstances where retraining is required include, but are not limited to, situations where:
    a. Changes in the workplace render previous training obsolete; or
    b. Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or

c. Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

Controlled Access Zones

Controlled access zones shall be distinguished by a control line, or other suitable and restrictive devices.

1. When used to control access to areas where leading edge and other operations are taking place, the following rules must be followed:
    a. When control lines are used, they shall be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge.
    b. We do not erect precast concrete members. Thus, paragraph 502(g)(ii) is not applicable.
    c. The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
    d. The control line shall be connected on each side to a guardrail system or wall.
2. When used to control access to areas where overhead work is taking place:
    a. The controlled access zone shall be defined by a control line erected not less than 10 feet (3.1 m) nor more than 15 feet (4.5 m) from the working edge.
    b. The control line shall extend for a distance sufficient for the controlled access zone to enclose all employees performing work at the working edge and shall be approximately parallel to the working edge.
    c. Additional control lines shall be erected at each end to enclose the controlled access zone.
    d. Only employees engaged in overhead work shall be permitted in the controlled access zone.
3. Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
    a. Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.
    b. Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) [50 inches (1.3 m) when overhand operations are being performed] from the walking/working surface.
    c. Each line shall have a minimum breaking strength of 200 pounds (.88 kN).

On floors and roofs where guardrail systems are not in place prior to the beginning of overhead operations, controlled access zones shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.

On floors and roofs where guardrail systems are in place, but need to be removed to allow overhead work or leading-edge work to take place, only the portion of the guardrail inhibiting the required task shall be removed.

C & C Oilfield does not participate in roofing operations; therefore, paragraph 502(h)(2) does not apply to our plan.

Only employees covered by a fall protection system are allowed in an area that is being protected by a safety monitoring system.

Each employee working in a controlled access zone is required to comply promptly with the fall hazard warnings given by the safety monitors.

Equipment and Raw Materials

All equipment and raw materials purchased for use in C & C Oilfield fall protection systems must meet or exceed the applicable ANSI and ASTM requirements.

C & C Oilfield
Personal Protective Equipment
And Fall Protection Systems

I, _____ acknowledge receipt of training on fall protection systems and their components.

Training was received on _____ , 20_____

Employee Signature _____ Date _____

Trainer's Signature _____ Date _____

NOTE: If a company endorsed form is unavailable to document the training, this form may be used.

APPENDIX A

Fall Protection Plans

Introduction

The site-specific fall protection plan shall be prepared and/or reviewed by the project manager, the designated Competent Person at each jobsite. The plan shall be developed specifically for the site where the leading-edge work is being performed. The project manager is responsible for reviewing the plan on a regular basis and updating it accordingly.

- The project manager, along with the operator's Competent Person, must approve any changes to the fall protection plan.
- A copy of the fall protection plan with all approved changes shall be maintained at the job site.
- The implementation of the fall protection plan shall be under the supervision of the project manager, the designated competent person.
- The fall protection plan shall document the reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety nets systems) is infeasible or why their use would create a greater hazard.
- The fall protection plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from the conventional fall protection systems. For example, C & C Oilfield, in concert with the host plan, shall discuss the extent to which scaffolds, ladders, or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.

- The fall protection plan shall identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones (See below).
- Where no other alternative measure has been implemented, C & C Oilfield shall implement a safety monitoring system (See below).
- The fall protection plan must include a statement which provides the name or other method of identification for each employee who is designated to work in controlled access zones. No other employees may enter controlled access zones.
- In the event an employee falls, or some other related, serious incident occurs, (e.g., a near miss) C & C Oilfield, in concert with the host employer, shall investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g. new practices, procedures, or training) and shall implement those changes to prevent similar types of falls or incidents.

Fatigue Management

Purpose

The purpose of this policy is to implement work practices that will foster employee safety by ensuring employees are provided adequate time for rest between shifts to promote alert, well rested, and productive employees. The key to this program is proper implementation. Without adequate risk controls being put in place, the work that has gone into preparing the fatigue management plan will not be useful. Key issues to consider when implementing the plan include timeframes, training, roles and responsibilities, communication and participation.

Timeframes

C & C Oilfield will limit the number of hours an employee is permitted to work in a day, and will utilize appropriate scheduling techniques and job rotations to ensure these limitations are met in order to allow for sufficient sleep. Well-rested employees are more alert, productive, and fulfilled; consequently, they are also less likely to miss work and/or look for alternative employment. Scheduling, hours worked, and attendance must be monitored regularly to ensure compliance—both by the management scheduling the work and employees working the schedule. Management and employees must be held accountable for the success of this program.

Training

Many of the new risk control measures will involve training. Training alone is not a suitable control measure, but training is essential to good risk control. Training gives C & C Oilfield employees the skills and knowledge they need to work with risk controls for fatigue. It also provides appropriate information about fatigue hazards and risks in the workplace. All site personnel, including contractors, must be informed about the fatigue management plan and have the skills and knowledge they need to fulfill their roles and responsibilities.

Ergonomic equipment will be used to improve workstation conditions such as anti-fatigue mats for standing, lift assist devices for repetitive lifting, chairs for employees to sit periodically, periodic rest breaks, proper lighting, and control of temperature and other ergonomic devices as deemed appropriate.

In addition, employees will be trained on the company's fatigue policy and procedures whenever:

- New employees are appointed
- Induction or refresher training is provided
- Contractors are engaged
- Managers or supervisors are appointed or promoted, and
- Changes are made to the fatigue management plan.

The education and awareness training should include coverage of issues such as:

- The nature of fatigue
- The warning signals of fatigue
- Possible effects of fatigue
- Factors that decrease or exacerbate the likelihood of effects of fatigue (including, but not limited to, work tasks and/or schedules that affect workers' amount, timing, and quality of sleep each day, amount of time since last sleep period, time of day, workload, and time on task), and
- Control measures, including the fatigue management plan, limiting work hours, controlling job rotation schedules, allowing frequent opportunities for rest breaks, and adjusting the work environment such as lighting, temperature, and physical surroundings.

Note: Training must be arranged so it is available to all C & C Oilfield employees on all shifts during company hours. Initial and annual training must be provided on how to recognize fatigue through the appropriate work and personal habits, and reporting of fatigue to supervision.

Roles and Responsibilities

The success of this program is contingent upon the successful implementation and compliance with the rules, and intent of the policy. Everyone on a jobsite, including employees and contractors, plays a critical role in the success of this program.

Management

Management holds the fundamental responsibility for controlling the risks associated with fatigue. While everyone's participation is necessary to maximize the benefits of this program, it is ultimately management's responsibility to ensure that the control measures are implemented and utilized. Adequate resources should be provided to allow the plan to be properly implemented.

Employees

C & C Oilfield employees are responsible for ensuring that their behavior does not create or exacerbate risks. They should ensure that they use the opportunities provided to obtain sleep, report occasions when adequate rest is not obtained and do their best to remain fit for work. Employees in safety critical positions are to report any fatigue/tiredness and lack of mental acuity to supervision, as well as supervisory personnel, to make safety critical decisions and take appropriate actions to prevent loss.

Employees must not chronically use over-the-counter or prescription drugs to increase mental alertness. Employees should be discouraged from taking any substance known to increase fatigue, including fatigue that sets in after the effects of the drug wear off. If such medication is

necessary, employees are required to notify their supervisor, so appropriate job assignments can be made.

Supervision

Appropriate supervision is an essential part of the fatigue management plan. C & C Oilfield supervisors need to be able to identify when fatigue is a problem, so they can initiate immediate control measures and report problems that need to be addressed.

Reporting

It is essential that C & C Oilfield employees are able to report fatigue problems affecting themselves or others without attracting criticism or unnecessary consequences. This will require understanding and support from supervisors and colleagues.

Reporting is more likely in a working environment where fatigue is recognized by all levels of the organization as being an important health and safety issue that should be properly managed.

Monitoring and Evaluation

All aspects of the fatigue management plan should be audited and reviewed periodically to ensure continuing suitability, adequacy and effectiveness of the controls for eliminating risk—evaluating work schedules, vacation utilization, equipment, and training records.

This program and fatigue must be considered as a potential contributing factor during incident investigations. Employees should include relevant information in their statements.

Specific factors to consider while evaluating the program include:

- Have control measures been implemented as planned?
- Are they working?
- Are there any new problems?
- Incidents, near misses, injuries and other data, such as absenteeism and staff turnover rates.

Further review of control measures should be undertaken when methods, tasks, equipment, hazards, operations procedures, rosters or schedules are introduced, the environment changes, or there is any indication risks are not being controlled.

Fire Protection and Prevention

Almost all fires are preventable, and control measures can limit the losses if a fire does occur. A prevention program will involve employee training on material storage, inspections, and emergency action procedures. Employees of C & C Oilfield and its subcontractors will perform fire-fighting techniques on incipient stage fires ONLY. No C & C Oilfield employee is authorized to conduct fire fighting beyond incipient stages.

Fire prevention and control principles include the following:

1. Dispose of all waste in proper containers and keep work area clean and orderly. Do not allow accumulation.
2. The use of flammable solvents as cleaning agents is prohibited.
3. The engine of all equipment being fueled shall be shut off and allowed to cool before fueling operations begin.
4. Open flames shall not be used to locate leaks.
5. Smoking within 50 feet of operations, which constitutes a fire hazard, is strictly prohibited.
6. "NO SMOKING" signs will be posted and clearly visible around any area that constitutes a fire hazard.
7. All employees are responsible to know the location and operations of all fire extinguishers, hoses, and alarms.
8. All fire extinguishers will be properly mounted and marked as follows:
    - Mounted 3 ½ to 5 feet from top of extinguisher to floor
    - Not blocked by any equipment: free access at all times.
    - Marked properly and made clearly visible
9. All hoses and equipment must be properly grounded and bonded while being used around flammable materials.
10. Flammable materials must be stored in well-ventilated areas or in approved storage cabinets.
11. Perform welding/cutting operations and all other hot work in a safe location which is away from any fire hazard.
12. Keep all exits unobstructed.
13. Dispose of all cigarette butts, matches, and other hot items in proper containers.
14. Inspect all heaters and electrical cords/appliances before each use.

15. Do not overload electrical circuits or use frayed or defective electrical cords.

16. Drum dispensers should be of the self-closing type.

17. Routine inspections shall be performed for hazards and equipment maintenance.

18. Operations that generate dust or vapors must be performed in well-ventilated areas.

19. Heaters should be operated in areas free of combustibles or rubbish.

20. Have all fire extinguishers inspected monthly and records kept of each inspection. Furthermore, all fire extinguishers will be inspected and serviced annually by a third-party fire extinguisher service company. Both the annual and monthly inspections will be documented on tags attached to the fire extinguisher.

21. Monthly vision checks should include an inspection of the hose, nozzles, seals, gauge pressure, corrosion and dents. An inspection record will be maintained at each fire extinguisher as required by law. If the condition of a fire extinguisher fails to meet the manufacturer's definition of a satisfactory extinguisher, it shall be removed from the work area and tagged "Do Not Use".

22. Promptly discover the fire and extinguish it before it grows out of control. Most fires start small and can initially be extinguished by a hand-held fire extinguisher. Never place yourself in a situation where you could be harmed while fighting a fire.

23. Stand at least 6 feet away and up wind of the fire while you attempt to extinguish it.

24. Aim the spray nozzle at the base of the fire where the fuel is located.

25. Remember to use the **PASS** method.
    - **P**ULL
    - **A**IM
    - **S**QUEEZE
    - **S**WEEP

26. Remember the acronym **RACE**:
    - **R**ESCUE anyone that you can safely
    - **A**LARM everyone that there is a fire
    - **C**ONTAIN the fire by shutting all doors and windows, and by removing flammable items.
    - **E**XTINGUISH/**E**VACUATE if possible, put out the fire in its incipient stage only, and then evacuate to the designated emergency staging area for a head count.

27. In areas where extinguishers are visibly obstructed, their locations shall be marked with signs or painted symbols that are high enough and legible enough to be recognized and seen.

28. Whenever an extinguisher is used for any amount of time, it shall be removed from service, taken out of view until recharged, and reported to a supervisor immediately. Once the pressure seal on a fire extinguisher is broken, the pressure will bleed down; therefore, any used fire extinguisher must be refilled and re-pressurized. No used extinguishers can be left lying about for any reason.

29. Whenever there is hot work being done, a sufficient number of portable fire extinguishers will be present to help in the event they are needed.

30. All persons will be trained on the proper use, function and deployment of fire extinguishers. This shall be done during New Hire Orientation or upon initial assignment, and at least annually thereafter. Training will consist of the following:
    - Types and sizes of fire extinguishers
    - Types of fires.
    - Fires specific to C & C Oilfield tasks (over-heated equipment, oil and gas fires)
    - Incipient stage fire fighting and the hazards related to it
    - Fire tetrahedron
    - First aid for burns
    - All other components of the C & C Oilfield Fire Protection and Prevention policy.

First Aid /Cardiopulmonary Resuscitation (CPR) Procedures

Definition of First Aid: *Immediate care given to a victim of an accident or sudden illness until a higher level of medical skill and care can be provided.*

Special Note: If you are in a situation that requires medical services of any kind, you are required to notify the Emergency Medical System (EMS) by calling 911. Each jobsite will have at least one employee who has a current certification in First Aid and CPR such as American Red Cross or equivalent. It is the responsibility of crew pushers and supervisors to render first aid, and it is the policy of C & C Oilfield to provide all employees with training in First Aid on a three-year rotation and CPR annually. A valid certificate in first-aid training must be obtained from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence.

Prior to commencement of a project, determine the availability of the Emergency Medical System (911). In areas where the 911 system is not available, an emergency contact document will be given to each person on the job site, a copy will be put in every first aid kit, and a copy shall be clearly posted for all employees on the job site. This document will include the numbers of the physicians, hospitals or ambulances in the area. In the event that an ambulance is not warranted or available, a supervisor that is fluent in the language of the injured employee is responsible for promptly transporting the injured employee to an emergency facility.

Always remember to ensure the scene is safe for you to enter before you attempt to administer any type of rescue. If you are going to enter a hazardous atmosphere, ensure you are wearing appropriate breathing equipment for the environment. If there are electrical hazards of any kind, ensure that the electric current is turned off before you attempt a rescue.

Specimens of blood or other potentially infectious materials must be double-bagged in the leak-proof, red biohazard bags and disposed of properly. These bags are found in the first aid kit provided by the company.

The following are guidelines to use in the field for common situations.

Victim has Stopped Breathing—Situation: *Critical*

Two types of breathing emergency scenarios include:

1. Not breathing with a pulse: Requires rescue breathing
2. Not breathing without a pulse: Requires Cardiopulmonary Resuscitation (CPR)

Not breathing with a pulse. It is essential to check for a pulse when you assess any victim. You can check for a pulse at the carotid artery on the victim's neck. This can be located by placing your first two fingers on the Adam's apple region of the neck and sliding your fingers

towards yourself until you reach about midway or just shy of ¼ around the neck. Be sure to use your fingers and not your thumb.

If the victim has a pulse then the rescuer must sustain life by providing rescue breaths.

- Ensure the victim is out of harm's way.
- Perform a head tilt-chin lift to open the victim's airway.
- Administer 2 rescue breaths every 30 compressions.
- Ensure your breaths enter the victim's lungs by watching the chest rise and by feeling your own lungs exhaling.
- Continue for 1 minute before rechecking for the pulse.
- You will continue until another first responder relieves you, if EMS arrives, or you become too physically exhausted to continue.
- Trained personnel will accomplish the administration of Grade D breathing air.

Common situations that can cause the victim to stop breathing but continue to have a pulse might include but are limited to; inhalation of gas vapors, oxygen deficient environment, smoke inhalation, drowning or electric shock.

Always check for a pulse; never make an assumption!

Not breathing without a pulse. This is an indication that the victim is not only not breathing (taking in oxygen), but the victim's heart is not pumping the already oxygen depleted blood throughout the body. This is a critical time. You, as the first responder, must sustain life by introducing oxygen through artificial resuscitation, while helping distribute the oxygen manually (chest compressions). This is Cardiopulmonary Resuscitation.

Cardiopulmonary Resuscitation (CPR)

CPR is to be administered by First Aid/CPR certified individuals. If you are not trained and certified in First Aid/CPR and are confronted with this situation, always assist to the best of your ability: summon help, confront the victim, and attempt CPR, etc.

If the victim needs CPR, then remember the following:

- Ensure the victim is out of harm's way
- Perform a head tilt/chin lift to open the victim's airway
- Give two steady breaths that last approximately 1-3 seconds
- You will need to check for a pulse at this time on the victim's carotid artery. If no pulse found then proceed to next step. If you do find a pulse, continue with rescue breathing as is covered in above section.
- Give 30 chest compressions approximately 1"-1 ½" deep at a rate of 100-120 per minute.

NOTE: You can find proper hand placement by tracing the victim's rib cage up until you find the sternum. Place your fingers on the sternum, then place your opposite palm just above you fingers that are on the sternum. Then place the hand you used to find the sternum on top of the hand resting on the victim's chest. This will give you the proper hand placement to begin chest compressions

- Administer two breaths into the victim. This is the 30:2 compression to breath ratio of CPR.
- This ratio will be completed 4 complete times before you recheck for a pulse.

When to stop CPR:

1. When another person trained in CPR relieves you,
2. When paramedics or EMT personnel arrive,
3. When the situation endangers your safety and health, or
4. When you become too exhausted to proceed.

Things to remember:

- Always use ***Universal Precautions***: assume every other person's blood or body fluids are contaminated and protect yourself accordingly.
- Always wash your hands before and after giving first aid. If there are no hand washing facilities available, hand sanitizer found in the first aid kit must be used.
- Use latex or similar type gloves when treating someone
- Wear goggles if possible to protect against splash hazard
- Be prepared to break ribs during CPR
- And breathing barriers are an excellent way to prevent contamination during CPR

Heart Attack

- Immediate notification of the EMS system is essential. Call 911.
- Treat for shock (see below)
- Try to keep the victim calm and make them as comfortable as possible.
- Monitor the ABC's— **A**irway **B**reathing **C**irculation: If the victim is talking to you, you know that he/she is breathing. If they become unconscious, do a head tilt/chin lift to maintain an open airway. Check for breathing and monitor the pulse. If the victim needs CPR you will be prepared.

Severe Bleeding

- Apply direct pressure to the wound with a dry, clean, sterile pad or gauze.

- If possible, have the victim apply the bandage. This helps control shock by giving the victim something to focus on, and it helps to keep the rescuer away from the victim's blood
- Keep the wound elevated above the heart if possible
- If bleeding will not stop, then apply pressure at the applicable pressure points. For injuries of the arm, find the brachial artery located along the upper arm bone on the inside of the bicep. For injuries of the leg, find the femoral artery located next to the pubic region where the leg and pelvis come together.

Have victim seek medical attention after first aid attempts were successful. If you cannot get blood to stop, then you may need to call 911.

Fractures or Breaks

Common signs and symptoms include severe pain, muscle spasms, weakness or numbness below the suspected area, and the victim guarding the suspected area.

- If you cannot get victim out safely, call 911
- Splint the injured limb above and below the nearest joint. This prevents the parts from moving
- Never move a suspected broken limb. Splint in place.
- Monitor the ABC's and treat for shock if the victim begins to show signs

Chemical Exposure

Treatment for chemical exposure will be based on SDS recommendations. SDS books will be readily available at each jobsite for reference. Eye wash equipment should be capable of providing a 15-minute supply of cleansing solution, to be used for flushing chemicals from the eyes or off of the body. A safety shower shall be available in the work area for flushing of skin in the event of an exposure to a chemical. Drinking water may also be used. The person taking the employee to emergency services will bring along a copy of the SDS sheet.

Shock

Shock happens when a victim's entire system begins to shut down.

Symptoms of shock include: cold and clammy skin, pale complexion, shallow breathing, and rapid pulse. Many things can cause shock *such* as a severe injury, witnessing a trauma, infection, pain, heart attack, stroke and or heat exhaustion.

- Notify EMS (Call 911)
- Have victim lie down
- Elevate feet 8 – 12 inches if no spinal trauma suspected
- If possible have the victim's head slightly lower than the his/her heart

- Keep the victim comfortable
- Monitor ABC's until help arrives

Heat Exhaustion

Following heat cramps, heat exhaustion is the warning sign of a potential heat- related emergency. You must take care of yourself and your co-workers at this critical time.

The signs and symptoms of heat exhaustion include, pale complexion, clammy skin, headache, nausea, weakness, high body temperature and excessive sweating.

- Treat for shock.
- Get victim out of heat and into a shaded cool place.
- Have victim lie down with head below heart level.
- If conscious, give victim something to drink.
- Monitor the ABC's and seek medical attention.

Heat Stroke

Heat stroke is a medical emergency that is life threatening. If medical attention is not administered, the victim can face coma and/or death. Signs of heat stroke include but are not limited to; flushed and /or hot skin, sweating stops or slows noticeably, Strong rapid heart rate (pulse), body temperature significantly above normal (normal is $98.6^{O}F$), headache, nausea, dizziness and finally unconsciousness.

The victim needs immediate attention.

- Call EMS (911)
- Get victim out of heat, into shade, a building, or whatever provides a cover from the heat
- Rapidly cool the victim by applying cool water to the victim's entire body. If only dirty puddle water is available, then use it.
- Monitor the ABC's and assist the victim with whatever he/she needs until help arrives.

Burns

First and foremost, you must remove the victim from the source of the burn (example: If electrical, turn off power).

- Treat for shock
- Protect the burned area with sterile dressings or gauze
- Control the pain
    a. Place burned appendage in cool running water such as a sink and faucet
    b. Give Ibuprofen (an anti-inflammatory)
    c. Give acetaminophen (a pain reliever)

d. Ask victim if they are allergic before assisting in administering any medicine.
e. Neither will counteract with each other.

Things to remember:

If it is a chemical burn you are dealing with, remember to read the SDS before flushing the eyes. If you do not read the SDS you can make matters worse by mixing water with a chemical that reacts to water.

If you are going to flush your eyes and skin, brush powered chemicals away first, and remove unnecessary clothing. Flush for 15 minutes at a minimum.

Use only clean, clear water for flushing. Contact a physician for any chemical burn.

Insect/Animal Bites

Any sting or bite from an insect with venom, i.e., wasps, bees, spiders, fire ant, etc, should be reported to your supervisor immediately. Some people can react quite severely to insect stings and bites. This is called **anaphylaxis**. Insect or medications, certain foods, or even pollen can cause this type of reaction. Anaphylaxis will usually occur within minutes of the exposure and can peak around 15 to 30 minutes, usually ending after a few hours. **Signs and symptoms of anaphylaxis include**: sneezing, coughing, wheezing, difficulty breathing, swelling in the throat, tightness in the chest, rapid heart rate, swelling of the tongue, nose and mouth, blueness around lips and mouth, dizziness, nausea and vomiting.

What do you do?

- Monitor the ABC's
- Get medical attention immediately
- Help administer medication (epinephrine, Dr. prescribed) if they have it.

Bees and Wasps:

- If bee sting, remove the bee stinger that is carrying the venom by scraping the stinger with an ID card (Driver's License) to allow the barbed end to "pop" free of your skin.
- Wash the sting site with soap and water to stay off infection
- Apply ice pack to site to slow absorption and relieve. A paste of water and baking soda will help draw out the venom.
- Ibuprofen will help reduce swelling and acetaminophen will help relieve pain, and hydrocortisone will help with itching.
- Monitor victim for at least 30 minutes for any signs of reaction. If you notice reaction, then seek medical attention.

All Spiders:

Most all spiders carry some form of venom, however, only a few are highly poisonous. The Brown Recluse and the Black Widow are the biggest spider concerns that we will have in our region. However we must take care for all spider bites.

What to do if bitten?

- Try and capture the spider if at all possible, even if has been crushed by the victim, so that it can be taken to the hospital
- Clean the bite site with soap and water or rubbing alcohol
- Apply ice to slow venom and relieve swelling
- Give ibuprofen and acetaminophen for swelling and pain
- Monitor the ABC's
- Seek medical attention immediately.

NOTE: Anti-venom exists for Black Widows; however, it is usually reserved for children under six and adults over 60, pregnant women and those victims having a severe reaction to the venom.

Snakes

There are four types of poisonous snakes in our area of operation with which we must concern ourselves: *Water Moccasin (Cottonmouth), Rattlesnake, Copperhead,* and *Coral Snake*.

Signs and symptoms of snakebite:

- Severe burning at the bite site
- Two small puncture wounds that about ½" apart
- Swelling at the site (usually within 5 minutes)
- Discoloration and blisters filled with blood developing 6+ hours later
- In some cases, nausea, vomiting, weakness

Pit Viper Bites:

- Get victim away from snake. They can strike repeatedly and they can strike up to half the distance of their bodies. Even a decapitated snake can have movement and release venom for up to 20 minutes after decapitation.
- Calm the victim and either carry them or have them walk with you slowly to help.
- Wash the bite site gently with soap and water.
- If you have a venom extractor and you are more than one hour away from medical facilities, you should use it now. A venom extractor is a device used to pull the venom out of a victim. **Do not cut and suck the bite site**.

- Anti-venom (if available) is the same used for all three pit vipers in North America. So get to the hospital as soon as possible.

Coral Snake Bites:

- Calm the victim
- Wash the bite site gently with soap and water.
- Apply mild pressure by wrapping the bite site and entire appendage (arm or leg) that was bitten in several elastic bandages. This is only done for coral snake bite, not pit viper bites.
- Seek medical attention immediately for anti-venom (if available)

NOTE: It is important to remember that coral snakes are not aggressive and do not strike their victims; they have to "chew" to release their venom.

Mammal Bites

Dog, raccoons, bat, fox, and skunk bites are the most common. If a skunk, raccoon, bat or fox bites you in North America, you must consider beginning rabies treatment immediately.

- If bitten in the U.S. by a healthy and domestic dog or cat, the animal must be observed for at least 10 days for any sign of illness
- If the animal is a stray, it should be reported to animal control immediately for capture and testing.
- Clean the wound with soap and water and rinse it with mild pressure
- Stop any bleeding and care for the wound
- Get medical attention for better cleaning and possibly a tetanus shot. The Doctor will assess the need for stitches and/or rabies treatment.

Personal Protective Equipment Recommendations

If there comes a time when you may be required to render first aid to another person, the following PPE recommendations should be adhered to:

Act	Gloves	Mask	Eye Protection	Mouth Barrier
Rescue Breathing	Yes	Not Needed	Yes	Not Needed
CPR	Yes	Not Needed	Yes	Yes
Excessive Bleeding	Yes	Yes	Yes	Not Needed
Slight Bleeding	Yes	Not Needed	Yes	Not Needed
Cleaning Potentially Contaminated Equipment and Surfaces	Yes	Not Needed	Yes	Not Needed
Taking Temperature	Yes	Not Needed	Not Needed	Not Needed

PPE will be provided by C & C Oilfield.

Recommended First Aid Kit Contents

- ¾” to1” X 3” adhesive bandages
- 2” X 4” adhesive bandaged
- 3” X 3” gauze pads
- 4” X 4” gauze pads
- 2” X 4yards roller gauze
- 3” X 4yards roller gauze
- 1” wide adhesive tape
- Finger tip bandages
- Knuckle bandages
- Iodine antiseptic
- Scissors
- Latex or similar gloves
- Triangle bandage for a sling
- Biohazard bag (Red Bag will be adequate)
- Instant Ice Pack
- Blanket
- Eye wash solution
- Antibacterial Hand Sanitizer

Recommended medications include:

- Ibuprofen, 200 mg tablets
- Acetaminophen, 500 mg tablets
- Benadryl, 25 mg tablets (Insect bites and allergic reactions)
- Triple antibiotic ointment

Employers should ensure the availability of adequate first-aid supplies, and periodically reassess the demand for supplies and adjust their inventories. For construction operations, first-aid kits shall be checked before being sent out to each job and periodically thereafter. These items will be kept in a weather-proof container and all items will be sealed individually. There will be a First Aid Kit in every company vehicle. These kits will remain on the jobsite during working hours. The First Aid Kits will be inspected by a supervisor prior to being sent onto a job site and truck kits will be inspected at least periodically.

Where the eyes or body of any person shall be exposed to any corrosive or harmful materials, there will be an eye/body wash station present.

Fit For Duty

Purpose

The purpose of this policy is to implement work practices that will foster employee safety by ensuring employees are physically fit to perform the task they are assigned. Certain jobs require physicals in compliance with state and federal regulations. In addition, C & C Oilfield is responsible for identifying physically rigorous positions and ensuring the employees assigned to those jobs are capable of doing them. C & C Oilfield will utilize physicals when necessary to ensures that employees are capable of doing their jobs. Fit for Duty encompasses physical, mental, and emotional fitness, and consequently encompasses several means by which employees must demonstrate and maintain their fitness.

Roles and Responsibilities

The success of this program is contingent upon the successful implementation and compliance with the rules, and intent of the policy. Everyone on a jobsite, including employees and contractors, plays a critical role in the success of this program.

Management

Management holds the fundamental responsibility for controlling the risks associated with fitness. While everyone's participation is necessary to maximize the benefits of this program, it is ultimately management's responsibility to ensure that the control measures are implemented and utilized, and compliance with regulations is maintained. Adequate resources, along with applicable safe work practices and procedures should be provided to enable the plan to be properly implemented and optimized.

Employees

C & C Oilfield employees are responsible for ensuring that their behavior does not create or exacerbate risks. Everyone is ultimately responsible for their own physical and mental fitness. Employees are strongly encouraged to exercise, eat a well-balanced diet, and ensure that they use the opportunities provided to obtain sleep. Employees are expected to report occasions when their physical or mental fitness are compromised due to injury, illness, inadequate rest, or some other contributing factor. Management needs this information to make safety critical decisions and take appropriate actions to prevent loss.

Employees must not chronically use over-the-counter or prescription drugs to increase mental alertness. Employees should be discouraged from taking any substance known to increase fatigue, including fatigue that sets in after the effects of the drug wear off. If such medication is necessary, employees are required to notify their supervisor, so appropriate job assignments can be made.

Supervision

Appropriate supervision is an essential part of the Fit for Duty program. C & C Oilfield supervisors need to be able to identify when fatigue, illness, injury, or mental acuity is a problem, so they can initiate immediate control measures, remove the worker from the worksite and/or report problems that need to be addressed.

Training

Many of the new risk control measures will involve training. Training alone is not a suitable control measure, but training is essential to good risk control. Training gives C & C Oilfield employees the skills and knowledge they need to work with risk controls for fitness. It also provides appropriate information about physical and mental fitness. All site personnel, including contractors, must be informed about the Fit for Duty policy and have the skills and knowledge they need to fulfill their roles and responsibilities.

Management is responsible for ensuring that employees are properly trained to perform their jobs. Employee training must include job-specific training such as respirator use and fit testing, mobile equipment operator certification, and training for atmospheric and environmental hazards that are inherent to either the job or location.

In addition, employees will be trained on the policy and procedures whenever:

- New employees are appointed
- Induction or refresher training is provided
- Contractors are engaged
- Managers or supervisors are appointed or promoted, and
- Changes are made to the policy.

The education and awareness training should include coverage of issues such as:

- Hazards associated with poor physical fitness
- The warning signals and hazards associated with fatigue
- Hazards associated with a loss of mental alertness
- Control measures, such as physicals.

Physicals

Physicals are the fundamental component of a fit for duty program, but physicals only address the physical fitness of an employee. In order to be compliant with state and federal regulations, employees assigned to some jobs are required to take a physical and be cleared by a physician prior to beginning the assignment, either as a new hire or job change. Crane operators, drivers, and other physically and/or mentally challenging positions may require these physicals.

Likewise, employees that are assigned to a jobsite with environmental (climate or other) hazards may be asked to take a physical prior to accepting the transfer.

Scheduling (Work Hours)

C & C Oilfield will limit the number of hours an employee is permitted to work in a day and will utilize appropriate scheduling techniques and job rotations to ensure these limitations are met in order to allow for sufficient sleep. Well-rested employees are more alert, productive, and fulfilled; consequently, they are also less likely to miss work and/or look for alternative employment. Scheduling, hours worked, and attendance must be monitored regularly to ensure compliance—both by the management scheduling the work and employees working the schedule. Management and employees must be held accountable for the success of this program.

Reporting

It is essential that C & C Oilfield employees are able to report fitness-related problems affecting themselves or others without attracting criticism or unnecessary consequences. This will require understanding and support from supervisors and colleagues.

Reporting is more likely in a working environment where fatigue is recognized by all levels of the organization as being an important health and safety issue that should be properly managed.

Drug and Alcohol Testing

Employees will be subject to pre-employment, post-accident, random, and reasonable suspicion drug and alcohol testing. Drug and alcohol testing is required by the DOT for some of the regulated work types covered by this program, but drug and alcohol testing is also a critical component of a comprehensive safety program. C & C Oilfield will comply with DOT, Operator, and client testing requirements.

Monitoring and Evaluation

All aspects of the Fit for Duty program should be audited and reviewed periodically to ensure continuing suitability, adequacy and effectiveness of the controls for eliminating risk.

Physical, mental, and emotional fitness must be considered as a potential contributing factor during incident investigations.

Whenever changes are made to the Fit for Duty program, management is responsible for ensuring that every employee is notified and trained on the changes.

Flagging and Pedestrian Safety

In order to provide a safe working environment for C & C Oilfield employees and to ensure the safety of the public when working around roads and highways proper precautions must be taken to advise motorists of construction activities and to control traffic.

Training shall be provided to all workers, including flaggers, involved in the planning, setup, operation, maintenance or removal of traffic control to the level of their responsibility.

A dedicated flagger must be provided when operations require following guidance of Federal, State, or Local guidelines and/or industry best practices for maintaining traffic flow through a work zone, despite a closure of lane(s).

Qualified employees who have been trained in proper flagging techniques must be assigned to provide traffic control when the work that is being done is adjacent to public roadways.

Prior to work starting, a hazard assessment, job hazard analysis, or job safety analysis that specifically references Flagger and/or Spotter operations and responsibilities must be completed

Signs must be used warning the oncoming traffic 500 feet ahead of the area the work is being done. Use caution when working in or around curves and be sure to put the signs far enough from the work to adequately warn the motorists.

After the work is done or when no work will be going on, the signs must be taken down. Do not leave signs up overnight. This can reduce the effectiveness of the signs when motorists drive by and see the signs and then never see work going on.

When an employee is designated as a flagger, he must not have any other job duties until the need to control traffic is over. If he is relieved from duty another employee who is qualified to flag and who has received the proper training must relieve him. Hand-signaling devices such as Stop/Slow paddles or red flags shall be provided to flaggers.

Equipment needed:

Stop/Slow signs
High Visibility vests
Caution Flags
Caution Signs (construction work ahead, utility work, etc.)
Radios/Communication equipment
Cones

Pedestrian Safety

C & C Oilfield employees occasionally will work in areas where he or she is subjected to hazards as a pedestrian. C & C Oilfield employees will practice the following safety suggestions:

- When exposed to traffic/equipment movement hazards, C & C Oilfield employees will wear red, orange, or fluorescent green vests (reflective for night).
- C & C Oilfield pedestrians have the right-of-way around C & C Oilfield-operated equipment. Note: Other non-C & C Oilfield owned vehicles/equipment are not aware of this policy so C & C Oilfield employees should ensure safe passage before proceeding when around non-C & C Oilfield owned equipment.
- Do not walk between parked vehicles.
- When crossing roads, wait until you do not have to run to cross.
- Avoid backing vehicles whenever possible and when backing is necessary, use a spotter or walk around vehicle before backing to check for hazards. Blow horn before backing to draw attention.
- Do not park or walk in a vehicle's blind spot.
- Follow all federal, state and local pedestrian regulations.
- Do not step out into vehicle paths without checking for hazards; Stop, Look and Listen
- Be aware of sun glare hazards (impeded vision).
- Do not store paperwork on dash in that this creates a glare/vision problem.
- Be aware of insect, varmint, and snake hazards when walking in thick undercover.

Flaggers

A dedicated spotter must be present whenever an equipment operator does not have a clear view of the site, operations are taking place around energized power lines or equipment, work is being performed in congested areas, or varied terrain is present.

Temporary Traffic Control

When normal function of a roadway, or a private road open to public travel, is suspended, temporary traffic control (TTC) will be implemented to provide reasonably safe and affective movement of road users through or around TTC zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment.

Forklift Operations

Purpose

This program has been written to comply with the requirements set forth in 29 CFR 1910.178 Powered Industrial Trucks. This program is designed to outline the safety requirements of lift trucks. It is not intended to outline procedures for automobiles or pickup type trucks.

Scope

This program covers all employees certified to operate lift trucks for C & C Oilfield. The C & C Oilfield lift truck operator safety program mandates that all operators must:

- Be classroom trained. Classroom training is to include lecture and discussion, videos, written materials and interactive computer instruction.
- Have hands-on training, including instructor demonstrations and trainee exercises, on the specific type of lift truck they will be operating
- Pass a written examination
- Pass a critically documented observation on the practical use of the lift truck(s) they will be operating—see "Observation Form" in Appendix A.
- Be determined to be competent under the direct supervision of persons who have the knowledge, training, and experience to train operators and evaluate their competence.

Qualified lift truck operator instructors must have the experience and aptitude necessary to instruct and assess operator candidates. Furthermore, instructors shall pass a critically assessed competency evaluation on a bi-annual basis. Instructor evaluations and the documentation collected during training will be kept on file in the employees' training files. Operators are only authorized to drive those vehicles on which they have been certified; in the event there are multiple types or brands of lift truck present on a job site, an operator is only authorized to drive those lift trucks on which he/she has been certified.

Instruction in Forklift operations must cover:

Truck-related topics:

1. Operator instructions, warnings, and precautions for the types of truck the operator will be authorized to operate
2. Difference between truck and automobile
3. Truck controls and instrumentation; where they are located, what they do, and how they work
4. Engine and motor operation
5. Steering and maneuverability
6. Visibility and restrictions of such

7. Fork and attachment adaptation, operation, and use limitations
8. Vehicle capacity
9. Vehicle stability
10. Vehicle inspections
11. Refueling and recharging
12. Operating limitations
13. No additional riders on forklifts
14. Any other instructions found in Operator's Manual

Workplace-related topics:

- Surface conditions
- Composition of loads and load stability
- Load manipulation
- Pedestrian traffic
- Narrow aisles ways
- Hazardous (classified) location where may be operated
- Ramps and other sloped surfaces
- Closed environments and poor ventilation areas
- Any other potentially hazardous environmental conditions

Refresher Training and Re-Certification

In order for C & C Oilfield to ensure that adequately trained and competent people are operating our equipment, refresher training is mandatory as per 29 CFR 1910.178 (l)(4)(i)(ii).

Refresher training shall be provided when:

- The operator has been observed operating unsafely;
- The operator has been involved in an accident or near-miss incident;
- The operator receives an evaluation that reveals the operator is not operating the truck safely;
- The operator is assigned to drive a different type of lift truck;
- Changes in the condition of the workplace could affect the safe operation of the lift truck.

Certification

C & C Oilfield requires re-certification every three years or as prescribed above. Certification shall state the name of the operator, date of training, date of evaluation, type of lift truck authorized to operate, and the name of the instructor. ***Only certified and authorized employees may operate lift trucks.***

Inspections

Inspections shall be made by the operator at the beginning of each shift and the lift truck put into service only if the inspection reveals it to be in acceptable operating conditions. Common inspection points may be but are not limited to: Fluid level, fluid leaks, steering controls, seat belts if installed, brakes, tires, wheels, capacity chart, horn, lights, alarms, gauges, mast, forks, controls, roll over protection. Such examination shall be made at least daily. Where industrial trucks are used a round-the-clock basis, they shall be examined after each shift.

Inspection forms shall be completed and returned to the appropriate person for repair and record keeping.

When Defects are Discovered

No lift truck shall be operated when any defect that affects the safe operating performance of the truck has been found.

The lift truck must be removed from service and tagged “Out of Service”. The operator’s manual will give advice on safe operation.

Repairs

Only properly trained and authorized employees may attempt repairs. Modifications and additions to a lift truck may only be conducted with written permission by the manufacturer. Capacity changes must be made accordingly and placed on the capacity chart.

Load/Capacity Charts

Load or capacity charts are to be adhered to without exception. The capacity of a lift truck is based on the amount of weight a lift truck can safely lift with the center of gravity at the midpoint on the forks. This is a critical factor in lift truck operations and C & C Oilfield cannot stress compliance enough.

Transporting a Lift Truck

C & C Oilfield requires that operators verify that the vehicle from which a lift truck is being unloaded, or the vehicle a lift truck is being loaded onto is properly secured in advance—fixed jacks, trailer chocks, brakes, supports and dock plates, etc. may be necessary to satisfy this requirement.

Appendix A
Forklift Operator Observation/Evaluation Form

OSHA rule 29 CFR 1910.178(l) on the training of powered industrial truck operators requires employers to observe & evaluate the performance of their lift truck operators during a three (3) year cycle.

Operator's Name: _____ Date: _____ I (Observer/Evaluator) _____observed the above named operator doing the following:

	Safe Operator Actions:		
1.	Do and Record results of Daily/Shift Examination of truck s/he is driving.	**No**	**Yes**
2.	Dead stop at least one (1) truck length from pedestrians or other hazards in path of travel.	**No**	**Yes**
3.	Move mast/upright controls ONLY when truck is at dead stop.	**No**	**Yes**
4.	Park truck 4 or more feet away from marked pedestrian walkways, emergency equipment or exit ways.	**No**	**Yes**
5.	Travel with load no higher than the distance of the drive wheel axel(s) to the travel surface (Approx. 6,10,or 18 inches for typical trucks).	**No**	**Yes**
6.	Pick up loads without sliding or "barging".	**No**	**Yes**
7.	Place loads without "poking" or pushing or touching other loads, racks or building members.	**No**	**Yes**
8.	Before abandoning truck, set parking brake, neutralized all controls and removed key from switch.	**No**	**Yes**
9.	Before entering trailer or rail car, place chock in correct position.	**No**	**Yes**
10.	Sound horn BEFORE moving from dead stop.	**No**	**Yes**
11.	Dead stop BEFORE all blind corners, through intersections, and marked pedestrian walkways.	**No**	**Yes**
12.	Travel with all body parts within operator's compartment or platform.	**No**	**Yes**

Grounding Conductor Program (GFCI)

Objectives

To provide guidelines to ensure that:

A. Temporary electrical installations are installed and used in a safe manner and per the manufacturer's restrictions.
B. Electrical hazards do not endanger any affected person on a C & C Oilfield job site.
C. Procedures are in place for a proper inspection format for electrical tools and extension cords.

Note: The Occupational Safety and Health Administration on December 21, 1976, announced a new standard on Ground Fault Protection on construction sites, effective February 22, 1977. OSHA offers two types of systems to comply with this standard: the Ground Fault Circuit Interrupter System and the Assured Equipment Grounding Program.

C & C Oilfield knows, and requires the use of, the GFCI standard. This standard states that all 120-volt, single-phase, 15 and 20 amp receptacle outlets, which are not part of the permanent wiring of the building or structure and are being used by employees, shall have approved ground fault circuit interrupters (GFCI) for personnel protection. Portable GFCIs may be used.

The Assured Equipment Grounding Conductor Program (this program) implemented by C & C Oilfield covers all cord sets, receptacles that are not a part of the permanent wiring on the building or structure, and equipment connected by cord and plug, which are available for use or used by employees.

This program is standard operating procedure. A copy will be on site and available for inspection and copying by the Assistant Secretary and any affected employee.

Function and Responsibilities

The Shop Foreman or his designee shall meet the requirements of the Competent Person be responsible for implementing the program. The designated Competent Person will be trained through the Safety Department to recognize potential hazards; this training will documented. The Competent Person will be able to identify hazards and is empowered by this program to take prompt corrective measures. Corrective Actions will include, but not be limited to, removing any defective electrical equipment from the work area and rendering hazardous equipment non-operational until repairs are completed. The Shop Foreman, with the assistance of the Safety Department, will complete required inspections, other than daily, and keep these records on file.

The Safety Department shall assure that all employees are aware of the requirements of this program and their responsibilities with regard to daily inspections to insure its integrity. The

Shop Foreman will ensure that any new electrical equipment affected by this policy is placed into the inspection format.

Practices and Procedures—Routine Inspections

There are three types of inspections that are conducted at C & C Oilfield:

1. **Daily Inspections**

   Daily Inspections are to be performed by the individuals who use the equipment. The Supervisor will properly train these persons. The inspection shall consist of visually inspecting for:

   - Frayed or missing insulation
   - Missing terminal connection pins
   - Damaged housing covers
   - Missing guards
   - Integrity of cord sets, attachment cap, and plug and receptacle of cord sets, etc.

   If any of the hazards listed or any other identifiable hazard is detected during the inspection, the electrical equipment shall be immediately removed from service and repaired. The equipment will also be tagged with a red tag saying "DO NOT USE". No person other than a qualified electrician may repair this equipment. There are no written reports or documentation required on the daily inspection.

2. **Immediate Inspection and Tests**

   These are conducted by the Shop Foreman or other Competent Person (by Shop Foreman designation) and are mandatory:

   - Before first use
   - After any repairs
   - Following an incident that could have caused damage to the affected equipment (i.e. when a cord is run over)

   Record the results of Immediate Inspections.

3. **Periodic Inspections and Tests**

   The Shop Foreman or his designee conducts these at the following intervals:

   <u>One week</u>: All temporary power (GFCI) receptacles and temporary lighting (Note: GFCIs must be tested with an approved device.)

One month: All portable equipment (such as drills, grinders, saws, drop cords, etc.) and all receptacles on permanent power.

Three months: All service wiring on temporary buildings; outside feeders, etc.

Six months: Cord sets and receptacles not subject to damage.

The testing requirements for immediate and periodic inspections are identical.

These are two test required:

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

    - Continuity checks may be conducted by using an ohmmeter or other testing devices that will assure the ground continuity.
    - Equipment will be color-tagged as it is inspected. Each month will have the same color and the Shop Foreman will determine the color for the inspection interval.
    - Results of the inspection will be recorded.

NOTE: No electrical equipment affected by this policy can be used until all actions required by this policy have been taken. Furthermore, it is mandatory that any piece of equipment which does not meet the requirements of this program be immediately removed from service and tagged "DO NOT USE."

Hand Tool Usage

1. All tools, whether owned by C & C Oilfield or employee, must be maintained in a safe condition and inspected regularly. Replace defective tools and tag-out damaged equipment.
2. Do not modify tools. Tools that are designed to accommodate guards must be equipped with those guards when in use. Safety guards shall meet ANSI requirements and must NOT be removed, restrained, or bypassed.
3. Use tools for designed purposes only. Get the right tool for the job.
4. Do not remove guards and/or handles from grinders. Do not operate a grinder without proper training.
5. Be sure power tools are turned off before connecting to an energy source. De-energize equipment before servicing or changing components.
6. If there is any potential for fire or explosion, intrinsically safe tools must be used. Air operated tools should be chosen and compressed gas is never used to operate these tools.
7. With the exception of UL double-insulated tools, the frames of portable electric tools must be grounded, either through a 3-way plug or separate wire. Tools used in or near wet locations must be plugged into a ground-fault protection circuit.
8. Never use one wrench as a cheater for a second wrench. Cheaters shall not be used.
9. Never step or jump on wrenches when additional force is required. Get a larger tool.
10. An air hose is not to be used to blow particles off clothing, hair or skin.
11. Do not use tools not intended for prying as a pry bar.
12. Do not throw tools.
13. Guards or shields must be in place and operable at all times while tool is being operated.
14. Electric power tool cords must be in good condition and should not be run through door openings or across driveways.
15. Air hoses used for tools should be secured with devices to prevent accidental separation. Hoses under pressure will be secured at end connections to prevent separation or whipping.

16. Do not operate power tools unless you are properly trained.
17. Be aware of twisting/kick-out forces with certain tools. Maintain solid footing and remain alert.
18. Employees will be issued and are required to wear any PPE that is considered necessary to protect them from the potential hazards of the tool or environment (i.e. falling, flying, abrasive, or splashing objects, or harmful dust, fumes, mists, vapors or gases). Compliance is mandatory.
19. Carry tools in appropriate pouches and/or sheaths.
20. Use proper securing devices to hold material in place.
21. Do not place sharp or pointed tools in pockets.
22. Hold and carry tools by designated handles.
23. De-energize all power tools when moving or repairing.
24. Keep cutting tools sharp and lubricated.
25. Do not wear loose jewelry or clothing around rotating equipment. Tie long hair back.
26. During work operations, idle tools will be placed in secure spots where they do not become a tripping or falling hazard.
27. Tools will be secured in the rear of vehicle where they do not become a projectile during vehicle collisions.
28. Tools stored in the rear of vehicles must not obstruct the drivers' vision.
29. Report damaged tools for appropriate repair. Do not use broken tools.
30. Handles will not be taped or painted.
31. Any tool which is not in compliance with any applicable requirement of this program is prohibited and must be identified as unsafe by tagging and/or locking the controls to render it inoperable. If this is not practical or feasible, the tool must be physically removed from its place of operation.

Hazard Communication “Right to Know”/Chemical Handling

Policy

All C & C Oilfield work locations shall fully comply with the Federal Occupational Safety and Health Administration (OSHA) Hazardous Communication Standard, 29 CFR 1910.1200, 29CFR 1926.59 "RIGHT-TO-KNOW-LAW".

General Requirements

The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) 29 CFR 1910.1200 (General Industry) and 29 CFR 1926.59 (Construction Industry) call for the development of a hazard communication program when employees may be exposed to any chemical in the workplace under normal conditions of use or in a foreseeable emergency. In 2012, OSHA revised the HCS to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). As a result, this program has been revised to comply with the requirements of the OSHA HCS 2012. The written hazard communication program will include and address the following criteria in order to satisfy and/or exceed the minimum requirements of the OSHA HCS 2012:

- List of all hazardous chemicals known to be present in the workplace or individual work area
- Methods used to ensure that all containers, including pipes and holding tanks, are labeled, tagged or marked properly
- Methods used to obtain and maintain safety data sheets (SDSs)
- Methods used to provide employees with information and training on hazardous chemicals in their work areas
- Methods used to inform employees of the hazards of non-routine work practices
- Methods used to provide the employees of other employers (e.g., consultants, construction contractors and temporary employees) on-site access to SDSs for each hazardous chemical that the other employer’s employees may be exposed to while working in the workplace
- Methods used to inform the employees of other employers of precautionary measures that need to be taken to protect themselves during the workplace’s normal operating conditions and in foreseeable emergencies
- Methods used to inform the employees of other employers of the labeling system used in the workplace

The requirements are as follows:

- C & C Oilfield must ensure that each container of hazardous chemicals in the workplace is labeled with appropriate physical and health warning information.

- C & C Oilfield must maintain copies of the Safety Data Sheets (SDS) for each hazardous chemical in the workplace, and ensure that Safety Data Sheets (SDS) are readily accessible to all employees at all times.
- C & C Oilfield must provide employees with information and training on hazardous chemicals in their work area at the time of their initial assignment and whenever a new hazardous substance is introduced into their work area.
- C & C Oilfield must develop and implement a written hazard communication program for their workplace.
- C & C Oilfield should have specific methods for providing other employers information concerning hazardous chemicals at job sites. C & C Oilfield should have methods of providing SDS sheets, methods of precautionary measures to be taken and methods of providing information on labeling systems. The program shall be made available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director in accordance with requirements of 29 CFR 1910.1020. Where employees must travel between work places, the written program may be kept at a primary job site. If there is no primary, then the program should be sent with the employees.

Objective

The objective of the Hazard Communication (HAZCOM) program is to ensure that all employees are trained and made aware of all hazardous substances they work with. Furthermore, the program shall acquaint them with the danger of potential exposure hazards of substances in the workplace.

Purpose

The purpose of HAZCOM is to develop uniform standards in the receipt, labeling, marking, handling, storage, use and protective measures in accordance with good safety practices, OSHA regulations and state requirements of all hazardous chemicals purchased or shipped to or from the site.

Coordination

The Safety Director has the overall responsibility for coordinating the hazard communication program. There are seven (7) key elements of a hazard communication program:

1. A written program.
2. A list of hazardous chemicals used.
3. Labels and other forms of warning.

   Each container of hazardous chemicals received from the chemical manufacturer, importer or distributor will be labeled with the following information:

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

C & C Oilfield will use the GHS labeling system for secondary containers. When a chemical is transferred from the original container to a portable or secondary container, the container will be labeled, tagged or marked with a GHS label containing the following information:

- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)

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. **Food and beverage containers should never be used for chemical storage.**

Signs, placards, process sheets, batch tickets, operating procedures or other such written materials may be used in lieu of affixing labels to individual, stationary process containers as long as the alternative method identifies the container to which it is applicable and conveys the information required for workplace labeling.

Where an area may have a hazardous chemical in the atmosphere (e.g., where extensive welding occurs), the entire area will be labeled with a warning placard.

Pipes that contain hazardous chemicals should be labeled in accordance with ANSI/ASME A13.1 and indicate the direction of flow. (Please note that this is not a requirement of the OSHA HCS but a best practice or requirement of local jurisdiction.)

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.

Note: After Dec. 1, 2015, distributors may not ship containers labeled by the chemical manufacturer or importer unless the label on the container meets GHS labeling requirements.

4. **Safety Data Sheets** (SDS): A designated person will procure, post, and maintain the Safety Data Sheets for hazardous chemicals present on all job sites. SDS's must be available in each work area at all times to all employees at the job site, their representatives, and the authorities.

5. **Employee Training**: Employees are to attend a training session on hazardous chemicals in their work area at the time of their initial work assignment and annually thereafter. The training session will cover the following:

    - An overview of the Hazard Communication requirements.
    - A review of the chemicals presents in their workplace operations.
    - The location and availability of a written Hazard Communication program, a list of hazardous chemicals and Safety Data Sheets.
    - Methods and observation techniques that may be used to detect the presence or release of hazardous chemicals in the work area.
    - The physical hazards of the chemicals in the work area, including signs and symptoms of exposure and any medical condition known to be aggravated by exposure to the chemical.
    - How to lessen or prevent exposure to hazardous workplace chemicals by using good work practices, personal protective equipment, etc.
    - Emergency procedures to follow if employees are exposed to hazardous chemicals.
    - An explanation of the hazard communication program, including how to read labels and Safety Data Sheets to obtain appropriate hazard information.

    When a new type of product is introduced into a work area or the chemical composition of a product changes, the Safety Director will review the above items as they are related to the new chemicals and relay this information to all affected employees.

    A record of all training, including the name of the trainer, the date of training and the material covered, is to be kept for each employee inside of their permanent file. Records must be made available to the employee, his/her representative and the appropriate authorities.

6. **Non-Routine Tasks**: Employees are required periodically to perform non-routine tasks. Prior to starting work on such projects, each affected employee will be informed by the jobsite supervisor about hazards to which they may be exposed. Appropriate protective equipment and safety measures shall be utilized.

7. **Informing Other Employers**: To ensure that the employees of other contractors have access to information on the hazardous chemicals, it is the responsibility of the Safety Director or his designee to provide others with the following information:

    - Where the Safety Data Sheets (SDSs) are available.
    - The name and location of the hazardous chemicals to which their employees may be exposed and any appropriate protective measures required to minimize their exposure.

An explanation of the labeling system used at the job-site. Each new chemical brought onto a job-site must be accompanied by the appropriate hazard information.

Signal Word Indicates The Relative Level Of The Hazard's Severity.

"Warning"

"Danger"

Are The GHS Signal Words.

Pictograms

GHS Pictograms and Hazard Classes		
 • Oxidizers	 • Flammables • Self Reactives • Pyrophorics • Self-Heating • Emits Flammable Gas • Organic Peroxides	 • Explosives • Self Reactives • Organic Peroxides
 • Acute toxicity (severe)	 • Corrosives	 • Gases Under Pressure
 • Carcinogen • Respiratory Sensitizer • Reproductive Toxicity • Target Organ Toxicity • Mutagenicity • Aspiration Toxicity	 • Environmental Toxicity	 • Irritant • Dermal Sensitizer • Acute toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritation

HAZWOPER/Emergency Response

Objective

The objective of this program is to ensure that any C & C Oilfield employee that is assigned to a job site that contains or could potentially contain hazardous materials knows how to respond in the event of a release, or substantial release threat, of hazardous substances.

C & C Oilfield employees will never be responsible for the containment or cleanup of hazardous materials without the appropriate training. Supervisors and Gang Pushers will receive Level 2 First Responder Operations training in order to contain a release, slow the spread of hazardous materials and prevent exposure. All employees assigned to a jobsite that contains or could potentially contain hazardous materials will be trained at Level 1 (First Responder Awareness)—observation, reporting and evacuation. All affected employees will receive additional training to ensure a comprehensive understanding of the written Emergency Response Plan, so that every employee on the job site is capable of notifying the appropriate personnel before evacuating. No employee will be subjected to the hazard of any material without the proper training.

Emergency Response Plan—General Guidelines

A written site-specific Emergency Response Plan will be in place, and employees will be trained on and understand it before any work will commence. The site-specific plan will include, but not be limited to the following areas:

- Pre-emergency planning and coordination with outside responding agencies (i.e. fire, EMS, and law enforcement, etc.).
- Personnel roles, lines of authority and lines of communication.
- Emergency recognition and prevention (what constitutes an emergency and how to prevent the occurrence).
- Safe distances and places of refuge.
- Site security and control.
- Evacuation routes and procedures.
- Decontamination procedures.
- Emergency medical treatment and first aid.
- Emergency alerts and response.
- Personal protective equipment and emergency equipment.
- Engineering controls (i.e. enclosure/isolation, and exhaust/mechanical ventilation, etc.) and safe work practices (i.e. specific training, limiting the number of employees that can be affected by potential exposure, staging affected employees upwind of potential chemical hazards, etc.) used to reduce and maintain employee exposures to or below the PEL.

- Air monitoring
- Critique of response procedures and follow-up

Employees who exhibit signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency shall be provided with medical consultation. In addition, any employees who have been or could have been exposed to a hazardous material during the emergency response will be subject to medical surveillance for one year following the incident to ensure that no signs or symptoms develop.

NOTE: The plan must be in writing, implemented prior to the commencement of any work, and available for inspection by employees, their representatives and OSHA; no fewer than two copies are to be present on all affected job sites.

Training

Hazwoper includes five levels of training and expertise. The levels are differentiated by the amount of expertise and on-site responsibilities delegated to each. The name, responsibilities and required training for each are included in the following list:

1. Level 1: **First Responder Awareness**

   This level trains employees to be aware of any release of hazardous substances and to alert the response team. This includes observation, reporting and evacuation training. Between 4 and 8 hours of training are acceptable at this level.

2. Level 2: **First Responder Operations**

   This defensive training applies to employees who are not authorized to stop a release. This level trains them to contain a release, slow the spread of hazardous material, and prevent exposure. A minimum of 8 hours of training is required. Level 2 responders must know everything that Level 1 personnel know and may be required to take the complete 24-hour Hazwoper program. Additionally, they must know how to select and use personal protective equipment, how to confine and control a simple spill, and basic decontamination procedures.

3. Level 3: **Hazardous Materials Technician**

   This level teaches employees how to stop the release of hazardous material by patching, plugging, or repairing the vessel or container that is leaking. Training must be at least 24 hours in length. In addition to covering the same topics as Level 2, the hazardous material technicians must be trained to:

   - Implement the company's emergency response plan;

- Identify, classify and verify specific and/or unknown substances with the use of special instruments
- Perform advanced containment operations, and
- Understand decontamination and toxicology and be able to identify personnel who exhibit exposure symptoms.
- Function within an assigned role in the ICS

This training level often includes at least one day of field experience.

4. Level 4: **Hazardous Materials Specialist**

   This specialist assists the technician in containing the spill and provides expertise in hazardous substances to be contained. The specialist also acts as the on-site liaison with government authorities. At this level, OSHA requires at least 24 hours of training. However, it is not uncommon for employees to receive 40 hours of instruction.

   Instruction for the hazardous material specialist begins with Level 2 and 3 training. Specialists are trained to implement the company's emergency response plan, as well as state and local plans, and, if necessary, develop a site safety and control plan. Specialists must have an in-depth knowledge of the hazardous materials on-site, hazard and risk assessment techniques, and hazardous material disposal.

   Company employees who are trained to Level 4 will receive the additional training necessary to educate them on the PPE necessary to protect all persons involved in the control and cleanup of the hazard; training should include chemical protective clothing.

5. Level 5: **On-Site Incident Commander**

   This person is in charge of the entire response, cleanup and disposal operation and OSHA requires a minimum of 24 hours of training. Training covers the following topics:

   - The company's Incident Command System (ICS);
   - Emergency response plan;
   - Local, state, and federal emergency response plans (including all regulations)
   - Personal protective equipment; and
   - Decontamination of responders and equipment.

The "senior official" at an emergency response is the most senior official on the site who is responsible for controlling operations. The senior officer on the first piece of responding emergency apparatus assumes the role of "senior official," but it is subsequently passed up the line of authority, that has been previously established, as more senior officials arrive on the scene. Employees or agents of the operator will always take seniority over equally certified C & C Oilfield employees.

At each level, training must be documented and employees certified prior to their arrival at the job site. Employees must pass a written exam to demonstrate their proficiency following their initial training and after each annual refresher course. The training and testing of an employee must be based on his/her duties and functions.

If an emergency response team is obligated, under a mutual aid agreement, to respond to an off-site incident, the 24-hour emergency training and response procedures are valid during the emergency period only (i.e. rescue, containment and control, etc.). However, if an emergency response team is engaged in the cleanup of a hazardous waste site, training must comply with all regulations covering hazardous waste site remediation (*29 CFR 1910.120*(a)(l)(i)) and the full 40-hour training is required.

All training is to be administered by instructors that have been certified to teach the material, either through training or academic credentials, and have demonstrated their competency.

Personal Protective Equipment (PPE)

The individual in charge of the ICS is ultimately responsible for assuring that all affected individuals are equipped with the appropriate PPE for the hazards present. The Incident Commander shall assure that protective clothing protects the head, body, and extremities, and consists of at least the following components: foot and leg protection; hand protection; body protection; eye, face and head protection.

If there is a risk of exposure to an inhalation hazard, all affected employees will be equipped with and required to wear a positive pressure self-contained breathing apparatus (SCBA). SCBAs shall be worn until the Incident Commander determines, through the use of air monitoring, that a decreased level of respiratory protection will not result in hazardous exposures to employees.

In the event that skilled support personnel are needed to contain and/or eliminate a hazard, they shall receive an initial briefing that will include instruction in the wearing of appropriate PPE, what chemical hazards are involved, and what duties are to be performed. In addition, the safety and health precautions implemented for the employees on-site, including but not limited to PPE, shall be extended to these skilled personnel.

Employees who work with and are trained on the hazards of specific hazardous substances that may be called upon to offer technical advice to the individual in charge of the ICS shall receive training or demonstrate competency in the area of their specialization annually.

Personal Protective Equipment will be provided at no cost to the employee.

Control and Cleanup

All C & C Oilfield employees assigned to a job site that contains or could potentially contain hazardous materials will be trained in accordance with the First Responder Awareness criterion. Upon assignment, employees will receive additional training to instruct them on the site-specific emergency response plan, including the names and numbers of the individuals who need to be contacted immediately in the event of an emergency (i.e. the on-site first responders, and the responding agencies with which emergency protocols have been established, etc.), the evacuation routes and procedures, and safe distances and places of refuge, etc.

There will be at least two available Level 2 technicians on any job site that C & C Oilfield employees are assigned to; this is to ensure compliance with 29 CFR 1910.120, which requires a buddy system, to slow and control a hazardous spill. In addition, a Level 5 Incident Commander will be available to implement the emergency response plan.

C & C Oilfield employees will work within the scope of their training to assist the authorities delegated by the chain-of-command.

Decontamination

A decontamination plan will be established for any applicable job site to which C & C Oilfield employees are assigned. The decontamination plan should:

- Determine the number and layout of required stations
- Determine the equipment needed
- Determine appropriate methods
- Establish procedures to prevent contamination of clean areas
- Establish methods and procedures to minimize worker contact with contaminants during removal of personal protective equipment
- Establish methods for disposing of clothing and equipment that are completely decontaminated

All PPE and equipment exposed to hazardous materials must be decontaminated, cleaned, laundered, maintained, or replaced to maintain their effectiveness. Employees whose non-impermeable clothing becomes wetted with hazardous substances must immediately remove such clothing. Removal of PPE or clothing from changing rooms by unauthorized personnel is prohibited.

Although it is the objective of this program to prevent the need for decontamination of any employees, C & C Oilfield employees will be trained on the procedures to follow should they ever become contaminated.

Records

For each employee, all training and medical surveillance records, including the methods used for training, will be maintained for the duration of employment plus an additional 12 months thereafter.

Post-Emergency Response

C & C Oilfield does not have the equipment or facilities to remove and properly dispose of hazardous substances. If the incident commander determines it is necessary to remove hazardous substances, health hazards and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the job site, a sub-contractor must be contracted to remove the affected material.

Heat Illness Prevention

Introduction

The primary goal of the Heat Illness Prevention program is C & C Oilfield employee safety. The training and operational elements found in this plan will provide C & C Oilfield employees, managers and supervisors with the tools necessary to anticipate environmental conditions that contribute to heat related illness, to recognize when work assignments place employees at risk and what job instructions need to be communicated to employees regarding the prevention of heat related illness. Heat prevention procedures shall be in writing and made available to C & C Oilfield employees.

Scope

This program is intended to control the occurrence of heat related illness. The program applies to all outdoor jobsites where employees can be assigned work, and where environmental conditions cannot be mitigated by engineering controls. Additionally, this program applies to indoor areas where employees may be assigned work, where the indoor temperature meets or exceeds 100ºF. It is also applicable to emergency response personnel, or other employees who are required to wear and perform work in full-body personal protective suits, regardless of exterior or interior ambient temperatures. Physical and personal risk factors that contribute to heat related illness should be taken into consideration before performing a task. The most common physical factors that can contribute to heat related illness are type of work, level of physical activity and duration, warm or hot environmental conditions, lack of acclimatization, and clothing color, weight and breathability. The most common personal risk factors that can contribute to heat related illness are medical conditions, lack of physical fitness, previous episodes of heat-related illness, alcohol consumption, drugs, and use of certain medication.

Responsibilities

Safety, Risk Management, and Information Security will:

- Draft and distribute the Heat Illness Prevention Program (HIPP) to management
- Provide initial training in the requirements of the program to C & C Oilfield managers, supervisors and foreman, and employees who are covered by the requirements of this program
- Maintain C & C Oilfield employee training records for classes conducted

Management will:

- Ensure that employee work assignments both indoors and outdoors are evaluated and the components of this plan are implemented when the established temperature/relative humidity thresholds are met or exceeded

- Ensure that initial and periodic training is provided to employees under their supervision and are consistent with the requirements of this document
- Ensure personal factors that contribute to heat related illness are taken into consideration before assigning a task where there is the possibility of a heat-related illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.
- Ensure that active or passive cooling equipment, such as air conditioning (with cooled air) and increased air flow, is available to employees who may require its use
- Ensure that employees are encouraged to consume adequate fluids, work shorter shifts, take frequent breaks, and quickly identify any heat illness symptoms
- Maintain employee training records for classes conducted
- Designate an individual with proper training at each jobsite to monitor weather conditions and implement the heat plan throughout the workday.

Employees will:

- Comply with the requirements of this program
- Understand the responsibilities of all parties responsible for maintaining compliance with this program
- Take steps to mitigate any personal risk factors that may exist prior to working in a regulated hot environment
- Immediately report any unsafe conditions to their supervisor
- Observe their fellow employees for signs of heat related illness, and take quick action to ensure that rapid assistance is provided if necessary

Training

Employees will be trained on the following:

- The environmental and personal risk factors for heat illness;
- Procedures for complying with the requirements of this standard;
- The importance of frequent consumption of small quantities of water, up to 4 cups of water per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
- The importance of acclimatization;
- The different types of heat illness and the common signs and symptoms of heat illness
- The importance to employees of <u>immediately</u> reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers;
- Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;

- Procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider;
- Procedures for ensuring that, in the event of emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

Supervisors are required to receive the following additional training before assuming their supervisory role:

- The procedures the supervisor is to follow to implement the applicable provisions in this section.
- Supervisors should be trained in the employer's heat illness procedures to prevent heat illness and the procedures to follow when a employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.
- Basic Heat Stress/Illness First Aid

Outdoor Work Assignments

C & C Oilfield managers and supervisors shall ensure that they are aware of the most current weather conditions in the areas where they will be assigning employees to work. The manager and/or supervisor shall implement the proper controls when local weather conditions have achieved, or are expected to achieve more than 48 hours with day time temperatures at or above 90ºF and relative humidity at or above 80%.

High-heat procedures include, but are not limited to:

- Effective communication by voice, observation or electronic means
- Observation of employees for alertness and signs/symptoms of heat illness
- Reminding employees to drink water throughout the shift
- Closely supervising employees for their first 14 days of employment
- Ensure that affected employees have an appropriate period of acclimatization

In these conditions, the manager and/or supervisor shall implement the following worker protection controls.

1. Prior to the start of the work shift, when weather conditions require the application of the HIPP, managers and/or supervisors shall meet with their employees, and review the work procedures to be used during the high heat period.
2. Managers and/or supervisors shall ensure that exposed employees have access to cool potable drinking water. Where it is not plumbed or otherwise continuously supplied, water must be provided to employees at the beginning of the work shift in sufficient quantities to ensure that employees can consume one quart of potable water per hour.

3. Employees may be provided with smaller quantities of water if provisions are made to supply one quart per hour per employee.
4. Managers and/or supervisors shall ensure that employees assigned to work outdoors and who are exposed to 85ºF or below shall have quick and effective access to a rest area where shade is available, or to an area where ventilation or cooling is provided upon request.
5. For temperatures at or above 85ºF, one or more areas with shade shall be provided at all times while employees are present. Shade shall accommodate at least 25% of employees on shift at any one time.
6. Employees exposed to hot climates and/or at risk of heat related illness will be provided access to sports drinks or other methods of replacing lost salt and minerals.

Indoor Work Assignments

Where employees are assigned work in an indoor environment where ambient temperatures will meet or exceed 100ºF, managers and supervisors will ensure that:

- Prior to the start of the work shift, when interior environmental conditions require the application of the HIPP, managers and/or supervisors shall meet with their employee, and review the work procedures to be used during the high heat period.
- Managers and/or supervisors shall ensure that exposed employees have access to cool potable drinking water. Water must be provided employees at the beginning of the work shift in sufficient quantities to ensure that employees can consume one quart of potable water per hour.
- Employees may be provided with smaller quantities of water if provisions are made to supply one quart of water per hour per employee.
- Managers and/or supervisors shall encourage frequent drinking of water by employees.
- Managers and/or supervisors shall ensure that employees assigned work indoors and exposed to high environmental temperatures shall have quick and effective access to an area where ventilation or cooling is provided for a period of not less than 5 minutes. Employees shall have access to cooling at all times during the work shift.

Body Protective Clothing

When a C & C Oilfield employee wishes to wear a full-body protective suit to solely prevent soiling street clothing from a routine work assignment, and no exposure to hazardous materials is anticipated, and the temperature is not expected to meet or exceed the HIPP action thresholds, the manager and/or supervisor shall comply with the following:

- Employees shall be advised to pre-hydrate before donning suit and beginning work.
- Employees shall be advised to continue drinking sufficient water to maintain a hydration rate of one 500ml bottle of water per hour.

- Employees shall be instructed to get out of the direct sun, and into a shaded area, for at least 5 minutes every hour.

When emergency conditions are present, and the responders are required to protect themselves from any chemical, physical or biological hazard, the following work practices shall be implemented:

- Supervisors shall ensure that active cooling equipment is available for employee use, and that employees have been trained in the use of the equipment prior to work assignment.
- Supervisors shall limit work assignments for employees to allow sufficient rest time for fluid replacement and restoration of nominal vital signs.
- Every effort shall be made to schedule work in the coolest part of the day, usually early morning, to mitigate the need for active cooling equipment.
- If conditions do not permit off hours scheduling, supervisors shall ensure that baseline vital signs for employees shall not exceed established thresholds.

Types of Heat Related Illness

1. Heat cramps
2. Heat exhaustion
3. Heat stroke

Symptoms include:

- Muscle spasms that usually occur in the legs (hamstrings) and abdomen
- Cool, moist, pale or flushed skin
- Headache, nausea, dizziness
- Weakness, exhaustion
- Heavy sweating
- Vomiting

First aid shall be promptly provided to an affected employee when any heat related illness symptom is present. **Never leave an employee affected with any heat-related illness alone.**

For employees suffering from heat cramps or heat exhaustion:

- Move the employee out of the heat, to a cool shaded place
- Loosen tight or restrictive clothing, and remove any personal protective equipment over garments
- Remove perspiration soaked clothing
- Apply cool, wet towels to the skin
- Fan the employee gently
- If the person is conscious, provide small sips of cool water (not a sports drink)

For employees suffering from heat stroke:

- **This is a profound medical emergency, and cannot be successfully treated in the field. Immediate and decisive action is required.**
- Call 911 and ensure that accurate directions are provided so medical assistance is not delayed.
- Move the employee to a place out of the heat, or provide shade for them.
- Loosen tight clothing, and begin active cooling methods (active fanning, pouring cool water over the body core, placing ice packs in the arm pits, behind the neck, and in the groin.
- Remain with the employee until medical assistance arrives, and provide assistance to responders as required.

Heavy Metals, Lead, Cadmium, and Hexavalent Chromium

Training

All employees who are at risk of exposure to heavy metals, lead, cadmium, and/or hexavalent chromium (chromium) will be required to complete the appropriate training at time of hire, during orientation, or prior to assignment on a potentially hazardous job site. Training records, including the name of the employee, the signature of the trainer and the date of training will be maintained and updated annually with the employee's certification renewal. Training and renewal participation is mandatory. All C & C Oilfield employees must demonstrate, through either an oral or written assessment, that they:

- Understand the hazards associated with working with lead, cadmium, chromium or other heavy metals.
- Know proper procedures for working with these substances.
- Know where the material could be present, and under what circumstances their risk of exposure is heightened.
- Know hygiene and decontamination procedures.
- Know personal protective equipment requirements.
- Are familiar with control methods and medical surveillance.
- Are familiar with all heavy metal standards to include the lead standards.

Regulated Areas

Per the lead standard and information provided by C & C Oilfield clients, certain work areas may contain heavy concentrations of heavy metals that could cause medical problems if they enter the body. All such areas are considered Regulated Areas. C & C Oilfield must list possible locations of lead-containing materials such as leaded paints, leaded solders, pipes, batteries, circuit boards, cathode ray tubes, leaded glass, and demolition/salvage materials.

Due to the elevated risk of heavy metal exposure, C & C Oilfield will evaluate the need to establish a Regulated Area whenever the following activities are being performed (the evaluation, including air monitoring, must be documented and updated periodically):

- Electrical grounding with cadmium welding
- Cutting, brazing, burning, grinding, or welding on surfaces that are painted with lead/cadmium-containing paints
- Cutting and welding cadmium-plated steel
- Brazing or welding with cadmium alloys
- Fusing of reinforced steel by cadmium welding
- Maintaining or retrofitting cadmium-coated equipment

Regulated Areas must:

- Be set apart from the rest of the workplace in a way that establishes and alerts employees to the boundaries of the area
- Be entered ONLY by authorized persons
- Be entered ONLY by persons using proper respirators and other PPE
- Have **warning signs** containing the following data must be posted at all entrances:
    a. Metal/material contaminating area
    b. Hazard associated (i.e. cancer, lung/kidney disease, etc.)
    c. "AUTHORIZED PERSONNEL ONLY"
    d. "RESPIRATORS REQUIRED IN THIS AREA"

In addition, employees must refrain from eating, drinking, smoking, chewing tobacco or gum and applying cosmetics in such areas. Employees must not carry, store, use products associated with such activities in these areas. These areas become regulated by air monitoring or other means of testing and subsequent labeling of area.

These areas are restricted and require special procedures to be followed to gain entrance to include, but not limited to, training, proper respiratory protection, and emergency procedures.

Site-specific procedures will be developed (and included in the site specific training outlined above) and implemented to protect employees from exposure to cadmium/lead/chromium while maintenance is performed on the ventilation systems and/or while the filters are changed.

All dust and debris generated inside of the regulated area must be contained and disposed of properly. Surfaces must be cleaned regularly to prevent contaminant accumulation. Vacuums with HEPA filters should be used to clean the area for tasks such as dry/wet sweeping or shoveling.

Signs and Warnings

Areas that have been declared hazardous by clients or by testing will be labeled such with signs. These signs will be of sufficient quality and size to be read by any person that may enter the area and be affected by that work area. The information required to be on the sign is listed above—see "Regulated Areas." Appropriate work practices should be followed to ensure the lead containing materials are not disturbed. **Containers that contain heavy metals will be labeled as such.**

All signage will state what heavy metals are present, the fact that these metals are poisonous, and the fact that no eating, drinking, or tobacco products are allowed within the regulated area. Also, if respiratory protection is required, this will be stated on the sign. The signs will not be removed or defaced.

Both employees and visitors will obey all signs. Visitors will be accompanied by a client employee (or C & C Oilfield employee if necessary), and the hazards will be communicated to the visitor.

Nature of the Hazard

C & C Oilfield will educate each employee about the hazards associated with the substances they will encounter. C & C Oilfield relies on its client to disclose all known hazard present at the client facilities. However, C & C Oilfield will not work in situations where there is daily exposure to hazardous heavy metals. This training will be conducted and all actions taken before employees are exposed.

Employees shall be informed of Appendices A & B of the lead regulation. All affected employees will be made aware of the potentially adverse effects of lead. Common symptoms of acute lead poisoning are loss of appetite, nausea, vomiting, stomach cramps, constipation, fatigue, headache, joint or muscle aches and anemia. Long term (chronic) overexposure to lead may result in severe damage to the blood-forming, nervous, urinary, and reproductive systems. Likewise, all affected employees will be made aware of the specific hazards associated with cadmium and chromium, including but not limited to, cancer, and lung and kidney disease.

All affected employees are required to attend all heavy metals training programs. The training shall be provided prior to the time of initial job assignment, or placement into hazardous situations. All employees will be informed of the specific nature of the operations that could result in exposure to lead or other heavy metals above the action level. Per C & C Oilfield Respiratory Policy, air monitoring data, a detailed schedule for implementation, a work practice program, and a written plan for emergency situations will be trained upon before entering the job site. Furthermore, employees will be informed of any engineering controls that can prevent any contact with hazards.

Exposure

No C & C Oilfield employee will be exposed to lead, chromium or cadmium at concentrations greater than the PEL: the PEL for lead is fifty micrograms per cubic meter of air averaged over an 8-hour period, and the PEL for chromium and cadmium is 5 ug/m(3) calculated as an 8-hr TWA.

C & C Oilfield will follow the **work practices** listed in “Regulated Areas” to minimize exposure—i.e. no eating, drinking, tobacco or cosmetics in regulated areas. If necessary, **engineering controls** will be implemented to minimize employee exposure and to ensure that no employee is exposed to more than the permissible limit for more than 30 days per year. Potential engineering controls may include, but not be limited to, the following:

- Exhaust and/or Mechanical Ventilation—these systems require testing before use to ensure effective operation
- Enclosure/Encapsulation
- Substitution of materials (if applicable)
- Component Replacement (if applicable)
- Process/Equipment modification (i.e. altering abrasive blasting techniques to minimize dust—using wet-blasting or vacuum blasting, for example)
- Isolation

Monitoring Program and Requirements

Based on client reports, C & C Oilfield will conduct air monitoring and operate according to the results of the air monitoring, or it will operate per the results of its client's testing. If the results of this monitoring show that the heavy metal content is above the action level, then per that specific heavy metal engineering procedure protocol, actions will be taken to reduce the level to a safe one—see "Exposure" above. Respirators must be used when engineering controls and work practices cannot reduce employee exposure, during work operations where engineering controls and work practices are not feasible, and emergencies. If engineering and work practices do not reduce the levels, then the proper personal protective equipment, to include appropriate respirators, will be used. **If these controls are not feasible, then C & C Oilfield will not do the work.**

Affected areas must be monitored on a regular basis (at least every 6 months) while the measurements are above the action level. The employer must continue monitoring the affected area until two consecutive measurements, taken at least 7 days apart, are below the action level.

C & C Oilfield will disclose the results of the monitoring to all affected employees within 15 working days after the receipt of the results. The results of all monitoring will be posted at the jobsite in a location that is readily visible and accessible to all affected employees, and each will be notified in writing if the results exceed the action level. If the permissible exposure limit was exceeded, each affected employee will be notified in writing and will be provided with the details of the corrective action the employer has taken to reduce the exposure to or below the permissible exposure limit, including engineering controls, and PPE requirements, etc.

Compliance with Written Site-Specific Plans

All employees will comply with the written site-specific plans of each client. All personnel will be trained and medically tested to work within the confines of the plan. The written program will be reviewed and updated at least every 6 months to reflect significant changes in C & C Oilfield compliance status.

Actions that Could Cause Exposure

Per Appendixes A and B, any way that lead may enter the body could be harmful. Other harmful metals to include cadmium and chromium require personal protection equipment as well and proper hygiene practices.

Cutting, welding, grinding, eating around, drinking, smoking around, chewing tobacco around, breathing around, and other forms of ingestion or inhalation is not allowed.

Medical Surveillance Program

C & C Oilfield currently does not perform medical surveillance of employees because the company does not work in these environments. When C & C Oilfield does work in these environments, medical surveillance, in accordance with the heavy metal hazards, will be conducted.

Employees who, for 30 days or more per year, perform any task, operation or job for which Regulated Areas are mandated by C & C Oilfield are covered by the medical surveillance provisions. Medical examinations and procedures shall be performed by or under the supervision of a licensed physician without cost to the employee. With lead, Appendices A and B will be adhered to.

Blood sampling & monitoring should be conducted every 6 months until two consecutive blood samples & analysis are acceptable. The sampling & monitoring should be performed at least monthly during the removal period. If biological monitoring results are abnormal, C & C Oilfield will reassess all affected employee's exposures within 30 days, and employees should be notified in writing within five days when lead levels are not acceptable.

Employees will be removed from jobs with exposure to chromium, cadmium or lead at or above the action level on each occasion that a physician documents that the employee should be removed from chromium, cadmium or lead exposure, or in cases where the employee's biological monitoring results are so high as to mandate medical removal. The employees may return back to work when the enclosure breach is repaired or an initial exposure assessment is performed. A physician may require medical removal on the basis of biological monitoring results, evidence of illness, inability to wear a respirator, or any other reason deemed medically sufficient. If an employee's removal is due to his/her inability to wear a respirator, he/she can be reassigned to a job at which the exposure to lead/cadmium/chromium is below the PEL.

If an employee is temporarily medically removed from a job for reasons related to cadmium, chromium, or lead exposure, the employee's normal earnings, seniority, and employee rights will be unaffected for a maximum of 18 months (Medical Removal Protection benefits).

If employees working immediately adjacent to a lead abatement activity are exposed to lead due to the inadequate containment of such job, their employer shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.

C & C Oilfield will maintain all exposure and medical surveillance records, and will make the records available to the employee and his representative.

Personal Protective Equipment

C & C Oilfield will provide, at no cost to the employee, all necessary PPE to employees based on atmosphere and work area monitoring, as well as client input. NIOSH-certified powered, air purifying respirators (PAPRs) will be provided. Each employee will be trained in the proper fit, usage, and limitations of his/her PPE, including respirators.

Special PPE to include protective clothing will be issued and proper cleaning provided. Protective clothing will be replaced at least weekly and shall be clean, laundered, properly disposed of and repaired or replaced as necessary. Employees will be required to wear provided protective equipment if the work area requires such protection. Gloves, hats, vented goggles, shoes or disposable shoe covers shall be provided.

Emergency Situations and Decontamination Areas

A job-specific Emergency plan is to be developed, documented and implemented prior to any work being done. While the plan is site-specific, it will include provisions for the use of appropriate respirators and personal protective equipment (PPE), and a mandatory evacuation of all employees who are not essential to resolving the situation. All normal operations will stop until the emergency situation is corrected. All employees assigned to the job-site are to be trained on and receive a copy of the emergency plan before they begin working.

If the exposure limits exceed the PEL, C & C Oilfield will provide facilities to accommodate the needs of its employees, including lunch and changing rooms, decontamination and hygiene facilities, etc. Hygiene facilities will prevent cross-contamination and provide washing facilities for employees. Workers must wash their hands and face or any other potentially exposed skin before eating, drinking, or smoking.

NOTE: It is the responsibility of the Safety Administrator to implement this program, and the responsibility of the job supervisors to ensure that the program is executed in the field. A copy of this program will be kept on site for examination and/or copying by affected employees, their representatives, the Assistant Secretary and the Director.

Hydrogen Sulfide (H_2S)

C & C Oilfield employees may be exposed to various chemicals or products in the workplace. All C & C Oilfield employees shall be aware of the hazards posed by chemicals and shall be protected from any harm potentially caused by these hazards. Safety Data Sheets will be referenced for hazards and guidelines adhered to.

Characteristics of Hydrogen Sulfide

Hydrogen Sulfide is a colorless gas at atmospheric temperature and pressure. It has a foul odor, comparable to rotten eggs, in small concentrations but causes paralysis of the olfactory nerve within 60 seconds in higher concentrations. The paralytic effect of Hydrogen Sulfide on the sense of smell is a significant hazard. The odor threshold for H_2S is 0.13 parts per million (PPM). NOTE: The Permissible Exposure Limit (PEL) for H_2S in any 8-hr work shift of a 40-hr work week shall not exceed 10 PPM, and the Short-Term Exposure Level (STEL) for H_2S is 10 PPM for 15 minutes, a maximum of 4 times in an 8-hr work day with at least one hour between each exposure. This STEL can be used for the TLV/TWA.

Additional Characteristics:

- Hydrogen Sulfide is approximately 20% heavier than air.
- H_2S forms an explosive mixture with air between 4.3% and 46% by volume concentration.
- H_2S is soluble in water: 2.9 volumes of gas per volume of water at 20° C.
  NOTE: Solubility decreases with an increase in temperature; consequently, the H_2S will be released from the oil or water.
- The IDLH (Immediately Dangerous to Life and Health) for H_2S is 100 PPM.
- The ignition temperature for Hydrogen Sulfide is 500° F.
- Sulfur Dioxide (SO_2) is a toxic byproduct of H_2S; SO_2 is created during the burning/flaring of H_2S. Sulfur Dioxide has a pungent odor and provides ample warning of its presence—the odor threshold is 3 PPM. In high enough concentrations, SO_2 is deadly.

Toxicity (Physiological Response):

10 PPM	Obvious and unpleasant odor; beginning eye irritation. **Permissible Exposure Limit (PEL) of 8 hrs.**
50-100 PPM	Slight conjunctivitis and respiratory tract irritation after 1 hour of exposure
100 PPM	Loss of sense of smell in 3 to 15 mins; altered respiration, coughing, and drowsiness after 15-30 mins followed by throat irritation after 1 hr; symptoms will gradually increase with continued exposure, and death can result within 48 hrs. Immediately Dangerous to Life or Health (IDLH)
200-300 PPM	Quick loss of sense of smell; sting in eyes and throat; respiratory irritation; DEATH within 2 hrs.

500 PPM	Dizziness; breathing ceases within a few mins; prompt rescue breathing mandatory; SELF-RESCUE IMPOSSIBLE due to loss of muscle control
700 PPM	Quick loss of consciousness
1000 PPM	Immediate loss of consciousness followed by death within minutes

NOTE: There is no evidence that repeated exposures to Hydrogen Sulfide result in accumulative poisoning, but repeated exposures to H2S do appear to cause some increases in susceptibility to the gas.

Potential for Exposure

In most industrial operations, sulfur compounds are undesirable components that have to be removed from the product. There are several possible means by which H_2S can permeate a job site:

1. **Drilling Rigs**

   Some geographical areas are richer in sulfur deposits than others, but there is always a danger of drilling into pockets of gas that will enter the atmosphere. There is always a risk of H_2S escaping through a drilling hole, but other means of escape to consider are:

   a. Recycled Drilling Mud because of the weak soluble properties of H_2S that are addressed above.
   b. Water from Sour Crude Wells (for the same reason)
   c. Blowouts

2. **Tank Gauging and Field Maintenance**

   Work around tanks, pipeline and refining operations carries an inherent risk of exposure to H_2S. Hydrogen Sulfide will utilize the oxygen in CO_2 or water to create carbonic acid and eat through untreated, pitted or otherwise corroded steel. Although the necessary precautions should have already been taken, tank batteries, wells, pipelines and other such premises must be approached and worked in with an attentive regard for corrosion.

Casing, tubing, drill pipe, couplings and the like that are used around hydrogen sulfide should meet the standards as described in NACE STD MR-01-75: Standard material requirements sulfide stress cracking resistant metallic materials for oilfield equipment.

Exposure Prevention—Personal and Area Monitors/Alarms

All areas where there is a potential for exposure to Hydrogen Sulfide must be monitored. Although there are numerous types of monitors available (i.e. electronic, direct reading colorimetric tubes, wet chemistry and lead acetate methods), all monitors used for employee exposure prevention must adhere to the following:

1. All monitors should be portable, weighing no more than 10 lbs.
2. Monitors should provide a direct readout of hydrogen sulfide concentration in parts per million (PPM) by volume.
3. Monitoring equipment should be readily operable by all jobsite personnel.
4. All users should refer to or be trained on the material within the manufacturer's book, including but not limited to calibration and bump test procedures, before use.
5. At least one designated jobsite supervisor must be trained on the proper procedure to calibrate and reset area monitors, and employees that are issued personal monitors must be trained and equipped to calibrate and reset the issued equipment.
6. All portable monitors should contain integrated audible, visual or physical presentation alarms.
7. All monitors should be rugged, but should be protected from extreme conditions (i.e. Water, chemical sprays and abuse).

Only electronic monitors are suitable for standard jobsite safety; the personal and area electronic monitors issued on a job site must alarm when the PEL exceeds 10 PPM and 20 PPM.

Monitors must be bump tested at a minimum as required by the manufacturer; if a monitor fails a bump test a full calibration is required. Monitors must be calibrated according to the manufacturer's recommendations.

Safety Precautions and Contingency Plan

All employees are to be trained on the three conditions of H_2S concentration: Green (< 10 PPM), Yellow (10 – 30 PPM), and Red (> 30 PPM). When the Hydrogen Sulfide concentration exceeds 1 PPM (ACGIH) at some area on site, and the well or production stream is still under control, all personnel are notified by the area monitor with an intermittent audible alarm and a yellow flashing light. Upon hearing or seeing the alarm, all non-essential personnel must proceed to the upwind safe-briefing area (to be determined before work commences and modified if necessary, to accommodate weather conditions). Remaining essential personnel must wear breathing apparatuses. In the event that the H_2S concentration exceeds 30 PPM on the location, or a loss of well control occurs, personnel are notified by a continuous alarm and a red flashing light.

All personnel that are not involved in the recovery effort must evacuate the location. All persons remaining on the site must wear breathing apparatuses.

NOTE: Before work commences on any job site, a site-specific contingency plan will be established, and ALL employees working on-site must be trained on it. This training shall be instructor led and consist of an initial minimum mandatory time of 3 ½ hours and an annual refresher thereafter. ALL employees shall also be trained on the required elements of the respiratory protection program to include medical evaluations, fit testing, and selected respirator training.

NOTE: **The only breathing apparatuses authorized for use around Hydrogen Sulfide are NIOSH-certified self-contained breathing apparatuses or an airline respirator with an escape SCBA.**

Job Competency

The purpose of this program is to establish the importance of ensuring the competency of an employee to manage the demands of a job assignment before they are expected to perform the job independently.

This program impacts every employee at C & C Oilfield. It is the responsibility of management to maintain a clearly defined organizational chart that includes a list of job titles within the company.

Each job title listed must include both a clearly defined scope of work and responsibilities and a list of the minimum requirements an employee (or prospective employee) must possess in order to be eligible to fill the position. The minimum requirements must address education, acceptable work experience, and any applicable certifications, etc.

Employees are required to present documentation that substantiates their ability to both perform the job and meet the minimum requirements of the position. Once the required documentation has been received, a competent person (supervisor, lead hand, or mentor, etc.) must assess the applicant's ability to perform the job duties before they will be permitted to work alone.

Once the job/position is awarded, the employee must receive any additional job-specific training that is necessary for the employee to perform the job and manage their responsibilities safely.

Jobsite Security

C & C Oilfield provides a safe workplace for all employees. To ensure a safe workplace and to reduce the risk of violence and security-related incidents, all employees should review and understand all provisions of this jobsite security policy.

Prohibited Conduct

We do not tolerate any type of workplace violence committed by or against employees. Employees are prohibited from making threats or engaging in violent activities. Jobsite assessments shall be conducted prior to commencement of work to evaluate the risk of security incidents. This list of behaviors, while not inclusive, provides examples of conduct that is prohibited and can reduce jobsite security incidents:

- Causing physical injury to another person
- Making threatening remarks
- **Aggressive or hostile behavior that creates a reasonable fear of injury to another person or subjects another individual to emotional distress**
- Intentionally damaging employer property or property of another employee
- Committing acts motivated by, or related to, sexual harassment or domestic violence
- Involvement in an altercation, including taunting and horseplay
- C & C Oilfield should also be notified if an employee's spouse/partner could be a harm to the employee and if he/she should not be allowed on the property

1. Third-Party Aggression and Incident Management

Pipeline Construction projects have become hot-spots of aggressive behavior from third-party individuals and groups, including environmental activists, landowners, community residents, and others. Persons involved with this project are prohibited from engaging individuals intent on interfering with the construction process. All employees working on the jobsite should know the approved evacuation routes for weather and other unplanned events; these situations may require an evacuation, too. Here are some basic protocols to follow in the event that something of this nature occurs.

Protest, Blockade, or Demonstration Activity

- Do not physically engage any participant and STAND DOWN if confronted
- Remove yourself from the situation and move to a safe place to contact project management and reconvene with other affected workers. An off-site construction office, hotel, or muster point might be first options.
- If injured, contact 911, your supervisor, and then follow the injury protocols documented in C & C Oilfield Accident and Injury Reporting Policy..

- Once safely removed from the threat, take a moment to document your experience. Make note of any verbal threats, demands, or actions made by the demonstrators. If a blockade was present, make note of the vehicles or obstacles present.
- If the demonstration/protest is non-threatening and access to the construction site is not obstructed, carefully continue to the worksite and notify management.
- If onsite security is present, notify them of any persons or property located near the jobsite that could pose a threat.
- PLEASE REMEMBER, most of these groups are RECORDING your actions.

Aggressive Behavior from Third Party (landowner, community resident, protestor, other, etc.)

- Do not physically engage any participant and STAND DOWN if confronted
- Be polite and non-confrontational. If necessary to escape the situation, defend yourself, but do not escalate the situation with body language, a raised-voice, or other aggressive posturing.
- Remove yourself from the situation and move to a safe place to contact project management and reconvene with other affected workers. An off-site construction office, hotel, or muster point might be first options.
- If injured, contact 911, your supervisor, and then follow the injury protocols documented in C & C Oilfield Accident and Injury Reporting Policy.
- Once safely removed from the threat, take a moment to document your experience. Make note of any verbal threats, demands, or actions made by the demonstrators. If a blockade was present, make note of the vehicles or obstacles present.

Bomb Threat

All bomb threats will be taken seriously and acted upon. If you receive a bomb threat, you are required to report it to supervision immediately. The supervisor must notify onsite security and/or local law enforcement. If a suspicious or unknown item is identified in the vicinity, do not touch it, evacuate the area, and notify the authorities. Corporate Management must be notified as soon as is reasonable in the event of a bomb threat.

Suspicious Activity, Persons, or Objects

Jobsite personnel are expected to report any suspicious activity, persons, or objects to their supervisor immediately. Management will take the necessary precautions to identify the person(s) or object. If the activity, person(s), or object are not related to the project, onsite security and/or law enforcement will be notified. If a threat is present, additional measures will be taken—some of which may be identified above.

Jobsite Security Incident Reporting and Investigation

All incidents, no matter how minor, must be reported to a supervisor immediately. Subcontractors must also comply with this requirement. "Immediately" is defined as within fifteen (15) minutes of the incident, or sooner if the situation dictates. When an incident occurs, it must be reported in a specified manner. The reporting sequence must be posted. The employer must verbally report required incidents to OSHA within 8 hours of their discovery. Incidents must also be reported to the Owner Client as soon as possible or within 24 hours of the incident.

Incidents that are required to be reported to OSHA are work related incidents resulting in the death of an employee or the hospitalization of three or more employees.

Owner Clients require all incidents to be reported including injuries, spills, property damage, fires, explosions, and vehicle damage.

C & C Oilfield implemented this program in order to establish a protocol for jobsite security incident reporting and investigation. The Safety Coordinator will be responsible for investigation (or delegating the investigation) of all accidents. The goal of this program is to prevent future incidents by studying the information collected during investigations to determine a root cause and subsequent work practice or procedure changes necessary for safety. Additionally, the investigation will be used to prepare the reports that are required by federal and state regulation, and our insurance provider. These reports are critical in establishing company liability.

The information gathered in the Investigation Report will be utilized to develop a Root-Cause Analysis—the primary cause of an incident. All jobsite security incidents will be investigated to the appropriate level with regards to incident severity. Management may require the individuals involved in the incident to meet and discuss the incident. If so, the entire incident scenario will be discussed and recommendations made. The Safety Department will record all notes taken during the Root-Cause Analysis and make the final report available, with recommended actions and date of completion, to all affected employees.

Training

All personnel must be trained in their roles and responsibilities for jobsite security. Training requirements relative to jobsite security and reporting should be identified. All dealings with jobsite security shall be recognized and trained on. Those may encompass but not be limited to:

- Signage
- Cameras
- Building Access
- Badging
- Security perimeter fencing

- Adequate lighting
- Security Personnel
- Gates

All training should be documented and kept on file.

Employees who could be first responders when an jobsite security incident occurs should be trained and qualified in techniques to control the degree of loss during the immediate post-incident phase.

Adequate equipment shall be available to perform a proper investigation. The equipment list shall include some if not all of the following:

- Pen
- Paper
- Measurement equipment (laser distance finder, rulers, tape measures)
- Photography equipment (camera or video/audio recorder)
- Proper PPE
- Marking equipment (Flags, Tape, Stakes, Ribbon, etc.)

Ladder Safety

1. Safety climbs that are installed on ladders attached to equipment must be used. Safety climbs have safety belt attachments that allow personnel to climb without detaching their safety belts after each step.

2. C & C Oilfield ladders must be maintained in good condition. When portable ladders are used on hard surfaces, they must be equipped with nonskid footing or securely fastened to prevent slipping. The top of the ladder should be secured, or another person should hold the ladder. The base of the ladder should be placed away from the wall by a distance of about one foot for every four feet in height. Ladders will extend three feet past point of contact; if this is not feasible, the ladder must be secured at the top to a rigid support that will not deflect.

3. All permanent ladders must be securely fastened at both top and bottom. Long ladders should also be secured at intermediate points.

4. C & C Oilfield ladders should be closely inspected when purchased or installed and re-inspected at least twice a year. Check the condition of the ladder before it is used and correct any defects. The combined weight of the employee and load should not exceed the load limit of the ladder. Remove any oil, grease, or slippery material from the ladder and from the shoes.

5. Wooden and fiberglass ladders must not be painted. Wooden ladders should be coated with clear varnish or shellac or treated with boiled linseed oil.

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

7. When climbing or descending a ladder, a person should face the ladder and hold the side rails, not the rungs. Climbers should not carry tools or other encumbrances in their hands. A tool belt or pouch should be used for holding small tools, and a hand line should be used to raise or lower heavy or bulky objects. When a climbing belt is supplied, the person ascending or descending the ladder must use it.

8. When working from a ladder, never extend farther than the arm's length to reach work. When working on a portable ladder, move the ladder to avoid the possibility of an accident.

9. No more than one person should be on a ladder at the same time where possible. If a job requires more than one person, a second ladder or a scaffold should be considered.

10. Never work on an unsecured ladder in windy conditions.

11. A person should not stand on the top two steps or the spreader of a stepladder.

12. A stepladder should not be used as a straight ladder (i.e. used while still folded).

13. It is a good safety practice for someone to hold or steady a stepladder for a person working near its top.

14. Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced, when the ladder is in position for use. Rungs, cleats, and steps of portable ladders and fixed ladders (including individual-rung/step ladders) shall be spaced not less than 10 inches apart, nor more than 14 inches apart, as measured between center lines of the rungs, cleats, and steps. Rungs, cleats, and steps of step stools shall be not less than eight inches apart, nor more than 12 inches apart, as measured between center lines of the rungs, cleats, and steps. Rungs, cleats, and steps of the base section of extension trestle ladders shall not be less than eight inches nor more than 18 inches apart, as measured between center lines of the rungs, cleats, and steps. The rung spacing on the extension section of the extension trestle ladder shall be not less than 6 inches nor more than 12 inches, as measured between center lines of the rungs, cleats, and steps. The minimum clear distance between the sides of individual-rung/step ladders and the minimum clear distance between the side rails of other fixed ladders shall be 16 inches. The minimum clear distance between side rails for all portable ladders shall be 11 1/2 inches. The rungs of individual-rung/step ladders shall be shaped such that employees' feet cannot slide off the end of the rungs. The rungs and steps of portable metal ladders shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping. Furthermore, the ladder shall comply with all OSHA/ANSI standards.

15. Ladders must be placed on a stable and level surface.

All C & C Oilfield ladders will be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe operation. Any ladder that is deemed defective by the competent person is to be tagged and removed from the premises.

Portable and fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with “Do Not Use” or similar language, and shall be withdrawn from service until repaired.

When performing electrical work that requires the use of a ladder, use a wooden or approved fiberglass ladder. Metal (aluminum) ladders cannot be used.

When raising a ladder, make sure it will not contact an electrical line.

Extension ladders should properly overlap between sections.

Ladders must not be used as scaffold members or for any purpose for which they are not intended. Do not place ladders on top of boxes, barrels, crates, etc.

Unsecured portable ladders should not be left standing unattended.

Always use an approved ladder or stool to reach articles high above the floor. Never use a swivel chair or other makeshift device to reach high places.

Line-Clearance, Tree-Trimming

General

This policy will apply to all employees engaged in the performance of arboriculture, including tree pruning, repairing, maintaining; removing trees; cutting brush; or performing pest or soil management during tree care operations. The Line-Clearance, Tree-Trimming plan shall be prepared by a qualified person for the specified work site.

All accidents and serious incidents (near misses) must be investigated, and, if necessary, changes to the Line-Clearance/Tree-Trimming plan must be made.

Exposed Live Parts

C & C Oilfield shall designate a competent person to train employees and shall ensure that each employee is competent in:

1. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment,
2. The skills and techniques necessary to determine the voltage of exposed live parts,
3. The minimum approach distances that correspond to the voltages to which the employees will be exposed, and
4. The proper use of personal protective equipment, insulation and shielding materials and insulated tools.
5. Recognizing electrical hazards and how to control or avoid them.

Safety Briefings Before Work

Prior to permitting an employee to engage in any arboricultural activity covered by this policy, the employer shall conduct a safety briefing and job site orientation. The briefing shall include but not be limited to:

- Hazards associated with the job
- Work procedures
- Special precautions
- Energy-source controls
- PPE requirements

Dangers of Overhead and Underground Conductors

All overhead and underground electrical conductors and all communication wires and cables shall be considered energized with potentially fatal voltages.

Arborists and other workers shall be instructed that:

- Electrical shock will occur when a person, by either direct contact or indirect contact with an energized conductor provides a path for the flow of electricity to a grounded object or to the ground itself.
- Ground fault may cause electrical shock if a person stands near a grounded object.
- Step potential exists when a grounded object is energized or there is a downed energized electrical conductor.

Determining Voltage of Power Lines

Before any work is performed in proximity to energized conductors, the system operator/owner of the energized conductors shall be contacted to ascertain if they know of any hazards associated with the conductors which may not be readily apparent. A close inspection shall be made by the employee and by the foreman or supervisor prior to climbing, entering, or working around any tree. The clearances in the table below shall apply for **qualified** arborists.

Voltage range (phase to phase) (kilovolts)	Minimum working distance
2.1 to 15.0	2 ft. 0 in.
15.1 to 35.0	2 ft. 4 in.
35.1 to 46.0	2 ft. 6 in.
46.1 to 72.5	3 ft. 0 in.
72.6 to 121.0	3 ft. 4 in.
138.0 to 145.0	3 ft. 6 in.
161.0 to 169.0	3 ft. 8 in.
230.0 to 242.0	5 ft. 0 in.
345.0 to 362.0	7 ft. 0 in.
500.0 to 552.0	11 ft. 0 in.
700.0 to 765.0	15 ft. 0 in.

CFR 1910.268(q)(2)(iv)

The clearances in the table below shall apply for **non-qualified** arborists.

Voltage range (phase to phase) (kilovolts)	Minimum working distance
0.0 to 1.0	10 ft. 0 in.
1.1 to 15.0	10 ft. 0 in.
15.1 to 36.0	10 ft. 0 in.
36.1 to 50.0	10 ft. 0 in.
50.1 to 72.5	10 ft. 9 in.
72.6 to 121.0	12 ft. 4 in.
138.0 to 145.0	13 ft. 2 in.
161.0 to 169.0	14 ft. 0 in.
230.0 to 242.0	16 ft. 5 in.

345.0 to 362.0	20 ft. 5 in.
500.0 to 550.0	26 ft. 8 in.
785.0 to 800.0	35 ft. 0 in.

ANSI Z133.1-2000

Insulated Equipment

When tree branches are contacting an energized conductor, insulated tools will be utilized. Power tools will be double insulated and permanently labeled as such. Furthermore, it will be equipped with a three-wire cord having the ground connected to the tool frame and a means for grounding the other end. Powered pole tools with poles made of conductive material shall not be used when there is an electrical conductor. All tools that may contact energized parts shall be designed and maintained for such use. Consult with the tool manufacturer or employer if there are any questions regarding tool use.

Adverse Weather Conditions

Adverse weather conditions create special hazards. Only authorized representatives from the electric conductor operator/owner may perform tree work in these situations where energized electrical conductors are involved.

Mechanical Infeed Systems

Brush chippers without a mechanical infeed shall be equipped with an infeed hopper not less than 85 inches measured from the blades or knives to ground level over the center line of the hopper. This prevents workers from contacting the blades or knives during operation.

Power Saws

When a chain saw is being carried into a tree the unit shall have the chain brake engaged and the engine must be shut off. The chain saw will be carried up the tree in a manner that will prevent the operator from contacting the cutting chain and the muffler.

Climbing Equipment

Any equipment used for climbing shall be inspected prior to work beginning. Equipment found to have damage, cuts, abrasions, and/or deterioration shall be removed from service and tagged for repairs or discarded. The following should be inspected:

- Climbing Lines
- Worklines
- Lanyards

Lock Out/Tag Out

Introduction

Lockout/Tagout (LOTO) is an energy isolation technique designed to prevent workers from being injured as a result of the unexpected activation of equipment.

Lockout/Tagout training shall be conducted at the time of hire and annually thereafter for all employees. This training is documented and the training shall cover the following topics:

- Recognition of hazardous energy sources
- Type and magnitude of energy available
- Methods and means necessary for energy control
- Affected/authorized employees (differences)
- Energy isolation procedures
- Re-training in case of new equipment or change in procedures
- New hazards

The training will also include an explanation of the limitations of tagout procedures (i.e. tags are warning devices and do not provide physical restraint), and the stipulation that tags shall only be removed by the person who installed them. Furthermore, each person will be trained on the requirement to abide by all tag-wording requirements.

Disregarding or tampering with tags is strictly prohibited.

Retraining is conducted at C & C Oilfield whenever machines or processes change, there is a change in the energy control procedure, or a new hazard is introduced. An individual must also be retrained whenever he/she is assigned to a new job task for which different lockout/tagout procedures are utilized. The C & C Oilfield Safety Department is responsible for all training and retraining.

Any training conducted will be documented. The employee's name and the date of training must be included in the documentation. This record will be maintained per the C & C Oilfield Record Retention Policy.

An inspection and evaluation of the Lockout/Tagout procedures and policy shall be conducted annually by the safety department and supervisors.

Application of Lockout/Tagout

LOTO is necessary when service or maintenance is being performed on or around machinery that could cause injury with an unexpected startup or release of stored energy.

LOTO is typically required when:

- A guard or other safety device is removed or bypassed; or
- Personnel must place body parts where they could be injured by energized equipment.

Each person with a potential to be injured from the unexpected energization of the machine should place a lock and/or tag on each Energy Isolation Device.

An Energy Isolation Device is a mechanical device that physically prevents a transmission or release of energy; examples include:

- Manually operated electrical circuit breakers;
- Disconnect switches; and
- Blocks or any similar device used to block or isolate energy.

Push buttons, selector switches and other control circuit type devices are not Energy Isolation Devices.

Locks are safer than tags and must be used if possible. Tags may only be used if lockout is not possible, such as with most breakers. Tags are not as foolproof as locks and may evoke a false sense of security.

Only "Authorized Persons" who have been trained in the company's LOTO program, are allowed to perform LOTO.

Locks and Tags

- All locks, tags, and fixtures must be supplied free-of-charge by the employer, and they must be standardized within the company.
- Tags must contain a warning statement, such as "do not operate", and be substantial enough to prevent accidental removal.
- The means of attachment for a tag must be a non-reusable, self-locking, nylon cable tie capable of resisting 50# of force.
- Locks must be substantial enough to prevent removal without excessive force.
- The locks and tags designated by the company for LOTO cannot be used for any other purpose.
- Keyed locks are preferable to combination locks because they are more tamper-resistant.
- Both locks and tags must be durable and capable of withstanding the environment in which they are used.
- Locks and tags must be capable of identifying the person who applied the device. When a lock is used with a tag, the function of the tag is usually to identify the person who applied the lock.

Hazardous Energy Control

LOTO is energy control and it applies to all forms of energy, not just electricity.

In order to effectively isolate equipment, workers must be able to recognize all the energy associated with it.

Energy can take two basic forms: **Kinetic and Potential**.

Kinetic energy is the energy associated with motion, and it is not usually involved in LOTO accidents because it is easily recognized.

Potential energy is stored energy and is sometimes difficult to recognize. Forms of potential energy include:

- Electricity
- Magnetism
- Compressed gas
- Pressurized liquids
- Heat
- Corrosive chemicals
- Gravity
- Springs under tension
- Steam

Equipment is likely to contain or use several forms of energy, and in some cases, equipment may utilize a single form of energy from multiple sources.

Applying Controls

Only a trained individual, who is referred to as an "Authorized Person," is permitted to apply LOTO devices. He or she must affix them to every energy isolating device. Before the lockout/tagout is applied, all "Affected Persons" must be notified. An "Affected Person" is an individual whose job requires him to:

- Operate a machine or piece of equipment that is being serviced or repaired under lockout/tagout
- Work in an area in which such servicing or maintenance is being performed.

OSHA requires that lockout/tagout be performed according to the following six-step procedure:

1. Preparation for shutdown
2. Equipment shutdown;
3. Equipment isolation;

4. Application of lockout/tagout devices;
5. Control of stored energy;
6. Equipment isolation verification.

Preparation for Shutdown

During preparation for shutdown, the "Authorized Person" must:

- Obtain permission to work on equipment;
- Obtain written LOTO procedures;
- Have knowledge of the type and magnitude of the energy;
- Know the hazards of the energy to be controlled;
- Be aware of the methods or means to control the energy;
- Identify location of energy isolation devices;
- Inform "Affected Persons"; and
- Obtain appropriate LOTO hardware;

During equipment shutdown, the "Authorized Person" must turn off equipment according to the manufacturer's recommended shutdown procedures. It is imperative that every precaution be taken, including but not limited to those listed above, to ensure that no additional or increased hazard results from the stoppage of equipment.

During equipment isolation, energy isolation devices are placed in the off or closed position. Lockout devices must be affixed in a manner that will hold the energy isolating device in a safe or off position. Fixtures may be necessary to hold the energy isolation device in the off position, or, where applicable, to allow the connection of multiple locks. ***While applying lockout/tagout devices, the Authorized Person is required to ensure that a lock or tag is placed on each energy isolation device.***

When tags are used in place of locks, the tag must be attached to the same place a lock would be placed if a lock were available. In addition, when a tag is used because the device is not lockable, the tag must be affixed in a position that will be immediately obvious to anyone attempting to operate the affected device, so that employees are alerted to the danger and to ensure that no one can accidentally energize the device. Affix the tag as close to the device as is safely possible.

During the control of stored energy, stored energy must be released, and the equipment is configured so that it cannot be reenergized or started.

Prior to start work on machine or equipment that have been locked or tagged out, the authorized employee shall verify that isolation and deenergization of the machine or equipment have been accomplished. During equipment isolation verification, an attempt is made to start equipment using the normal operating controls, and isolation is verified with instrumentation, such as a

voltmeter, if possible.

Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained and otherwise rendered safe. If there is a possibility of re-accumulation of stored energy level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

Written Lockout/Tagout Procedures

OSHA requires special written lockout/tagout procedures for each piece of equipment, unless any of the following conditions are met:

- The machine has no potential storing or re-accumulation of energy while shutdown;
- The machine has a single energy source which can be readily identified and shutdown;
- Isolating and locking out the energy source will completely de-energize and deactivate the machine;
- The machine is completely isolated from the energy source during maintenance;
- The lockout device is under the exclusive control of the authorized employee performing the maintenance;
- Servicing or maintenance does not create hazards for other employees; and
- No accidents involving the unexpected activation or energization of the machine during maintenance or servicing have occurred.

  OSHA considers a LOTO Work Permit to be a written procedure.

When an isolation device must be temporarily removed, the following procedure must be followed:

1. Clear away tools
2. Remove employees
3. Remove the LOTO device
4. Energize and proceed with testing
5. De-energize and re-apply control measures
6. Document who performed the procedure, and the reason it was performed

Removal of Lockout/Tagout

Under normal circumstances, only the “Authorized Person” who applied the energy isolation device may remove the lock and/or tag.

If the person who applied the lock or tag cannot be located, a specially designated and trained supervisor may remove the device. The supervisor must verify that the “Authorized Person” is not at the facility, make reasonable efforts to contact the “Authorized Person” to inform them of

the removal, and ensure it is safe to remove the lock or tag and notify all the "Affected Persons" that it has been removed.

The "Authorized Person" who applied the lock or tag that was removed by the supervisor must be notified immediately upon their return to the workplace.

Group Lockout

When large numbers of workers are involved in an activity that requires lockout, it is possible to use Group Lockout.

A Group Lockout is accomplished by:

1. The designated supervisor locking out all energy isolation points with their individual locks;
2. The designated supervisor placing the key to each in a lockbox; and
3. Each "Authorized Person" attaches his/her lock to the lockbox.

This procedure provides the equivalent protection of an individual lock on each energy isolation point for each "Authorized Person."

The authorized person that is supervising a group of employees who are working under a group lockout/tagout must ascertain the exposure status of the group members. Each employee working under the guidelines of the group lockout/tagout should affix his/her own energy isolating device to the group's larger device while he/she is affected by it, and then remove his/her individual device once he/she is no longer affected (i.e. at the end of a shift). During shift change or personnel change specific procedures must be set to ensure the continuity of the lockout/tagout and it must be documented.

Shift Changes

A procedure to ensure that equipment remains locked or tagged out during shift changes is mandatory, such that the exposure to hazards from the unexpected energization or startup of the machine or equipment or the release of stored energy is minimized. At C & C Oilfield, only the authorized person who applies the lock is authorized to remove it.

Contractors

C & C Oilfield host facilities and employees will coordinate their LOTO programs so that everyone is protected, at all times. This is usually done during pre-job meetings.

Training

The training must include recognition of hazardous energy source, type and magnitude of energy available, methods and means necessary for energy isolation and control. Each authorized

employee shall receive adequate training. The training should address that all affected employees are instructed in the purpose and use of the energy control procedure. There should be training provisions included for any other employee whose work operations are or may be in an area where energy control procedures may be utilized.

The employee training should also address when tagout systems are used including the limitations of a tag (tags are warning devices and do not provide physical restraint). The training should also include that a tag in not to be removed without authorization. The tag is never to be ignored or defeated in any way.

Retraining is required for all authorized and affected persons when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced. Additional retraining shall be conducted whenever a periodic inspection reveals, or whenever C & C Oilfield has reason to believe, that there are deviations from or inadequacies in an employee's knowledge or use of the energy control procedures.

All training and/or retraining must be documented, signed and certified.

Annual Review

The C & C Oilfield Safety Department will conduct an annual review of the Lockout/Tagout program. The inspection must be performed by someone who is not responsible for the execution of the program. The inspection must be documented, and following information must be reported: the date of inspection, equipment inspected, lockout/tagout devices reviewed, names of employees both authorized and affected, and the name of the inspector. The annual review will follow the policy requirements. The results of this inspection shall be shared with those persons responsible for implementing or enforcing policies and procedures. If an immediate safety concern is noted, actions must be taken to ensure the safety of both affected and authorized employees. Policy changes and/or enforcement protocols will be implemented as necessary.

Manual Lifting and Ergonomics

Introduction

Manual lifting of objects small and large is one of the most common tasks employees perform, both on and off the job. Consequently, back injuries are among the most common suffered by employees. Back injuries, unlike most injuries, are very difficult to recover from and could continue to plague the injured employee for the rest of their life. This program is designed to educate employees on the proper techniques for manual lifting, the hazards associated with manual lifting, and some common work practices intended to mitigate back injuries—both on and off the job.

Employee Responsibilities

Supervisors are responsible for:

- Ensuring that employees under their supervision receive the required training and are competent in both the equipment provided to assist them in lifting and moving materials, and the proper techniques for lifting and carrying equipment that cannot be moved with machinery.
- Complete a post-accident investigation following any musculoskeletal injury and determine whether or not lifting techniques, work practices, or other related factor contributed to the accident. Findings must be communicated to the employees, and corrective action must be taken—changes in work practices, training, engineering controls, or equipment are all potential corrective actions.
- The recording and reporting of injuries in accordance with OSHA regulations by 29 CFR Part 1904.
- Ensuring equipment is inspected and tested monthly by a competent person.
- Must periodically inspect work areas and observe employee work practices to confirm compliance, and subsequently prevent injuries. If a need for a change in equipment, work practice, or work area configuration is identified, the change must be implemented as soon as possible. If a hazard is identified, work must stop until the hazard is mitigated.
- Evaluating new equipment and operations to identify and engineer out hazards before the work processes are implemented.

ALL employees are responsible for:

- Utilizing proper lifting techniques while picking up, moving, and unloading (putting down) materials.
- Attaching and using handles or holders when lifting an object.
- Utilizing proper personal protective equipment.

- Identifying the weight of an object and determining when an additional person is needed to lift and move a load. ALWAYS use a second person when the weight of the object is undetermined, and whenever the size, configuration, or length of the object is greater than one employee can easily manage.
- Utilizing lifting equipment whenever possible to lift and move material
- Operating lifting and pulling equipment safely
- Conducting functional tests prior to using the equipment
- Selecting and using rigging equipment appropriately
- Properly storing all rigging so as to prevent damage
- Performing inspections on rigging equipment before using it
- Learning sling configurations
- Determining the proper size for slings and components
- Using all equipment according to the manufacturer's guidelines.
- Padding sharp edges to protect rigging equipment
- Not using slings, eyebolts, shackles or hooks that have been cut, welded or brazed.

Company Safety Personnel are responsible for:

- Performing quarterly maintenance and inspection of all C & C Oilfield manual lifting equipment, including dollies, hand trucks, lift-assist devices, jacks, carts, and hoists.
- Maintaining written records of inspections and tests
- Determining when two-man lifts must be used when use of lifting equipment is impractical
- Periodically verifying monthly test and inspection reports
- Removing defective equipment from service.
- Checking to ensure that all responsible parties are properly storing straps, rigging, and other related hardware.

Safe Operating Requirements

C & C Oilfield employees must be trained and qualified to operate equipment in a safe manner in accordance with the manufacturer's guidelines and in compliance with the policies and procedures implemented by C & C Oilfield.

Manual lifting equipment such as dollies, hand trucks, lift-assist devices, jacks, carts, hoists must be provided for employees. Other engineering controls such as conveyors, lift tables, and work station design should be considered. When other controls are not feasible, two man lifts must be used.

Employees are expected to utilize the equipment the company has provided.

Training

Employees should be trained on the following topics before they perform their first lift.

- Dangers of lifting without proper training
- Avoidance of unnecessary physical stress and strain
- Awareness of what a worker can comfortably handle
- Proper use of lifting equipment
- Hazard recognition and Hazard Assessments (defined below)
- The general principles of ergonomics and their relevance to the task the employee will be asked to perform
- Accident, Injury, and near miss reporting
- Hazard reporting
- Employees should also receive job-specific training before accepting a new position, or a change in responsibilities. The training should include the applicable work practices, hazards, and controls associated with the position. Employees should also be introduced to the lifting requirements of the job, and the proper techniques to handle those loads.

Employees are expected to perform a **hazard assessment** prior to starting a manual lift. Employees should be trained on the process, details, and reason for doing a hazard assessment prior to making their first lift. The assessment must consider the configuration, size, bulk, weight of the object(s), and the distance that the object(s) must be carried. The hazard assessment should determine whether or not mechanical lifting equipment, a two-man team, or any other assistance is necessary. In addition to the size, weight, and configuration of the item, the path to be traveled, visibility, obstacles, the walking surface, frequency and duration of lift, adequacy of handholds, environmental factors, and other similar details must be considered during the hazard assessment.

General Safety Rules

At the start of each work shift, operators shall do the following steps before using equipment having wire rope slings and/or cables attached to them:

- Visually inspect all lifting equipment before starting any lift.
- Never overload the lifting equipment or rigging—load capacities must be posted.
- Make certain there are no obstructions between the equipment and where the rope is attached.
- Plan and check the travel path to avoid personnel and other obstructions.
- Defective equipment shall be tagged out of service until properly repaired or disposed of. Disposal will consist of destruction of defective equipment. The inspector shall initiate corrective action by notifying the company Safety Officer.

NOTE: Refer to the company's Lifting Equipment and Materials policy in this manual for additional information on cranes, hoists, and rigging equipment.

Inspections, Maintenance, and Testing

All tests, inspections, and maintenance shall be conducted in accordance with the manufacturer's recommendations. Repairs must be made by a competent person. If a competent person is not available, the equipment must be repaired by the manufacturer.

Fire Extinguishers

All hoisting equipment will be equipped with a dry chemical or CO2 fire extinguisher. Personnel will be familiar with C & C Oilfield Fire Prevention policy and corresponding fire-related training.

Ergonomics

Ergonomics can be defined as how personnel interact with the work environment effectively and safely. Ergonomics and human factors should be considered when:

- Designing and installing equipment
- Developing work practices and procedures utilized in the work environment
- Workstation design
- Minimization of repetitive motion
- Body positioning

A properly designed ergonomics program shall encompass the following elements:

- Upper management buy in
- Worker involvement
- Ergonomics training
- Problem identification and solving
- Early reporting of musculoskeletal disorders
- Ergonomic hazard control and implementation
- Evaluation of program and advancement

Mobile Equipment

General

C & C Oilfield must comply with manufacturer specifications and limitations applicable to the operation of all mobile equipment. Only authorized employees shall be allowed to operate mobile equipment. Authorization to operate mobile equipment will be issued to employees qualifying under appropriate training and proficiency testing. Unauthorized personnel shall not be permitted to ride on equipment unless it is equipped to accommodate passengers safely.

Inspection Procedures

At the beginning of each shift, the operator shall inspect and check the assigned equipment, reporting immediately to his/her supervisor any malfunction of the clutch or of the braking system, steering, lighting, or control system and locking/tagging out the equipment if necessary.

Equipment

- All equipment should have a warning signal alarm when the equipment is backing up and the operator is responsible to make sure that it is working.
- The operator shall use access provided to get on or off equipment. DO NOT jump to the ground.
- The operator shall not load the vehicle/equipment beyond its established load limit and shall not move loads, which because of the length, width, or height, that have not been centered and secured for safe transportation.
- The operator shall not use, or attempt to use any vehicle in any manner of for any purpose other than for which it is designated.

Fueling Procedures

The operator of a gasoline or diesel vehicle shall shut off the engine before filling the fuel tank and shall ensure that the nozzle of the filling hose makes contact with the filling neck of the tank. No one shall be on the vehicle during fueling operations except as specifically required by design. There shall be no smoking or open flames in the immediate area during fueling operation.

Safety Precautions

- No operator shall operate mobile equipment without the protection of an enclosed cab or approved eye protection.
- Before starting the engine, the driver shall fasten seatbelts and adjust them for a proper fit.
- An accessible fire extinguisher must be available at all operator stations or cabs of equipment.

Nitrogen Awareness

General

All C & C Oilfield employees will be trained to handle liquid nitrogen in a safe manner and will be made aware of the characteristics, dangers and approved procedures for handling liquid nitrogen. There are two important properties of liquid nitrogen that present potential hazards:

- It is extremely cold. At atmospheric pressure, liquid nitrogen boils at -320°F/-196°C.
- Very small amounts of liquid vaporize into large amounts of gas. One liter of liquid nitrogen becomes 24.6 ft^3/0.7 m^3 of gas.

All employees of C & C Oilfield will be trained to handle liquid nitrogen in a safe manner and will be made aware of the characteristics, dangers and safety of handling liquid nitrogen.

Before Operations

A work site assessment will be performed before any work is started on any job. This assessment will be documented and maintained for the duration of that specific job until completion. During this job assessment, it may be determined that the site be barricaded for the duration of the job. If that is the case, proper barricades will need to be placed in a 3 feet diameter or greater if determined by oxygen monitoring results. Appropriate signs and notices need to be posted so that other employees are aware and can take appropriate precautions.

Handling Liquid Nitrogen

Contact of liquid nitrogen or any very cold gas with the skin or eyes may cause serious freezing (frostbite) injury. C & C Oilfield employees should protect hands at all times when working with liquid nitrogen with cryo gloves.

Handle liquid nitrogen carefully

The extremely low temperature can freeze human flesh very rapidly. When spilled on a surface the liquid tends to cover it completely and intimately, cooling a large area. The gas issuing from the liquid is also extremely cold. Delicate tissue, such as that of the eyes, can be damaged by exposure to the cold gas which would be too brief to affect the skin of the hands or face.

Such objects may stick fast to the skin and tear the flesh when you attempt to free yourself. Use tongs, preferable with insulated handles, to withdraw objects immersed in the liquid, and handle the object carefully. **Never allow any unprotected part of your body to touch objects cooled by liquid nitrogen. Only use nitrogen for its intended use. Do not use nitrogen or any other gas for powering pneumatic tools or blowers as this may result in serious injury or even death.**

Wear protective clothing

Protect your eyes with a face shield or safety goggles (safety goggles without side shields do not give adequate protection). Always wear cryo gloves when handling anything that is, or may have been, in immediate contact with liquid nitrogen. The gloves should fit loosely, so that they can be thrown off quickly if liquid should splash into them. When handling liquid in open containers, it is advisable to wear high-top shoes. Trousers (which should be cuffless if possible) should be worn outside the shoes.

Any kind of canvas shoes should be avoided because a liquid nitrogen spill can be taken up by the canvas resulting in a far more severe burn, in fact that would occur if the feet were essentially open or bare! Now we don't advocate going bare foot when using liquid nitrogen, but we also don't think that the wearing of canvas shoes is a safe practice either.

Use only containers designed for low-temperature liquids

Cryogenic containers are specifically designed and made of materials that can withstand the rapid changes and extreme temperature differences encountered in working with liquid nitrogen. Even these special containers should be filled slowly to minimize the internal stresses that occur when any material is cooled. Excessive internal stresses can damage the container.

Cryogenic liquid tanks are generally designed to operate with little or no internal pressure. Inadequate venting can result in excessive gas pressure which could damage or burst the container. Check the unit periodically to be sure that venting is not restricted by accumulated ice or frost.

Do not overfill N_2 tanks

Filling above the fill valve level (or specified maximum level) can result in overflow and spillage of liquid. N_2 coming out of the fill valve indicates the tank is 90% full. **Never use hollow rods or tubes as dipsticks.**

Store and use liquid nitrogen only in a well ventilated place

Nitrogen gas can cause suffocation without warning. As the liquid evaporates, the resulting gas tends to displace the normal air from the area. In closed areas, excessive amounts of nitrogen gas reduce the concentration of oxygen and can result in asphyxiation. Because nitrogen gas is colorless, odorless and tasteless, it can be detected by the human senses and will be breathed as if it were air. Breathing an atmosphere that contains less than 19 percent oxygen can cause dizziness and quickly result in unconsciousness and death. All nitrogen cylinders will be stored in a well-ventilated area with protective caps in place when the cylinder is not in use. These storage areas and cylinders will have clear identification labels and signage to ensure all employees will be able to identify the product immediately.

Note

The cloudy vapor that appears when liquid nitrogen is exposed to the air is condensed moisture, not the gas itself. The gas actually causing the condensation and freezing is completely invisible. Never dispose of liquid nitrogen in confined areas.

First Aid Notice

If a C & C Oilfield employee seems to become dizzy or loses consciousness while working with liquid nitrogen, move to a well-ventilated area immediately. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician and keep warm and at rest.

If exposed to liquid or cold gas, restore tissue to normal body temperature 98.6°F/(37°C) as rapidly as possible, followed by protection of the injured tissue from further damage and infection. Remove or loosen clothing that many constrict blood circulation to the frozen area. Call a physician. Rapid warm clothing of the affected part is best achieved by using water at 108°F/42°C.

Under no circumstances should the water be over 112°F/44°C, nor should the frozen part be rubbed either before or after warming. The patient should neither smoke, nor drink alcohol. Most liquid nitrogen burns are really bad cases of frostbite. We don’t mean to belittle the harm that can come from frostbite, but at the same time, we wanted to keep the dangers associated with liquid nitrogen burns in perspective. Indeed, liquid nitrogen burns could be treated as frostbite.

Noise Exposure and Awareness

General

C & C Oilfield employees are not normally exposed to high levels of sound. However, we will ensure that the noise hazards within our facility and those that we inspect are evaluated, and that information concerning the hazards of noise exposure is transmitted to all employees.

Responsibility

The company Safety Director is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure the success of the program. C & C Oilfield has expressly authorized the Safety Director to halt any operation that poses any danger of serious personal injury.

Objective

When employees are subjected to sound levels equaling or exceeding the 8 hour time-weighted average of 85 db, C & C Oilfield will include these employees in its hearing conservation program, administer, or have administered by qualified personnel, audiometric examinations, obtain valid audiograms, and ensure proper controls are reviewed and implemented where feasible. If such controls fail to reduce sound levels to within the levels listed above, personal protective equipment will be provided at no cost to the employee.

Training program

This employer will institute a training program for all employees who are exposed to noise at or above an 8 hour time weighted average of 85 decibels, and will ensure employee participation in such program.

The training program will be provided to employees before assignment and repeated annually for each employee included in the hearing conservation program. Information provided in the training program will be updated to be consistent with changes in protective equipment and work processes. Each employee will be informed of the following:

- The effects of noise on hearing.
- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.
- The purpose of audiometric testing, and an explanation of the test procedures.
- Access to information and training materials. This employer will make available to affected employees or their representatives copies of this standard practice instruction and 29 CFR 1910.95, and will also post a copy in the workplace.

This employer will provide to affected employees any informational materials pertaining to 29 CFR 1910.95 that are supplied by OSHA.

Personal Protective Equipment (PPE)

This employer will make hearing protectors available to all employees exposed to an 8 hour time weighted average of 85 decibels or greater at no cost to the employees. Furthermore, hearing protectors will be replaced whenever necessary at no cost to the employee.

This employer will ensure that hearing protectors are worn:

- By any employee who is required by previous testing to wear personal protective equipment.
- By any employee who is exposed to an 8 hour time weighted average of 85 decibels or greater, and who: has not yet had a baseline audiogram established, or has experienced a standard threshold shift.

Employees will be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided.

Training shall be updated consistent to changes in PPE and work processes and include the proper techniques of wearing hearing protection.

This employer will provide training in the use and care of all hearing protectors provided to employees.

This employer will ensure proper initial fitting and supervise the correct use of all hearing protectors.

Environment Specific PPE

This employer will evaluate hearing protector attenuation for the specific noise environments in which the protector will be used.

Selected hearing protectors will attenuate employee exposure at least to an 8 hour time weighted average of 90 decibels.

For employees who have experienced a standard threshold shift, selected hearing protectors must attenuate their exposure to an 8 hour time weighted average of 85 decibels or below.

The adequacy of hearing protector attenuation will be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. More effective hearing protectors will be provided where necessary.

Baseline Audiogram & Auditory Testing

Within 6 months of an employee's first exposure at or above the action level, C & C Oilfield will establish a valid baseline audiogram against which subsequent audiograms can be compared. When a mobile audiogram is used, C & C Oilfield will obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees will wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

Testing to establish a baseline audiogram will be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.

This employer will notify employees of the need to avoid high levels of non-occupational noise exposure during the 14 hour period immediately preceding the audiometric examination.

When information indicates that employee exposure may equal/exceed the 8 hour time weighted average or 85 decibels, a monitoring program shall be implanted to identify employees to be included in the hearing conservation program.

Each employee's annual audiogram will be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. This comparison may be done by an individual trained to technician level. If the annual audiogram shows that an employee has suffered a standard threshold shift, a retest will be administered within 30 days and the results considered as the annual audiogram.

If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift has occurred, the employee will be informed of this fact in writing, within 21 days of the determination.

A standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, this employer will ensure that the following steps are taken when a standard threshold shift occurs:

1. Employees exposed or potentially exposed to high noise will be fitted with hearing protectors, trained in their use and care, and required to use them. For known high noise job assignments, employees will be fitted and trained prior to job assignment.
2. Employees already using hearing protectors will be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.

3. Employees will be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if it is suspected that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
4. Employees will be informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

Additional monitoring shall be repeated whenever a change in production, process, equipment, or controls increases noise exposures to the extent that addional employees may be exposed at or above the action level or the attenuation provided by hearing protectors being used may be rendered inadequate.

Recordkeeping

This employer will maintain an accurate record of all employee exposure measurements.

This employer will retain all employee audiometric test records. This record will include as a minimum:

- Name and job classification of the employee.
- Date of the audiogram.
- The examiner's name.
- Date of the last acoustic or exhaustive calibration of the audiometer.
- Employee's most recent noise exposure assessment.
- This employer will maintain accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

This employer will retain audiometric and related records for at least the following periods.

- Noise exposure measurement records will be retained for two years.
- Audiometric test records will be retained for the duration of the affected employee's employment.

All records cited in this standard practice instruction will be provided upon request to employees, former employees, representatives designated by the individual employee, and representatives of OSHA. The provisions of 29 CFR 1910.20 apply to access to records under this section.

If this employer ceases to do business, the records will be transferred to the successor employer and maintained by the successor employer. Should the company cease to function entirely the records will be provided to the respective employees, or as required by current law.

NORM (Naturally Occurring Radioactive Material)

Naturally Occurring Radioactive Materials (NORM) are present in oil and gas operations at some locations and can collect, usually in the form of scale, in well tubulars, surface piping, vessels, pumps and other processing equipment. The presence of NORM in equipment above regulatory levels can be determined by external radiation measurements. Although external radiation is seldom at levels considered to be hazardous to personnel, when equipment is opened for inspection or repair, NORM can be inhaled or ingested, subjecting an employee to exposure to radioactivity. To prevent exposure to internal radiation, C & C Oilfield employees must follow the clients' Worker Protection Plan when opening NORM-contaminated equipment or piping.

C & C Oilfield does not own any equipment or process that would produce NORM; therefore, C & C Oilfield employees must follow the clients' procedures for NORM potential. In addition, it is the responsibility of the Safety Manager or his designee to ensure that this program is implemented, and the facilities in which employees are stationed are compliant with **16 Texas Administrative Code (TAC), Title 16, Part 1, Chapter 4, Subchapter F** (paying particular attention to Rules §4.605 and §4.608). In the event that a jobsite is outside of the state of Texas, the regulations adhered to must be at least as stringent.

C & C Oilfield will not work on a NORM-contaminated location until testing has been completed, by the client, and the degree of contamination, source, and applicable risks are determined. A Ludlum NORM meter, or its equivalent, must be utilized for testing, and the levels for the respective geographic area referenced to establish a comparison of the levels.

Training

C & C Oilfield employees will not enter a NORM–contaminated location or vessel until they have satisfied the necessary training and licensing requirements. The training curriculum must include the following:

1. A comprehensive explanation of Naturally Occurring Radioactive Materials (NORM)—including a list of the radionuclide's (sources) that may be present, such as Uranium, Thorium or Radium.
    a. Review of Title 16, Part 1, Chapter 4, Subchapter F Oil and Gas NORM.
    b. Review of 25 Texas Administrative Code§289.57 (TRCR Part 46)Licensing of NORM Texas regulations for Control of Radiation
    c. 25 Texas Administrative Code §289.202 Standards for Protection Against Radiation from Radioactive Material
2. The hazards related to NORM.

3. The locations where exposure may occur—including Technology Enhanced NORM (TENORM) and the facilities and processes where they are most prevalent (mineral extractions and refining, hydrocarbon production, and water treatment, etc.).

4. Methods to identify NORM contamination.

5. Techniques to protect oneself from exposure to NORM once contamination is identified.

   At least three techniques should be addressed in training:
   a. Time
   b. Distance
   c. Shielding
   d. A thorough explanation of the benefits of personal hygiene in relation to exposure prevention.
   e. PPE—including HEPA filters on respirators and limitations)

****NOTE:** The mandatory training outlined here is general in nature. ALL employees must be given a site-specific training and/or refresher prior to assignment at a potentially hazardous jobsite. This site-specific training must include both normal and emergency situations. Training must be done on an annual basis prior to exposure.

Precautions

The following precautions are general in nature and each site should have its own site-specific plan:

- Do not eat, drink, smoke, dip snuff, or apply sunscreen or lip balm in the immediate work area where NORM-contaminated equipment or soil is being handled.
- Where maintenance activities can be planned in advance, survey the equipment to measure the internal radiation exposure.
- Avoid direct skin contact with NORM scale and sludge to the extent reasonably possible.
- To the extent possible, contaminated equipment that is to be opened should be removed from service and vented for four hours before work commences. If the equipment cannot be left idle for four hours, shield the source by placing lead, steel, or iron between the NORM scale or sludge and personnel.
- Keep NORM scale or sludge wet during maintenance or dismantling activities (when vessels or piping will be open) to minimize dust generation during handling.
- When moving or handling open equipment that has been identified as NORM-contaminated, wear plastic gloves at a minimum. If there is any likelihood that NORM scale or sludge will become loose or airborne, wear coveralls, safety glasses and an approved respirator for radionuclides. This applies even if the material is wet. Such work may include cutting, grinding, drilling, polishing or welding. At a minimum, the respiratory protection should consist of a half-face piece respirator with HEPA rated

cartridges approved for radionuclide dust. The cartridges have a magenta or hot pink color.

- The number of personnel in the work area will be kept to a minimum.
- After working on contaminated equipment, personnel should thoroughly wash their hands and face before eating, drinking, smoking, and chewing, and at the end of the day to prevent ingestion of NORM-contaminated material.
- Where there is potential for significant dust containing radionuclides to be generated from material deposited on the ground, temporary plastic ground covers should be used when or where possible to contain any displaced NORM contamination.
- If possible, openings on NORM-contaminated equipment should be capped, sealed or wrapped in plastic to minimize the generation of any dust or the displacement of scale or sludge that may contaminate the surrounding soil.
- Contaminated protective clothing should be segregated in a drum until it can be scanned with a meter. If it exceeds regulatory limits, it will be handled as NORM waste.

Removal of NORM-Contaminated Equipment from Service

When equipment or piping is removed from service and has been identified by the client through external radiation surveys as NORM-contaminated, C & C Oilfield will assist in covering the openings, to the extent possible, with plastic to prevent soil contamination, and the equipment will be labeled as contaminated (at the clients' request)

C & C Oilfield is not licensed for NORM removal and disposal, so if these situations exist, the client is responsible for these actions. C & C Oilfield personnel are not permitted to transport NORM-contaminated materials.

Pandemic Disease Plan/Pandemic Preparedness

Purpose

The purpose of this program is to define the protocols C & C Oilfield will take to mitigate employee exposure to communicable diseases that have been identified as pandemic by health authorities such as the Centers for Disease Control and the World Health Organization.

Scope

C & C Oilfield has a pandemic disease plan which addresses preparedness for communicable diseases in the workplace. This disease plan works in conjunction with the company's existing health, safety and emergency plans. C & C Oilfield recognizes our most valuable asset is our employees and implements this policy in order to protect them. C & C Oilfield believes that by complying with government, company, and client requirements, employees will be protected from such pandemics and/or will slow the spread of such pandemics.

NOTE: According to OSHA's Occupational Risk Pyramid for Pandemic Influenza and COVID-19, C & C Oilfield employees are in the "Lower Exposure Risk" classification. This classification is defined as "…those [jobs] that do not require contact with people known to be or suspected of being infected with pandemic diseases/illnesses nor frequent close contact with (i.e., within 6' of) the general public." Based on this classification, C & C Oilfield employees are not required to don personal protective equipment (PPE) other than what is ordinarily prescribed for their job scope.

Pandemic Response Team (PRT)

A Pandemic Response Team (PRT) will be established to coordinate all company communication. Executive Management, Human Resources, and other designees will be appointed to the team to ensure adequate resources are available for response and employee communication. The PRT will monitor the status of the Pandemic, response recommendations from authorities, the location of both employees and outbreaks, and other applicable information. The PRT will utilize the information to mitigate employee exposure, coordinate company response measures, and company communication. Upon creation, a Pandemic Response Team Coordinator will be appointed, and the names and contacts for the team will be sent to employees via company email.

The PRT Coordinator is responsible for managing the efforts and resources of the Pandemic Response Team, sharing all pertinent information and findings of the PRT with Senior Management, and the coordinated communication with employees. The Coordinator's responsibilities and scope of work may change based on pandemic status.

PRT Coordinator Responsibilities:

1. Maintain a firm grasp of the status of the pandemic, the reports generated by national health organizations, the nature of the disease, its threat and location, and its potential impact to C & C Oilfield' work locations. Provide the appropriate management with regular updates on findings and recommended actions in the workplace.
2. Stay abreast of the issues associated with the disease and their impact at the workplace.
3. Establish and maintain communication with local health authorities and healthcare providers to ensure up-to-date protocols for identifying, reporting, and caring for employees who have symptoms that could be related to the pandemic.
4. Coordinating efforts to swiftly identify and isolate sick employees.
5. Work with the PRT to communicate with employees regarding applicable workplace changes, controls, threats, etc. caused by the pandemic.
6. Identify risk levels and develop reasonable mitigating measures with the PRT.
7. Ensure that the workplace is equipped with the recommended personal protective equipment for the hazards present, including the necessary sanitizing agents.
8. Document all actions taken in the workplace to help slow or stop the spread of the pandemic.
9. Report to Management any incident potentially related to the pandemic.

Workplace/Employee Sanitation

C & C Oilfield will supply sanitation stations for all employees. Sanitation stations will provide a means for washing hands, collecting antiseptic hand cleansers/towelettes, or dispensable hand sanitizer. In order to reduce the spread of threatening communicable diseases during pandemics and other times, employees must utilize these supplies regularly and whenever they visit a community area that could be contaminated. Furthermore, employees should wash or sanitize their hands before eating, touching their face, or doing anything that could further the transmission of the disease.

In addition to sanitation stations, tissues, no-touch trash cans, and any other applicable sanitation/housekeeping supplies will be readily available at every work site.

Comply with all existing respiratory and personal protective equipment health policies as well as any bloodborne pathogen policies.

Employees will cover and/or shield coughing and sneezing.

Pandemic Illness Prevention Training

C & C Oilfield will conduct training with employees whenever there is a local or global health risk or reports of spreading pandemic that could impact employees. This training is in addition to New Hire and other safety training and will be conducted once C & C Oilfield is notified of

the potential threat. C & C Oilfield will conduct this initial training and will conduct additional training as necessary. This training will consist of at least the following:

1. Disease/Illness:
    a. Pandemic/illness characteristics
    b. Health issues associated with the disease
    c. Initial and escalating symptoms of the disease
    d. How the illness can spread/Prevention methods
    e. Avoidance/Containment techniques
2. Administrative controls the company is taking (communication, work practices, etc.)
3. Sanitation and hygiene controls
4. Engineering controls (if applicable)
5. Client requirements (if applicable)
6. Government and health agency recommendations/requirements
7. Company/Employee Risk classifications and subsequent recommendations
8. Additional personal protective equipment (PPE) recommendations
9. Illness reporting protocols
10. Working and living abroad (if applicable)
11. Best practices for mitigating exposure outside of the workplace
12. When applicable, protocols for returning to work

NOTE: All training shall be given in the employee's language and accommodations will be made for those with disabilities.

Distance Working

C & C Oilfield ENCOURAGES EMPLOYEES TO STAY HOME IF THEY ARE ILL! If you are running fever, presenting any of the symptoms associated with the disease, or believe you could be a carrier, you must contact your supervisor before reporting to work. Your supervisor will work with the PRT and provide you with guidance. If you have a family member or person in your residence that is sick or a suspected carrier, please report that to your supervisor as well.

C & C Oilfield understands that pandemic and/or disease outbreak is abnormal in the workplace. In such situations where the pandemic is readily spread by continuing "normal work procedures", C & C Oilfield Management will decide whether or not continuing work in a normal capacity could potentially exacerbate any problems. The PRT will work with Management when applicable to establish:

1. Flexible work policies (schedules, proximity considerations, etc.)
2. Delaying non-emergency work tasks
3. Tele-commuting or other work-at-home strategies applicable to each situation

Additional considerations:

1. Client and public exposure
2. Caring for children who are out of school or other ill family members
3. Client requests/requirements

NOTE: Employees will not receive punitive action for absences due to the pandemic outbreak (employee illness, family member illness, caring for children due to school closures, etc.) if they follow the protocols established within this policy and in accordance with the specific policies established for the pandemic/disease that warranted the activation of this policy. C & C Oilfield reserves the right to ask for medical documentation which justifies any absence and/or return to work.

Continuation of Work

The widespread communicable nature of a pandemic could naturally result in lots of employees being absent from the workplace. C & C Oilfield places the health and welfare of our employees, client personnel and the public above production but recognizes the need to have a plan in place to balance the effects of a pandemic with the commitments made to clients, suppliers, and the remaining employees. The PRT will work with Senior Management to establish contingency plans to maintain operations for as long as possible with as few personnel as possible. Once normal operations are no longer safe and viable, the PRT will coordinate communication with customers, suppliers, and employees regarding the plan for modification of operations.

Employee Immunization

C & C Oilfield encourages all employees to be proactive and do whatever they can to avoid illness. Employees are encouraged to obtain the appropriate immunizations. When applicable, employees will be given time off to seek the necessary immunizations. As with all medical absences, C & C Oilfield reserves the right to ask for documentation legitimizing the absence.

Communication

Employee Communication

Employee Communication will be facilitated by a number of means. First, company-wide communication will be sent via company email from executive management or the Pandemic Response Team Coordinator. Employees are expected to check their email regularly for up-to-date company information. Communication impacting divisions, work groups, and individuals will be disseminated via phone, email, or text message and facilitated by the affected managers.

Until the Pandemic Response Team is established and communicated to employees, employees should contact their direct supervisor or HR representative with questions or concerns.

Customer Communication

The Response Team will work with Operations, Purchasing, Business Development and other applicable personnel to ensure that clients and suppliers are kept abreast of any situation impacting the services offered by C & C Oilfield. If company services are temporarily impacted, the Response Team will be sure the clients and suppliers are notified once operations are fully restored.

Safe Work Practices

- **Social Distancing:** The best way to mitigate the spread of a pandemic is to minimize exposure. To that end, C & C Oilfield asks all employees to maintain a safe working distance with other employees. Some modifications to established work stations may be necessary to create safe work distances. Employees should work with their immediate supervisor to coordinate work space accommodations.

  C & C Oilfield discourages large or crowded gatherings of personnel while Social Distancing measures are in effect. If such a gathering is planned, the PRT Coordinator and management must be consulted prior to assembling, so an alternative can be established (i.e. conference call, larger facility, cancellation, etc.).

- **Housekeeping:** Employees should utilize appropriate cleaning supplies to clean those surfaces that are likely to be frequently touched, such as doorknobs, faucets, handrails, countertops, drink stations, etc. Furthermore, when applicable, employees should also utilize the same process for their work areas (i.e. phone, keyboard, mouse, etc.). Employees that utilize shared equipment should follow the same cleaning protocols before and after each use/shift.

- Wash hands frequently

- Cover coughs and sneezes. When available, use tissues and dispose of them appropriately.

Program Assessment and Review

Routine: This policy should be reviewed and tested annually to ensure it is up to date, still applicable and appropriate, and ready for a quick response to a public health emergency.

Potential Event: When a public health threat is identified, the policy must be reviewed and assessed to be sure it is suitable to the threat. In the event that a pandemic is identified, the policy should be put into action immediately and any pandemic-specific anomalies addressed.

Post Event: Following the event, the Pandemic Response Team will review the implementation, execution, and effectiveness of the policy to identify and take any corrective action necessary to improve the policy. Findings should be reported to the executive management team.

Permit to Work

General Requirements

Precautions that are to be taken shall be in the form of a written permit. This permit will be issued for all high-risk and non-routine activities identified through the risk assessment and proper controls will be implemented based on the hazards identified.

The supervisors are responsible for the pre-work inspection, and once completed, they must ensure that all work is permitted prior to authorizing the commencement of any work. The pre-work inspection and subsequent preventative actions must all be documented.

Safe Work Permit Procedures

C & C Oilfield employees must obtain authorization from the supervisor overseeing the work before beginning any work. Any person may authorize the stoppage of work if there is reason to believe an unsafe condition or situation exists.

The company representative responsible for supervising safe work must complete the safe work permit before work may begin. (Host facility permits and gas tests are acceptable provided they meet the requirements of this section.)

The permit must be reviewed and signed by the person performing the work, the person authorizing the work, and the person approving the work to ensure his/her acknowledgment of the conditions set forth in the permit. If contract personnel are performing the safe work, the contractor's representative at the location where the safe work is being conducted must retain a copy of the permit.

The person giving approval for the safe work to begin must ensure that the area is periodically surveyed to ensure the conditions remain suitable for safe work. The work area shall be re-surveyed following all breaks, meals, meetings or other interruptions in the work.

Operators of equipment should report any equipment defect or safety hazards to their supervisor and discontinue use of the equipment until it has been inspected, and its safety has been assured. Repairs shall be made only by qualified personnel.

While working in confined spaces, proper ventilation and lifelines must be utilized. Continuous monitoring should be provided in areas where conditions are likely to change, and in high-risk areas such as in tanks, or a plant’s process area.

If safe work conditions change and a permit expires due to a potential danger (i.e., leak, wind change, evolution of hazardous fumes, gases or dust, lower explosive limit (LEL) reading above 10 percent, etc.), no work will be performed until additional testing is conducted. The source of

the hazard must be determined, controlled and the area re-inspected and permitted before work can resume.

Permits will not be valid for shifts other than the one in which the work started. Each permit will be dated and will carry an expiration time.

The checking and testing that precedes the issuing of a permit should be as close as practical to the time the work is to be done. The percent of the lower explosive limit will be recorded on the permit.

Safe work shall not begin if a lower explosive limit (L.E.L.) greater than 10 percent is measured. No exceptions to this rule shall be made. Non-direct reading instruments are not permitted for safe work or confined space entry jobs.

Combustible gas indicators will be calibrated prior to performing the gas test. If the meter is to be used multiple times throughout the shift it only needs to be calibrated at the beginning of the shift. The calibration results must be documented and filed appropriately at the location.

NOTE: Special considerations must be given to tanks that are being purged with an inert gas. "Normal" combustible gas indicators will not accurately measure the combustible gas in a tank being purged.

In the event the safe work will extend past the permit's expiration time, a new permit must be obtained.

When the work is complete, the company representative that is responsible for the safe work must be notified.

Personal Protective Equipment Policy

General

Personal protective equipment is designed to be a front line of defense for the employee where engineering controls cannot eliminate a hazard. The purpose of PPE is to shield and isolate the employee from potential hazards that could not be controlled by any other means. PPE, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation of physical contact.

Hazard Assessment

A hazard assessment must be conducted to determine the proper personal protective equipment to be worn or utilized per job assignment. OSHA 29 CFR 1910, Subpart I, Appendix B, gives the proper methodology for conducting such assessments. C & C Oilfield generally requires, on all jobs, hard hats, gloves, steel-toe foot protection, earplugs and safety glasses. The company supervisor over the job will conduct the hazard assessment during the pre-job safety meeting to determine if additional protective equipment is needed, such as, but not limited to, fire retardant clothing, respiratory protection or special gloves per SDS requirements. The pre-job safety meeting roster/check-off sheet serves as the hazard assessment documentation and must include C & C Oilfield Supervisor (as hazard assessment certifier) name, signature, and date of assessment. Every C & C Oilfield jobsite must have a documented hazard assessment, and all personnel are required to wear the PPE that is determined to be necessary. C & C Oilfield always requires engineering practices to be implemented to control hazards before PPE will be relied upon to control any hazards.

Compliance

In order to ensure that C & C Oilfield not only protects its employees, but also stays in compliance with current regulations, the following PPE plan will be utilized:

- Conduct a hazard assessment to identify potential hazards and insure that affected employees are equipped with the appropriate protective equipment;
- Provide PPE training based on the findings of the hazard assessment.
- Employees will be fitted for and provided with PPE (at no cost to the employee), and it will be used and maintained in a sanitary and reliable condition.
- If PPE is damaged or defective, it shall be removed from services and shall not be used until it has been repaired. A replacement must be provided or repairs made before the employee can return to work.

- Employee-owned PPE must be inspected by a Competent Person before it can be used on the jobsite. In addition, employee-owned PPE used on a jobsite will be governed by this program; it will be used, maintained and inspected according to the same guidelines that company-owned PPE will be. If employee-owned PPE does not meet the standards set forth in this program, the company will issue the employee a no-cost replacement to use for the duration of the job.

Personal Protective Equipment is required to protect employees from hazards of process or environment. PPE will protect body parts from inhalation, absorption or physical contact.

Training

Each employee that will be required to utilize PPE must be trained in the following areas regarding the PPE they are to use:

- What PPE is needed for his/her job and why it is needed;
- When PPE is to be worn;
- The limitations of their particular PPE;
- How to put on, take off and adjust their PPE; and
- How to properly maintain, clean and dispose of their PPE.
- Proper fitting of PPE

Training is conducted at new hire orientation (before the employee is exposed to a hazard). Retraining is required in the following situations:

- When changes in the workplace dictate a change of PPE
- When changes in the workplace make the former training obsolete
- When the provided and/or available PPE itself changes
- When an employee cannot properly use and/or demonstrate an adequate knowledge of his/her assigned PPE.

All training and retraining must be documented; the name(s) of the person(s) trained, the date of training, the training topic, and the instructor's name must be recorded.

Hardhats

Hardhats are designed to offer the user protection from vertical and horizontal impact and limited electrical protection. All hardhats must be ANSI Z-89 approved.

Hardhats need to be inspected often to ensure that the liner is not damaged, that the dome has not sustained sun damage, that it is not cracked, or that any modifications have been made. That dome should not be brittle or soft, and there should be no holes whatsoever anywhere on the hardhat.

The application of too many hardhat stickers hinders the wearer from making a complete and thorough inspection.

Do not carry or hide anything inside the hardhat where it can hinder the shock absorption effect of the liner.

The hardhat should be worn with the visor facing forward and the hardhat level on the head. It must not be worn backward or tilted to the side. If you are to use a winter liner, do so in accordance with the manufacturers' guidelines. Chinstraps should be considered when working at heights under windy conditions.

Clean hardhats with mild soap and water and avoid using gasoline, kerosene or any other such solvent.

The following is a chart used to determine ANSI classifications:

Old ANSI Designation	Application	New ANSI Designation
A	Protects against falling objects and insulates against 2,200 Volts	G
B	Protects against falling objects and insulates against 20,000 Volts	E
C	Protects against falling objects and offers no electrical protection	C

**Refer to your PPE Hazard Assessment for your required hardhat.

Eye and Face Protection

All safety glasses must be approved ANSI Z-87.1-1989 type—designated Z87. Eye and face protection shall be worn where any of the following hazards are present:

- Flying particles;
- Molten metals;
- Liquid chemicals;
- Acid or caustic liquids;
- Chemical gases or vapors; and/or
- Light radiation

Safety glasses are the most basic form of eye protection available. Their effectiveness is limited to the hazards they are designed to protect against. They are designed to protect the user from flying objects or particles. Side shields are required at all times. Inspect regularly for scratches on the lenses and continual proper fit.

Goggles will need to be worn instead of safety glasses for a variety of reasons. Those being, but not limited to:

- Grinding
- Chipping
- Weed Eating
- Any other activity that could cause an impact hazard of the eye

Goggles also protect from splash hazards such as when handling chemicals or performing first aid on a victim with arterial bleeding. Prime examples of jobs requiring splash protection include:

- Pouring Acid
- Pumping out a sump
- Spraying any type of cleaner or solvent

Be careful to not use impact protection goggles for splash protection as some impact goggles are vented for comfort.

Face shields are designed to protect the entire face from a splash or flying particle impact. They are never to be worn by themselves without safety glasses or goggles underneath. They are to use when conducting the following or similar tasks:

- Chipping
- Scraping
- Blowing
- Buffing
- Grinding
- Dispensing paints, coatings, or solvents;
- Using pneumatic tools.
- Handling of molten metal (wire mesh face shield behind plastic shield is a must).

Welding Protection

Only approved welding hoods or pancake hoods can be used. If the welder chooses to use the pancake hood, then it must be fitted to the welder's individual face with no space or gaps. If the pancake is properly fitted, then no other eye protection is required under the pancake. ANSI approved pancake hoods are considered primary eye protection when they are fitted properly

Grinding

You must wear both primary and secondary eye protection when grinding. That means you will wear a face shield and safety glasses or goggles whenever you grind.

Hand Protection

Hand injuries are the most prevalent of injuries in most industries. Gloves are the easiest form of protection. However, gloves are very limiting. The glove must be fit to the hazard in order to provide the best protection. Common hazards include but are not limited to:

- Abrasions;
- Burns, thermal or chemical;
- Cuts;
- Punctures;
- Skin absorption;
- Temperature extremes

The term "rubber" is generically used for all synthetic type gloves available. However, not all "rubber" gloves can be used for the same type of job. Some rubber gloves are highly conductive, while others are used to protect against electricity.

To determine the proper "rubber" glove to utilize, you can:

- Ask your supervisor;
- Read the SDS on that particular chemical;
- Refer to the local PPE Hazard Assessment for your local working environment

Leather gloves address a completely different set of hazards then "rubber" gloves. These hazards include but are not limited to:

- Abrasive materials;
- Sharp edges;
- Hot work; and
- Cold work

Cloth gloves are considered a general duty type of glove and they do offer some light protection from abrasion also.

Keep in mind that leather and cloth gloves are not to be used around chemicals as they will absorb rather than repel the chemical.

Gloves are not to be worn when working around rotating machinery.

Foot Protection

ANSI Z-41 approved footwear is the only acceptable footwear allowed. Some hazards that might be encountered in the working environment are, but not limited to:

- Falling object

- Rolling objects
- Piercing objects
- Chemicals
- Electricity

The most commonly used form of footwear used will be the steel-toed work boot. Steel toes are designed to protect against falling objects that might crush the toes.

Class "C" steel toes are designed to protect from 75 lbs. dropped from 75 inches.

You are required to read the PPE Hazard Assessment for your local working environment.

Safety (High-Visibility) Vests

Safety vests are required at all jobsites, unless the use of the vest creates a hazard, and shall be either a safety yellow or safety orange and have a minimum of 155 square inches of reflective tape.

Protective Clothing Requirements

C & C Oilfield employees and contractors must wear Fire resistant (FR) clothing as the outermost layer while on all field locations. FR clothing should meet requirements contained in NFPA 2112. FR clothing meeting this NFPA specification must be labeled as follows:

This garment meets the requirements
of NFPA 2112 standard on flame-resistant garments for protection of
industrial personnel against flash fire (2012 edition).
NFPA 2113 requires upper and lower body coverage.

All outer garments must provide full coverage. FR smocks and lab coats are not allowed. However, welding leathers can be worn over FR clothing. Rainwear should meet ASTM F2733-09.

Because synthetic fiber is known to melt under high temperature conditions, it is recommended that cotton or natural fiber clothing be worn under FR garments.

All FR clothing should be cared for according to manufacturer recommendations per NFPA 2113. Torn or ragged FR clothing shall be replaced. Replacements may also be made at the discretion of the appropriate manager and/or EHS.

Working on or near a traveled road, street, or highway may require wearing a reflective or highly visible warning vest. FR vests are required in this situation.

Chemical protective clothing, such as aprons, should be chosen and used as indicated on the SDS for the chemical or product that is handled.

FR Clothing Variance

C & C Oilfield reserves the option to provide a variance on a case-by-case basis for the FR requirement. If a variance is provided, FR must still be made available.

Portable Pressure Washer Operations

Purpose

The purpose of this program is to provide a procedure which outlines the responsibilities of all C & C Oilfield employees in the operations and of the safe usage of Portable Pressure Washers.

Responsibility

All employees in the Operations are responsible for understanding and carrying out the responsibilities and duties outlined in the policy. All employees using the Portable Pressure Washers must be trained in the safe operation of the equipment and familiar with all controls. Untrained personnel are not permitted to operate this equipment.

Procedure for Operating Portable Pressure Washers

Flushing the System

The unit has a steel coil which, after setting, will cause the water remaining in the coil from the previous usage to turn brown or black. This water must be flushed from the system before start-up. This procedure should be performed **WITHOUT** the high-pressure hose, gun and lance assembly installed.

1) Turn on the water supply.
2) Start engine on unit. Low pressure water will begin flowing from the water outlet. This allows the unit to flush any particles from the system. The unit is flushed when the water is clear.
3) Once the system is flushed, turn off engine and connect the high-pressure hose to the water outlet of the unit.
4) Connect the trigger gun and dual lance assembly to the high-pressure hose.
5) Install desired nozzle into dual lance assembly.

Start-up/cold water operation:

1) Refer to the Safety Manual Instructions before starting the machine.
2) Locate the Safety Decals on the unit and heed their warnings.
3) Ensure the Burner Switch is in the **OFF** position.
4) Pointing the trigger gun in a safe direction, unlock the trigger gun and squeeze the trigger. Hold the trigger gun open while starting the engine. Brace yourself for possible gun kickback when the engine starts.
5) Once the engine has started, perform the following procedures with the gun open:
    a) Inspect for system water leaks, oil leaks, and fuel leaks. If a fuel leak is found, TURN MACHINE OFF IMMEDIATELY! Be sure that all damaged parts are

replaced and that all mechanical problems have been corrected prior to the operation of the unit.

b) Inspect high pressure hoses for kinks, cuts, and leaks. If a cut or leak is found, TURN MACHINE OFF IMMEDIATELY! Replace hose before starting the machine.

6) The unit is now operating as a cold-water pressure washer. Trigger the gun several times. Rotate adjustable grip on the dual lance for high and low pressure application. NEVER place hands or fingers in front of the nozzle or look directly into the nozzle.
7) Do not allow the machine to operate in the bypass mode (with the trigger gun closed) for more than three minutes without triggering the gun. Failure to follow this simple rule can cause premature failure of the pump package.

Hot Water Operation

1) Follow preceding steps 1-7 for "Start-Up / Cold Water Operation
2) Move the burner switch to the **ON** position.
3) Recheck the system for fuel leaks. If a fuel leak is found, TURN THE MACHINE OFF IMMEDIATELY! Be sure that all damaged parts are replaced and that all mechanical problems have been corrected prior to operation of the unit.

Note: Upon initial start-up, water will begin turning hot in approximately 20 seconds and will reach maximum temperature within 2-1/2 minutes providing that the trigger gun remains open. The burner will not fire when the trigger is released.

Shutdown

1) Move the burner switch to the **OFF** position.
2) Squeeze the trigger and discharge the water for a period of three minutes to cool the heat exchanger and high pressure hose. Insufficient cool-down periods for the high pressure hose will cause excessive wear and eventual rupture of the hose.
3) Do not choke to stop the engine. Backfire or engine damage may occur.
4) Move the engine key switch to the **OFF** position.
5) Turn off the water supply and trigger the gun momentarily to relieve trapped pressure
6) Disconnect and drain the high-pressure hose, gun, and lance. Wipe the unit clean. Store in a non-freezing environment.

OPTIONS

STEAM – 250-degree F

The GREEN steam nozzle is used for 250-degree F Wet Steam operation. This nozzle is sized for operation with the unloader and steam valve (where applicable) to provide high pressure wet

steam. Replacement of this nozzle with an improperly sized nozzle may cause operational problems with the machine.

1) Install GREEN steam nozzle into dual lance assembly.
2) Follow “Hot Water Operation” start-up procedures.
3) Turn steam valve completely counter clockwise to achieve maximum outlet temperature (250 degree F)

NOTE: Upon initial start-up, water will begin turning hot in approximately 20 seconds and will reach maximum temperature within 2-1/2 minutes providing that the trigger gun remains open.

The burner will not fire when the trigger is released.

ADJUSTABLE THERMOSTAT:

Regulates the maximum discharge temperature. Turn the dial to the desired maximum discharge temperature. This may cause the burner to fire intermittently.

BALL VALVE: (Auxiliary Tank)

1) Connect hose from the auxiliary tank to open port on the 3-way ball valve.
2) Use the selector lever on the ball valve to allow water to flow from the auxiliary tank to the pump.
3) The water level in the auxiliary tank must always be higher than the pump inlet. This will ensure gravity feed of water to the pump. Failure to keep the water level above the pump inlet will result in the pump running dry and damage to the wet end of the pump.

HIGH PRESSURE DETERGENT: (Cleaning with Detergents)

NOTE: This feature is designed to use with mild detergents only. Since the cleaning solution travels through various parts of the pressure washer, do not use corrosives as they will cause extensive damage as well as pose a considerable safety hazard.

1) Be certain to wear proper Personal Protective Equipment.
2) Prepare detergent solution according to label directions. (Never pump acids, alkalines, abrasive fluids or solvents through the unit. Due to the unknown and often corrosive characteristics of many detergents commonly used in the pressure washer cleaning industry, it is recommended to use only mild detergents with this unit.)
3) Fully immerse the strainer end of the clear vinyl detergent hose into the detergent solution.
4) To apply solution: unlock the trigger gun and squeeze the trigger. In a few moments a detergent/water mixture will exit the nozzle. Start spraying the lower portion of the surface being cleaned and move up, using long overlapping strokes. Applying from the bottom up helps avoid streaking. Allow to soak briefly. Avoid working on hot surfaces or

in direct sunlight to minimize the chances of the detergent drying, which may result in damaging surfaces. Be certain to apply cleaning solution to a small section at a time.

5) To Rinse: lock the trigger gun in the "OFF" position. Turn the detergent metering valve to the "OFF" position. Unlock the trigger gun and spray. It will take about 30 seconds to purge all detergent from the line. For best rinsing results, start from the top and work down.
6) Siphon a gallon of water through the detergent injection system after each use. This prevents the possibility of corrosion or detergent residue causing mechanical problems during the next use.

Important Safety Instructions

- Always operate pressure washer in a well-ventilated area free of flammable vapors, combustible dust, gases or other combustible materials.
- Do not store the pressure washer near an open flame or any equipment such as a stove, furnace, water heater etc., which utilizes a pilot light or sparking device.
- Do not use this pressure washer to spray flammable material.
- Do not smoke while filling fuel tanks.
- Never fill the fuel tanks while the engine is running or hot. Allow the engine to cool two minutes before refueling.
- Do not refuel indoors or in a poorly ventilated area.
- Always refuel slowly to avoid the possibility of spilled fuel which may cause a risk of fire.
- Do not operate the unit if gasoline or diesel fuel is spilled. Wipe the pressure washer clean and move it away from the spill. Avoid creating any ignition until the gasoline or diesel fuel has evaporated.
- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.
- Be certain to disconnect the battery ground terminal before servicing. When disconnecting the cables from the battery, start with the negative terminal and when connecting them start with the positive terminal.
- DO NOT jump start the battery unless both batteries are of equal voltage and amperage.
- The pressure washer has a Safety Relief Valve which should never be altered, modified or made inoperative. If the device fails, replace immediately with genuine manufacturer replacement part.
- Never operate the pressure washer in an enclosed area. Always make certain there is adequate ventilation (fresh outside air) for breathing and combustion.

- Follow all safety instructions provided with the materials you are spraying. Use of a respirator may be required when working with some materials. Do not use the pressure washer to dispense hazardous detergents.
- Keep clear of nozzle and spray! Never put your hand, fingers or body directly over the spray nozzle.
- Never point the high-pressure discharge spray at yourself or anyone else. Always keep operating area clear of all persons.
- Seek emergency medical care if the spray appears to have penetrated the skin! Do not treat as a simple cut.
- High pressure hoses and fuel lines should be inspected before each use for signs of wear. If evidence of failure exists, promptly replace all suspect hoses and fuel lines to prevent the possibility of injury from the high pressure spray. If a hose or fitting is leaking never place your hand directly on the leak.
- Never operate the gun with the trigger wired in the open position.
- Before removing the spray nozzle or servicing the unit, always shut off the unit and trigger the gun to release trapped pressure. (Even after you shut off the unit there is high pressure water left in the pump, hose and gun until you release it by triggering the gun.)
- Do not direct spray on or into electrical installations of any kind. This includes electrical outlets, light bulbs, fuse boxes, transformers, the unit itself, etc.
- Do not allow metal components of the pressure washer to come in contact with live electrical components.
- Never allow any part of your body to contact the engine, muffler or heat exchanger.
- Never make adjustments to factory set pressures.
- Never exceed manufactures maximum allowable pressure rating of attachments.
- Do not allow any hoses to make contact with the engine, muffler, or heat exchanger to prevent the possibility of bursting. Avoid dragging the hoses over abrasive surfaces such as cement.
- In freezing temperatures, the unit must always be warm enough to ensure there is no ice formation in the pump. Do not start the pressure washer if it has been transported in an open or non-heated vehicle without first allowing the entire unit to thaw.
- Do not operate the unit without all protective covers in place.
- Seek emergency medical care if you are using cleaning agents and the spray appears to have penetrated the skin. Do not treat as a simple cut. Be prepared to tell a physician exactly what kind of detergents you were using by reading the Safety Data Sheets (SDS) provided with your detergent.
- Never use any solvents or highly corrosive detergents or acid type cleaners with this pressure washer.
- Do not direct spray toward fragile materials such as glass for shattering could occur.

- Stay alert! Watch what you are doing. Do not operate the unit when fatigued or under the influence of alcohol or drugs.
- Never squeeze the trigger unless securely braced.
- Do not overreach or stand on unstable support.
- Wet surfaces can be slippery, wear protective foot gear and keep good footing and balance at all times.
- Never trigger the gun while on a ladder or roof.
- Always hold on firmly to the gun/lance assembly when starting or operating the unit. Failure to do so can cause the lance to fall and whip dangerously.
- Know how to stop the pressure washer and bleed pressures quickly. Be thoroughly familiar with controls.
- Do not leave pressurized unit unattended. Shut off the pressure washer and release trapped pressure before leaving.
- Do not operate the unit if you see any fuel, oil or water leaks from the machine. Do not resume operation until the unit has been inspected and repaired by a qualified service person.
- Never run the unit with the governor disconnected or operate at excessive speeds.
- Do not move the unit by pulling on the hose.

Personal Protective Equipment

- Approved safety boots, safety glasses. Face shield and hearing protection must be worn.
- Gloves should be worn.
- When using cleaning agent's coveralls and respirators are advisable.

Maintenance Tips: All maintenance will be performed by qualified personnel only. The Operations and Facilities mechanics will perform periodic checks and repairs and maintenance as specified in the manual.

Process Safety Management (PSM)

Overview

A set of requirements designed to assure that operations at facilities where chemicals are processed are conducted safely. Process Safety Management (PSM) is an OSHA regulation found in 29 CFR 1910.119.

PSM applies to facilities that use hazardous materials in their processes. The purpose of a PSM program is to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals in various industries, such as refineries, chemical plants or other processing facilities.

Training and Testing

PSM/SEMP requires that operators document their process and the hazards associated with it. Once the hazards are identified, a detailed safety plan and training must be developed to minimize the potential for accidents. The safety plan and training must include:

- Employee Participation
- Process Safety Information
- Process Hazard Analysis
- Operating Procedures
- Contractors/Subcontractors
- Pre-Startup Safety Review
- Mechanical Integrity
- Hot Work Permits

  NOTE: All Hot Work Permits must be obtained before any hot work will be done. The permit must document that provisions of CFR 1910.252(a) have been met.

- Management of Change
- Incident Investigation
- Emergency Planning and Response to releases
- Compliance Audits
- Trade Secrets
- Safety Data Sheets (All SDS requirements will be followed)

Once the PSM training has been completed, the employees that are present must sign the PSM Roster Sheet and pass a comprehensive written exam before reporting to work. All PSM training will be documented, and the records stored in the employees permanent file; training documentation must include the date of training, and the instructor's name.

C & C Oilfield Requirements (as Contractor)

C & C Oilfield does not own any Process Safety Management (PSM) systems; however, as a contractor, C & C Oilfield employees may work in a PSM facility. When C & C Oilfield employees work in a PSM facility, each employee will follow all applicable PSM rules.

1. PSM requires that operators use only contractors that can perform their work safely.
2. Operators must verify that contractor employees are trained to perform their jobs safely. C & C Oilfield will participate in this verification as requested.
3. PSM requires that operators look out for the safety of contractor employees working at their facilities.
4. Per the PSM regulations, so far as safety is concerned, the operator has nearly as much responsibility for contractor employees as they do for their own employees. While this is true, all C & C Oilfield employees, by following each safety rule within the PSM facility, will ensure his safety as well as those around him. C & C Oilfield employees will follow all client permit and safety considerations.
5. C & C Oilfield will insure that its employees are trained on any hazards present at the operator's facility, such as potential fire, explosion or toxic-release hazards related to his/her job. Each employee must also be trained on the process and applicable provisions of the emergency action plan. C & C Oilfield will inform the operator of any hazard potentially created by C & C Oilfield work tasks.
6. C & C Oilfield is responsible, as a contractor, for advising the operator of any special hazards associated with the contractor's work.
7. The exchange of job-specific information will take place during the pre-job Job Safety Analysis and this will be documented.
8. C & C Oilfield employees will not divulge client trade secrets. Cameras are only allowed after the client has approved these devices in writing. C & C Oilfield employees are subject to immediate termination if information is divulged and C & C Oilfield will cooperate with clients in civil/criminal sanctions.
9. C & C Oilfield will report any and all incidents no matter how severe to the client. C & C Oilfield will conduct an internal investigation into factors related to the incident and participate with client in their investigation. Incidents will be reported within one hour or sooner as situation dictates. Employees must immediately report all accidents, injuries and near misses. An incident investigation must be initiated within 48 hours. Resolutions and corrective actions must be documented and maintained 5 years.
10. All C & C Oilfield employees will adhere to the safety work practices implemented in the facility, such as lockout/tagout, confined space entry, opening process equipment, or piping and controls over the entrance to the facility.

Management of Change

The management program should establish and implement written procedures to manage change in process chemicals, equipment, and procedures; and changes to facilities and personnel. These procedures should be flexible enough to accommodate both major and minor changes. These procedures should cover the following:

1. The process and mechanical design basis for the proposed change.
2. An analysis of the safety, health, and environmental considerations involved in the proposed change, including, as appropriate, a hazards analysis. The effects of the proposed change on separate but unrelated upstream or downstream facilities (i.e., structures/platforms, pipelines, process equipment, emergency isolation and control systems and equipment, mitigative systems and equipment, accommodations areas, emergency evacuation facilities and equipment) and on area wide emergency plans (i.e., evacuation or oil spill) should also be reviewed.
3. The necessary revisions of the operating procedures, safe work practices, and training program.
4. Communication of the proposed change and the consequences of that change to appropriate personnel. For significant changes, training may be appropriate.
5. The necessary revisions of the safety and environmental information.
6. The duration of the change, if temporary.
7. Required authorization to effect the change.

Respiratory Protection Program

Policy

It is the policy of C & C Oilfield to protect its employees from hazardous atmospheres through a comprehensive program of recognition, evaluation, engineering, administrative and work practice controls, including respirators and other personal protective equipment (PPE). To the greatest extent possible, hazard elimination, and engineering and work practice controls shall be employed to ensure employee exposure is within allowable exposure limits. However, while these measures are being developed, or if they are not feasible or fully effective, C & C Oilfield will provide affected employees with the appropriate respirators, as prescribed by this program. C & C Oilfield is committed to full compliance with applicable federal and state regulations pertaining to employee respirator protection.

Purpose

The purpose of this program is to protect the health of C & C Oilfield employees who may be exposed to hazardous atmospheres while working, and to provide the appropriate protection from these hazards without creating new hazards. This program provides information and guidance for the proper selection, use, and care of respirators, and contains requirements for establishing and maintaining a respirator program.

Scope

The program applies to all C & C Oilfield employees who need to wear a respirator to perform assigned duties.

Roles and Responsibilities

1. Respirator Administrator (which is named by position or job title and has all necessary training)

    a. Is responsible for the Respiratory Protection Program: including the implementation and complexity of the program, the monitoring of respiratory hazards, maintaining records and conducting program evaluations. The Respirator Administrator is responsible for supervising the execution of this program at all levels.
    b. Has knowledge about respiratory protection and maintains an awareness of current regulatory requirements and good practices.
    c. Approves job-specific Respiratory Protection Programs for each operation that involves the use of respirators.
    d. Approves respiratory training programs for employees.
    e. Approves fit test procedures for employees.
    f. Approves respirator makes and models for use at each worksite.

g. Ensures that employees using respirators have appropriate surveillance and that employees leave the work area to wash, change cartridges, or if they detect a break-through or encounter breathing resistance.
h. The effectiveness of this program shall be monitored by surveying our employees about their experiences with fit, selection, maintenance, etc. of our respirators while they are employed with our company.
i. Ensure that employees have the compulsory training, fit testing, and medical clearances necessary before authorizing them to wear a respirator.
j. Prohibit any employee with lapsed or incomplete respirator clearances to work in hazardous atmospheres. Enforce any restrictions imposed by the occupational physician on individual employees, including the need for corrective lenses.

2. Corporate Safety Director

    a. Performs employee exposure monitoring upon initial work in a potentially hazardous atmosphere and whenever work conditions change that may affect employee exposure.
    b. Performs employee exposure monitoring in accordance with Federal OSHA regulations.
    c. Uses generally accepted sampling techniques and analytical methods, including generally accepted quality assurance and control measures.
    d. Reports all findings to the supervisor with five days of receipt of analytical results from the laboratory, at a minimum.
    e. Upon request, performs surveys and makes recommendations for hazard control.

3. Respirator Technician and/or Outsource Provider of this Service

    a. Complete initial respirator training and annual refresher training. In addition, complete any recommended respirator manufacturer training prior to servicing respirators and their components.
    b. Perform and document semi-annual inspections of each air purifying respirator and monthly inspections of each supplied air respirator issued by C & C Oilfield or maintained in their inventory.
    c. Ensure that compressed breathing air cylinders are hydrostatically tested on schedule.
    d. Remove from service and tagout any defective respirators or parts.
    e. Perform maintenance and repairs of respiratory protection equipment in accordance with the manufacturer’s instructions.
    f. Maintain an inventory of respirators and associated parts and equipment in a clean, secure area in a manner so as to prevent damage to the parts.
    g. Issue respirators when so directed in writing, inspecting to confirm that the respirator or equipment is of the type specified in the respirator plan or program.

h. Issue spectacle kits to employees who require corrective lenses with their respirators.
i. Perform tests for compressed air quality and inspect breathing air compressors periodically.

4. Supervisors

a. Must hold a safety meeting on respiratory protection issues at the start of each new project or task that involves respiratory hazards for affected employees under their supervision.
b. Is responsible for enforcing the written Respiratory Protection Program and Worksite Specific Respiratory Protection Plan that has been approved and implemented by Respirator Administrator, or designee. All respirator use must comply with the written programs in effect at the jobsite.
c. Record any complaints related to respirator usage, act promptly to investigate the complaints, correct any hazards, and get medical assistance when indicated. Report all first aid and/or medical treatment administered on a jobsite. Report every respirator-related incident to the Respirator Administrator before the end of the work shift.
d. Physically check each respirator prior to its assignment to their employees to be sure that it is of the type specified in the written plan.
e. Inform each affected employee of the results of exposure monitoring within one day of receiving such results and assure inclusion of all exposure reports in the company, and/or specific site record keeping system.
f. Monitor employee compliance with the respirator program requirements.

5. Employees

a. Use respiratory protection in accordance with the instructions and training provided.
b. Immediately report any defects in the respiratory protection equipment and whenever there is a respirator malfunction, immediately evacuate to a safe area and report the malfunction.
c. Promptly report to the supervisor any symptoms of illness that may be related to respirator usage or exposure to hazardous atmospheres.
d. Report any health concerns related to respirator use or changes in health status to the occupational physician.
e. Wash their assigned reusable respirators at the end of each work shift when used and disinfects assigned respirators at least weekly.
f. Store respirators in accordance with instructions received, such that the respirators are protected from at a minimum: damage, contamination, dust, sunlight, extreme

temperatures, excessive moisture, damaging chemicals, and deformation of the face piece and exhalation valve.

g. Observe and enforce any restrictions placed on employee work activities by the occupational physician.
h. Be clean-shaven in all facial areas that seal to the respirator face piece.
i. Do not allow headpieces, Band-Aids or other items beneath a respirator seal or head strap assembly.
j. Inspect the respirator immediately before each use, in accordance with training provided.
k. Perform a user seal, negative and positive respirator fit check each time a respirator is donned in accordance with training provided.
l. Glasses, facial hair or any thing that could affect the face piece seal are prohibited. Respirators with tight-fitting face pieces shall not be worn by employees who have facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.

Permissible Practices

1. Respirator Administrator, or his designee, shall issue all respirators worn by Company employees.
2. Respirators shall be issued by C & C Oilfield and worn by exposed employees whenever airborne contamination levels are not otherwise reduced to within the allowable limits.
3. A written Respiratory Protection Program and a Worksite specific Respiratory Protection Plan shall be prepared and approved by Respirator Administrator before any employee is permitted to use a respirator, including voluntary or emergency use. This plan shall identify the location and tasks, identify and quantify the air contaminants or oxygen deficiency, specify the appropriate respirator, and specify any limitations, such as air monitoring, respirator cartridge replacement frequency, etc. The form entitled “Worksite Specific Respiratory Protection Plan” at the end of this section may be used to document your Plan. Each operation involving respirator use must have a signed and approved written plan. For all IDLH atmospheres, C & C Oilfield shall ensure that:
    a. One employee or, when needed, more than one employee is located outside the IDLH atmosphere;
    b. Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;
    c. The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;
    d. The employee(s) located outside the IDLH atmosphere assures that the employer or designee is notified before entering the IDLH atmosphere to provide emergency rescue;

e. The employee(s) located outside the IDLH atmosphere are authorized to rescue by the employer, once notified. C & C Oilfield shall provide necessary assistance appropriate to the situation; and,
f. Employee(s) located outside the IDLH atmospheres shall be equipped with pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA. In addition, affected employees will be equipped with either the appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry or equivalent means for rescue where retrieval equipment is not required.

4. Upon an employee's request, an appropriate respirator shall be issued for voluntary use when exposure to contaminant levels is at or above 50 percent of allowable limits, but within allowable limits, or when exposed to nuisance dusts, molds, pollen, etc. Reasonable efforts should be made to reduce such exposures.
5. Regardless of exposure level. Employees who are exposed to any recognized carcinogen, mutagen or teratogen in the performance of their work assignments may request and receive an appropriate respirator for voluntary use. In addition, affected employees already assigned a respirator may request a respirator that provides a higher protection factor than the one provided by C & C Oilfield for that work.
6. Company Emergency Response Plans required for chemical spills or releases, fire response, pathogen exposures, etc. shall include a Respiratory Protection Program and Worksite Specific Respiratory Protection Plan whenever there is a reasonable potential for a respiratory hazard. If an emergency plan calls for complete employee evacuation and no C & C Oilfield employee is assigned response activities, a plan is not required as a component.
7. At no time, however briefly, shall a C & C Oilfield employee be exposed to contaminant levels that are more than three times the allowable 8-hour time weighted average limits without respiratory protection.
8. No employee may work alone while wearing a respirator. Each respirator wearer shall have at least one employee assigned responsibility to perform periodic status checks throughout the duration of respirator use. When SCBAs are worn, at least one standby person, located outside the hazardous atmosphere and equipped with an SCBA, shall be in constant attendance, ready to provide immediate assistance and call for emergency help, if needed or required by a host company.

Respiratory Protection Program and Worksite-Specific Respiratory Protection Plan

1. Each operation that involves respirator use shall have a Worksite Specific Respiratory Protection Plan that is approved and signed by Respirator Administrator and job supervisor.
2. This plan, which may be a part of a job hazard analysis, site safety plan, confined space entry permit or other document, shall contain an identification of the atmospheric hazard(s) and the respective measured or expected concentration(s) at each location or operation, the respective allowable concentration limits, the type of respirator(s) approved, monitoring requirements, emergency response procedures, and limitations, such as the frequency of respirator cartridge change out.
3. This document shall be updated annually and more frequently if conditions change. This Worksite Specific Respiratory Protection Plan shall be available at the job location and shall be maintained for 30 years as an exposure record.

Recognition and Evaluation of Airborne Contaminants

The Host Company, Corporate Safety Director, Supervisor or other designee shall initially perform a hazard assessment in each workplace. Where the presence or potential presence of airborne contaminants is recognized or suspected, the above evaluator shall perform evaluations to determine if allowable limits are exceeded or potentially exceeded. The results of the hazard assessment shall be communicated to the Project Manager and affected supervisors and employees. A written record of this assessment, including identification of the work area, the name of the assessor and the date of the assessment, shall be maintained for a period of 30 years if atmospheric hazards were identified. This file shall be maintained in the office of Safety Director.

1. For workplaces in which the hazard assessment produces no findings of potential exposures, Supervisors shall monitor the workplace and request a hazard assessment whenever materials or processes change.
2. Whenever the hazard assessment identifies potential exposures to hazardous atmospheres, an annual reassessment shall be performed, unless OSHA requires a more frequent assessment. In addition, the Supervisor is responsible for requesting a reassessment whenever materials or processes change.

Evaluation of Airborne Contaminant Controls

1. When hazardous atmospheres are recognized, elimination of the hazardous material or feasible engineering and work practice controls shall be instituted to reduce contaminant levels to within allowable limits. If such measures are not completely successful or if the condition is temporary, personal protective equipment, including respiratory protection shall be selected and worn.

2. The Host Company, Corporate Safety Director, Subsidiary Company Safety Coordinator, Supervisor or other designee shall assess the workplace when controls are instituted to measure their effectiveness in reducing employee exposure to hazardous atmospheres.

Selection and Issuance of Respirators

1. Selection of the appropriate respirator shall be documented in the written Worksite Specific Respiratory Protection Plan. If the atmosphere is uncharacterized, it must be assumed to be IDLH and a positive pressure SCBA or combination supplied air respirator with SCBA must be worn. Respirator selection shall comply with OSHA requirements for specific substances, such as asbestos, lead, etc. At a minimum, the assigned protection factor of the selectee's respirator shall be equal or exceed the hazard ratio.
2. All respirators used by C & C Oilfield shall be approved by NIOSH. No components shall be substituted, unless they are approved by NIOSH.
    a. Any change or modification to a respirator may void the respirator approval and may adversely affect its performance. Refer to the table "Listing of Approved Respirators" for assistance in selecting the proper respirator.
3. Any restrictions or limitations recommended for a particular respirator by the respirator manufacturer shall be observed.
4. The Respirator Technician or other appointed person/outsource company shall inspect each respirator or component prior to issuance and shall assure that the respirator assembly is complete, sanitary and in good working order upon issuance. Atmosphere supplying respirators shall be returned to the Respirator Technician or other appointed person/outsource company at least monthly for periodic inspection and air-purifying respirators shall be returned for periodic inspection at least semi-annually. A log shall be maintained of these periodic inspections.
5. C & C Oilfield shall provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of high purity and shall require third-party providers of breathing air to certify that:
    a. Compressed breathing air meets at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
        i. Oxygen content (v/v) of 19.5-23.5%;
        ii. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
        iii. Carbon monoxide (CO) content of 10 ppm or less;
        iv. Carbon dioxide content of 1,000 ppm or less; and
        v. Lack of noticeable odor.
6. Supervisors are responsible to ensure that each respirator user under their supervision is currently approved for respirator use, including medical, fit testing and training certifications. Employees with expired certifications shall not be permitted to work in

hazardous atmospheres or to voluntarily wear a respirator until their lapsed requirements are updated.

7. Each respirator must be inspected by its wearer immediately prior to each use, according to instructions provided in the respirator training. Any defects shall be reported to the Supervisor before entry into a hazardous atmosphere. The wearer, immediately prior to entering the hazardous atmosphere, shall perform a user seal check.
8. In the event that a C & C Oilfield employee's corrective lenses prevent adequate fit of a full-face respirator, an appropriate spectacle kit or prescription safety lenses will be provided at no cost to the employee. The employee in hazardous atmospheres with negative pressure and positive pressure respirators in written communication to the company Respirator Administrator shall permit contact lenses if the employee's ophthalmologist or optometrist authorizes their use.
9. Employees who are issued a respirator are responsible for its maintenance, daily inspection and storage while the unit is in their control.
10. Respirators and all associated costs related to maintaining them shall be borne by the employer.

NOTE: All work environments will be evaluated for respiratory hazards. In the absence of analytical data establishing the amount of airborne contaminants, all atmospheres will be considered IDLH.

Potential Airborne Contaminants and Corresponding Protection

Atmospheric Hazard	Work Activity	Concentration	Respirator	End of Service Life
Metal Dusts	Machining, Grinding	<50mg/m3	Filtering Face piece	8 hours
Acid Gas	Escape	IDLH	3M 8710 90AG Scott Escape Mouth Bite with Acid Gas Cartridge	NA
Ammonia	Escape	IDLH	3M 6200Half Face Mask with 6004 Ammonia -Methylamine Cartridge	NA
Misc.	Escape	IDLH	Scott SCBA	30 Minutes
Hydrogen Sulfide	Mechanical Services	IDLH	3M AV 2000 Full Face Supplied Air	30 Minutes with 5 Minute Escape

Fit Testing

1. Each respirator wearer shall be qualitatively (QLFT) and quantitatively (QNFT) fit tested prior to initial use and at least annually thereafter, using protocols approved by the Respirator Administrator. More frequent testing shall be performed if required by OSHA regulations for specific substances, anytime a different respirator facepiece is used, or if the wearer's facial contours change, such as by weight gain or loss, facial surgery, etc.
2. On the occasion of each fit test, employees may choose their respirator from an array of at least five face pieces from different manufacturers and sizes approved by the Respirator Administrator.
3. Fit test certification shall be prepared and signed by the person performing the fit test and must name the tested employee; the make, model and size of the respirator fit tested; and the result of the fit test. A copy shall be provided to the Supervisor.
4. C & C Oilfield shall pay for all required fit tests.

Medical Approval for Respirator Use

All medical evaluations will be confidential, conducted during normal working hours, convenient and understandable (an interpreter will be provided as necessary). Any employee has the right to discuss findings with the PLHCP and this is done confidentially.

The PLHCP will be given a copy of the Respiratory Protection Policy, a copy of 29 CFR 1910.134, and a listing of anticipated work levels, additional PPE required, duration of work while using respiratory protection, weather extremes, and the types of respirators to be worn. The PLHCP will utilize this information in determining the employee's suitability for wearing respiratory protection.

1. Prior to fit testing, each respirator wearer shall be approved for respirator use by the appointed company physician or other licensed health care professional (PLHCP) at least annually. The occupational physician shall be provided a copy of the employee's duties, respirator types to be worn, and air contaminants, as well as any applicable OSHA standards governing the medical evaluation, such as the Respiratory Protection standard and applicable substance-specific standards.
2. C & C Oilfield shall commission a licensed physician to perform medical evaluations; C & C Oilfield will pay all costs associated with the respirator medical evaluation. C & C Oilfield will approve payment for the medical diagnostic procedures necessary to assess the ability of an employee to safely wear a respirator.
3. Medical records created under this program shall be handled in accordance with OSHA requirements for confidentiality, employee access and retention. Fit testing and medical records will be maintained in the employee's confidential file by the human resources department.

Required Training

1. Each respirator wearer, supervisor of a respirator wearer, respirator technician and the Administrator must be trained. Training must be comprehensive, understandable, and repeated annually—more often if necessary.
2. Upon successful completion of respirator training, the instructor shall sign a certification that names the employee trained, the type(s) of respirator and the training date. A copy shall be provided to the supervisor. A record shall be maintained of the training topics covered.
3. Each employee trained shall demonstrate knowledge of at least the following:
    a. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
    b. What the limitations and capabilities of the respirator are;
    c. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
    d. How to inspect, put on and remove, use, and check the seals of the respirator;
    e. What the procedures are for maintenance and storage of the respirator;
    f. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
    g. The general requirements of 29 CFR 1910.134.
4. C & C Oilfield shall provide the training prior to requiring the employee to use a respirator in the workplace at no cost to the employee.
5. An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in paragraph 3a through 3g above, is not required to repeat such training provided that the employee can demonstrate knowledge of that element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.
6. Retraining shall be administered annually, and when the following situations occur:
    a. Changes in the workplace or the type of respirator render previous training obsolete;
    b. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
    c. Any other situation arises in which retraining appears necessary to ensure safe respirator use.
7. C & C Oilfield shall provide basic information on respirators, found in Appendix D, 29 CFR 1910.134, to employees who wear respirators when not required by this regulation or by us to do so. This basic advisory information on respirators shall be provided in any written or oral format.
8. For all IDLH atmospheres, C & C Oilfield will train employees located outside the IDLH atmosphere and equip them to provide effective emergency rescue.

Record Keeping

Medical records will be maintained for the duration of employment plus thirty (30) years. The medical records of employees who are employed for less than one year will be provided to the employee upon termination and will not be retained following the termination of his/her employment. Employee exposure records will also be retained for a period of thirty years. With the exception of chest x-rays, C & C Oilfield reserves the right to retain records in either paper or digital format.

Employee records are available for examination and/or copying by the employee or his/her designated representative in the administrative offices. Records will be made available within a reasonable amount of time, not to exceed fifteen business days, following the employee and/or representative's initial request.

If C & C Oilfield ceases to do business, all medical and exposure records will be transferred the employee's successor employer, and the successor employer shall maintain the records in accordance with state and federal regulations. If there is not a successor employer to transfer the records to, current employees will be notified three months prior to the cessation of the employer's business of their rights of access to the records. Furthermore, the Director of the NIOSH will be notified in writing of the impending disposal of records at least three months prior to the disposal of the records. C & C Oilfield will notify the Director of NIOSH in writing at least three months prior to disposing of records required to be preserved for at least thirty years.

Employees will be notified of the existence, location and availability of their medical and exposure records on an annual basis beginning on the date of their new-hire orientation. Employees will also be given the name of the individual or department responsible for maintaining and providing access to records. Employees will be made aware of their rights to access the material in their medical and exposure records.

Listing of Approved Respirators (NIOSH-approved)

Brand	Model	Style*	Comments
3M	N-series	Full or Half facepieces and specific cartridge model must be selected once the contaminants in the breathing zone have been determined.	Use only in those atmospheres free of oil aerosols.
3M	P-series	Full or Half facepieces and specific cartridge model must be selected once the contaminants in the breathing zone have been determined.	Use to remove any particulate including oil-based aerosols.

SCOTT	AV2000	Full Face	Most used mask for fresh air work. Can also be used with cartridges.
3M	3M6000	Half Face	

NOTE: Refer to the 3M Respirator Selection Guide for proper selection of facepiece and cartridge once the airborne hazards in the workplace have been identified. The most up-to-date Selection Guide can be found on 3M's website: www.3M.com.

Definitions

- Air Purifying Respirator (APR): A type of respirator that removes specific contaminants from air by use of filters, cartridges or canisters by passing ambient air through the air-purifying element. APRs do not supply oxygen.
- Allowable Limit: The maximum concentration of a substance in air that is permitted by regulation or voluntary standards to protect employee health. These concentrations may be expressed in terms of an 8-hourtime-weighted average, a 15-minute short-term average or as an instantaneous upper ceiling limit. An example is the OSHA permissible exposure limits (PEL).
- Atmosphere-supplying respirator: A type of respirator that supplies the 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.
- Employee Exposure: Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.
- Escape only respirator: Respirator intended to be used only for emergency exit.
- Fit test: Use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.
- Hazardous atmospheres: An atmosphere that contains a contaminant(s) in excess of the allowable limit or contains less than 19.5 percent oxygen.
- Immediately dangerous to life and health (IDLH): An atmosphere that poses an immediate threat to life would cause irreversible adverse health effect, or would impair an individual's ability to escape from a dangerous atmosphere.
- Negative pressure respirator (tight fitting): A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

- Positive pressure respirator: A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.
- Qualitative fit test (QLFT): 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): An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
- Self-contained breathing apparatus (SCBA): An atmosphere-supplying respirator for which the breathing air sources is designed to be carried by the user.
- Service life: The period of time that a respirator, filter or sorbent or other respiratory equipment provides adequate protection to the wearer.

Worksite Specific Respiratory Protection Plan

Task description:

_____

_____

Atmospheric hazards:

- Oxygen levels: _____
- Is this oxygen level deficient?
- Monitoring (List the monitoring frequency and method for each atmospheric hazard)

Controls to be implemented to reduce employee exposure to atmospheric hazards:

1. _____
2. _____
3. _____

Respirators to be worn (List type, cartridge type if APR, concentration and limits for use):

_____

_____

_____

Authorized employees (list with employee number):

1. _____
2. _____
3. _____
4. _____
5. _____(List additional on back of page)

Emergency Response:

- Signs and symptoms of overexposure

  _____

  _____

- Evacuation procedures
  _____
  _____
- First aid and emergency medical procedure
  _____
  _____
- Reporting procedures
  _____
  _____

Signature of the Respirator Administrator (or designee):

_____ Date: _____

Signature of the Jobsite Supervisor:

_____ Date: _____

C & C Oilfield
Fit Test And User Seal
Check Result Sheet

Employee: _____ Date: _____

Company: _____ Social Security #: _____

Fit Test Method Used: Qualitative (QLFT) _____ Quantitative (QNFT) _____

Irritant Smoke_____ Isoamyl Acetate_____ Saccharin_____

Portacount_____ Aerosols_____

Respirator Type: _____ Model: _____ Size: _____

1. Move Head Up & Down:
2. Bend At Waist:
3. Run In Place:
4. Move Head Side To Side:
5. Talk:
6. Breathe Deeply
7. Grimace
8. Rainbow Passage

Fit Test Results: Pass / Fail

Comments:
_____
_____
_____
_____

Employee's Signature: _____ Date: _____

Test Administered By: _____

ROW Mowing and Weed Eating

Purpose

The purpose of this safety policy is to establish comprehensive guidelines and procedures to safeguard the well-being of C & C Oilfield employees, contractors, and the public during right of way mowing and weed eating operations. The policy aims to mitigate potential hazards, enhance awareness, and promote a culture of safety.

Responsibilities

Management: Management is responsible for overseeing the implementation of safety protocols, providing adequate resources, conducting regular safety audits, and ensuring compliance with safety standards.

Supervisors: Supervisors are responsible for enforcing safety rules, providing necessary training, conducting safety briefings, and promptly addressing safety concerns raised by employees.

Employees/Contractors: C & C Oilfield employees and contractors are responsible for following all safety guidelines, using PPE correctly, reporting hazards, and actively participating in safety training programs.

Training and Certification

All employees and contractors involved in mowing and weed eating activities must undergo rigorous training and certification processes. Training should cover equipment operation, hazard identification, emergency procedures, safe work practices, and environmental considerations.

Personal Protective Equipment (PPE)

Eye Protection: ANSI-approved safety goggles with side shields are mandatory to protect against flying debris.

Hearing Protection: Earplugs or earmuffs meeting appropriate noise reduction standards must be worn.

Footwear: Steel-toed, puncture-resistant boots are mandatory.

Clothing: Employees should wear long-sleeved shirts, long pants, and wide-brimmed hats to protect against sun exposure and debris.

Gloves: Wear appropriate gloves to protect hands from vibrations and cuts.

Equipment Safety

Pre-Operation Inspection: Perform a detailed pre-operation inspection of mowing and weed eating equipment. Any defects or issues must be reported and resolved before operation.

Maintenance: Regular maintenance, as per manufacturer guidelines, should be performed by trained personnel.

Fueling: Refueling should be done in well-ventilated areas away from ignition sources and the work site.

Safe Work Practices

Clear Communication: Use radios or other communication devices to maintain clear communication with other workers and operators.

Traffic Control: Implement proper traffic control measures, such as warning signs and cones, to ensure the safety of workers and motorists.

Terrain Assessment: Assess the terrain for holes, rocks, or other obstacles that could cause accidents.

Weather Considerations: Work should be postponed during adverse weather conditions such as heavy rain, storms, or extreme heat.

Emergency Procedures

First Aid: Designated personnel should be trained in first aid and CPR. First aid kits and AEDs must be readily available on-site.

Emergency Contacts: Maintain a list of emergency contacts and the location of the nearest medical facilities.

Incident Reporting: All incidents, injuries, and near misses must be reported immediately to supervisors and documented for investigation and preventive action.

Review and Revision

This safety policy will be reviewed annually and revised as necessary to align with evolving safety standards, technological advancements, and organizational needs. Regular safety meetings will be conducted to reinforce the importance of these guidelines and address any concerns raised by employees.

Risk Assessment and Job Safety Analysis (Identification of Hazards)

Hazard identification and risk assessment are vital components of every safe work environment. Management has implemented a Job Safety Analysis (JSA) program to prevent accidents by identifying hazards, and then developing corrective action to eliminate, or reduce the hazards, both existing and potential, to an acceptable level before initiating work.

The goal is to:

1. Identify the potential hazards
2. Identify appropriate methods to reduce or eliminate the hazards
3. Fulfill requirements of the Customer
4. Create a PPE Hazard Assessment

JSAs must be completed before each job (routine or non-routine) is begun, and whenever a new process is introduced, a procedure is modified, or a change in products, services or operation is implemented. If the scope of the job changes, a new JSA is required, and all affected employees must participate in the completion of the new document.

Every affected employee and subcontractor employee is required to participate in the completion of the JSA, and all are expected to sign the document once it is completed. When the client does not provide a JSA form to complete, C & C Oilfield will make theirs available and request that the client representative(s) participate.

Work permits (i.e. Hot Work Permits, Confined Space Entry, and Lockout/Tagout) may accompany the JSA.

Who should participate in filling out a JSA?

1. Job Foreman should lead the JSA team
2. Gang Pusher/Supervisor
3. Employees who are experienced in performing the job
4. Technical experts (mechanics, engineers, etc.)
5. Customer representatives
6. Personnel with no experience in performing the job (often bring unique insight)
7. All other affected employees

When this process is executed properly, *all* employees will have something constructive to learn and contribute. Blank JSA forms are available in the office. C & C Oilfield employees will be trained on JSA procedures, including how to identify, report, and control workplace hazards, during New Employee Orientation.

Hazard Identification and Mitigation

A JSA is one of the primary means of ensuring that employees return home the way that they came to work. It is a fundamental belief of this organization that all accidents are avoidable. Pursuant to this goal and belief, all employees must participate in the daily completion of JSAs in order to assist in the identification and mitigation of existing and potential hazards. Information reviewed during the JSA completion may include, but is not limited to, equipment and machinery operating manuals, safety data sheets (SDS) inspection reports, records of previous injuries and illnesses, incident investigation reports, and results of previous JSAs. Health hazards shall be identified utilizing a qualitative assessment. Furthermore, employee medical records may be utilized to evaluate the chemical, physical, biological and ergonomic impacts on the employee.

A JSA is designed to stimulate discussion between the employees that will ultimately flush out the existing and potential hazards that are either present on the jobsite or applicable to the job being performed. Once identified, hazards must be minimized or eliminated through engineering controls, work practices, or, as a last resort, personal protective equipment (PPE). Whenever possible, engineering controls will be utilized to eliminate the identified hazards. Some examples of engineering controls are:

1. Exhaust and/or Mechanical Ventilation
2. Enclosure/Encapsulation
3. Substitution of Materials
4. Component Replacement
5. Sound Barriers
6. Process or Equipment Modification (i.e. using wet-blasting or vacuum blasting to eliminate hazardous dust)
7. Isolation

It is imperative that corrective measures be documented, and an additional hazard assessment be executed once the corrective measures have been taken in order to ensure that the hazard has been eliminated, and no additional hazards have been created. Regular inspections shall identify hazards of those areas such as operations, equipment, work areas and facilities. Employees shall be trained in the proper recognition of said hazards and how to properly report and control the hazards.

If engineering controls and work practices cannot sufficiently minimize or eliminate the hazards that were identified, then PPE must be utilized. Employees must be properly trained in the hazard identification process and on the use, maintenance, and limitations of the PPE they have been provided before they will be authorized to work within the affected jobsite, or perform the applicable task. It is also necessary to make certain that the selected PPE will adequately minimize or eliminate the applicable hazard; for example, if a respirator must be used, it is

critical that a competent person be consulted to ensure that the proper respirator is selected and used.

Once identified, hazards must be categorized and prioritized to properly address the most serious (those that present the greatest risk) first. If an atmospheric hazard, for example, is identified, it may be necessary to evacuate the non-essential personnel and call for additional help to eliminate the hazard. In other situations, a jobsite may need to be isolated by barriers, and the workforce assigned accordingly before any work can be performed. In these situations, it is essential that the appropriate hazards be addressed in order of significance and severity to minimize the affected employees' exposure to the identified hazard. If a workplace incident such as a injury, illness, near miss, or stop work results from a hazard, a root cause investigation shall be conducted in an effort to prevent further occurrences.

Documentation mandated by this program must be maintained for at least 6 months, and dependent on the hazards identified, retention requirements may be extended.

It is the responsibility of the Safety Coordinator to ensure that this program is implemented and managed properly, and that the program is continuously improved by incorporating lessons learned into hazard controls.

Scaffolding Safety

Objective

It is the objective of this policy to inform C & C Oilfield personnel of the basic OSHA and company requirements regarding the use of scaffolds on job sites. When owner company requirements exceed C & C Oilfield rules and regulations, the more stringent shall be adhered to.

Employee Responsibilities

The company safety director shall distribute and maintain the scaffold user policy. All changes to the policy will be documented and distributed to all C & C Oilfield job sites. Site specific plans shall be administered by the safety coordinators at the project level to ensure compliance with owner company policies.

Supervisors are responsible to ensure that all employees are properly trained in the health and safety hazards, personal protective equipment requirements and work practices to control exposure to metal particles, fumes or dusts.

Employees are responsible for following the required safety rules, methods and procedures outlined to prevent potential exposures whenever working with or in the vicinity of metal fumes or dust.

Inspections

1. All scaffolds shall be inspected prior to the beginning work, when there is a change in circumstances at the scaffold location, after any event which could affect the scaffold's structural integrity, and at the change of shift.
2. A competent person shall perform and complete all scaffold inspections. If during the inspection the scaffold is found to be unsatisfactory or that a situation deems that the scaffold is unsafe for human occupancy, the competent inspector shall tag the scaffold as unsafe and notify the builder.
3. All scaffolds that are found to be damaged, weakened, or tagged as unsafe must immediately be repaired, replaced, braced, or removed from services until repaired.

Training

1. Scaffold user training will be provided to all C & C Oilfield employees whose job requires the use of scaffolds. The company safety director will assign an in-house competent and "qualified" scaffold person or approved third-party company to conduct the training of employees. Training will be conducted in the pre-job stage, as an annual refresher, when deficiencies occur or when changes are made to company policy or state/federal regulations. **If the conditions on a job site change, employees must be re-trained prior to returning to work.**

2. All documentation of training will be kept in the employee files.

3. Components of training shall cover the following topics:

    a. Tagging systems, owner driven or company
    - C & C Oilfield complete scaffolds shall be tagged with a GREEN ready to use tag. The signature of the competent builder, the date, and the checklist user shall be documented on the tag.
      (See Attachment A)
    - C & C Oilfield incomplete scaffolds shall be tagged in RED (not for use) and deficiencies documented on the tag.
      (See Attachment B)
    - C & C Oilfield scaffolds that require special circumstances, i.e. safety harnesses, head obstructions shall be tagged with a YELLOW tag denoting the warning or PPE requirements to use the scaffold.
      (See Attachment C)
    - Scaffold user checklist shall be reviewed before each use.
      (See Attachment D)
    - Owner driven programs and tagging systems will supercede C & C Oilfield tagging programs while on their premises so that consistency at owner projects is achieved.
    - Potential users will not use an untagged scaffold.

    b. Falling objects and debris to lower levels.
    - Containment by toe boards, tool bags or buckets.
    - Stacking of material and tools.
    - Ensuring that only items being used occupy the scaffold.

    c. Scaffold ratings and load limits reference CFR 1926.451
    - Light Duty Scaffolds- 25p.s.f.
    - Medium Duty Scaffolds-50p.s.f.
    - Heavy Duty Scaffolds-75p.s.f.

    d. Electrical hazards.
    - High voltage lines and equipment.
    - Conductive scaffold components.

    e. Types of fall protection
    - Harnesses
    - Handrails and mid-rails
    - Safety nets.

f. Modifications/altering scaffolds and consequences.

- All Repairs to the scaffold deficiencies shall be repaired in accordance with CFR 1926 Subpart L. Any C & C Oilfield employee that occupies a scaffold tagged incomplete will be subject to immediate disciplinary action, up to termination.
- Modifications to scaffolds and their components shall only be conducted under the supervision of a competent builder and with the permission of the scaffold owner.
- No scaffold parts may be interchanged with other manufactured scaffold systems parts that could lower the integrity of the scaffold.
- Any C & C Oilfield employee that modifies a scaffold without the supervision of a competent person will be subject to immediate disciplinary action up to termination.

4. Employees shall be re-trained whenever there is reason to believe that an affected employee lacks the skill or understanding of the safe erection, the safe use, or disassembly of scaffolds, where a hazard is presented into the workspace in which the company employee has not been trained, when there are changes in the specific fall protection, falling object protection, scaffolding, or other equipment that presents a hazard to which the affected company employees have not been trained.

Scaffold User Checklist

Scaffold User Checklist will be reviewed by the builder of the scaffold.

This list will be reviewed and the scaffold inspected by a competent person prior to, and during each use. If during the inspection the scaffold is found to be unsatisfactory or that a situation deems that the scaffold is unsafe for human occupancy, the competent inspector shall tag the scaffold as unsafe and notify the builder.

Scaffold users shall also inspect the scaffold before each use. The following Checklist is provided for user. In the event the user finds that any item on the Checklist is not true, the user should tag the scaffold with the red tag and indicate the discrepancy. For items that deal with the construction of the scaffold, a qualified person should be contacted.

1. The scaffold must have a tag that is properly filled out. Do Not Use An Untagged Scaffold!
2. The maximum intended load that will be placed on the scaffold is known and is less than the maximum load-carrying capability of the scaffold.
3. The scaffold bays appear to be plumb and level and scaffold base plates are on firm footing.
4. Scaffold bracing is in place.

5. Scaffold platforms are fully planked and extend at least 6 inches over the end supports.
6. Guardrails are in place.
7. Overhead obstructions are noted on the yellow tag.
8. No unprotected electrical lines are within 10 feet of the scaffold.
9. Safe access is provided.
10. Rolling scaffolds must have wheels locked and diagonal braces present to keep uprights squared properly.
11. If the ladder extends into a roadway, roadway is marked and scaffold access ladders are protected from vehicle traffic.

ATTACHMENT A

This is an example of a GREEN (Scaffold Ready for Access) scaffolding tag. It is used to identify complete scaffolds.

Any scaffold with this tag may be accessed.

Scaffold Ready for Use Builder Signature: Date Completed: Pre-Use Checklist reviewed:

Green in color

ATTACHMENT B

This is an example of a RED (Scaffold Not Ready for Access) scaffolding tag. It is used to identify incomplete scaffolds.

Any scaffold with this tag shall not be accessed.

Scaffold NOT Ready For Use List Hazards: Reviewed by:

Red in color

ATTACHMENT C

This is an example of a YELLOW (Scaffold Ready for Access) scaffolding tag. It is used to identify complete scaffolds.

Any scaffold with this tag may be accessed.

Scaffold USE WITH CAUTION Builder: Date: List Hazards: Reviewed by:

Yellow in color

ATTACHMENT D

Date of Inspection:	Time:
Location of Scaffold:	
Inspected by (Designated Competent Person):	

BEFORE USING THE SCAFFOLD

- ☐ Has this work location been examined before the start of work operations and have all the appropriate precautions been taken?
  e.g. checking for: overhead objects, falling or tripping hazards, uneven ground, opening onto a door.
- ☐ Will fall protection be required when using this scaffold?
- ☐ Has the scaffold been setup according to the manufacturer's instructions?

General Rules for All Scaffolds	**YES**	**NO**	**N/A**
Scaffold components can support at least four times their maximum intended load.			
Scaffold is fully planked – No more than 1 inch gap between planks.			
Platform is at least 18 inches wide (12 inches on pump jacks).			
Guardrails are used or personal fall arrest system is used, if work height is over 10 feet. Guardrail system: ☐ Handrail ☐ Mid-rail ☐ Toeboard ☐ Posts			
Scaffold is 14 inches or less from face of work, if workers remove front guardrails (18 inches for plasterers).			
Planks do not extend past the ends of the scaffold frames more than 12 inches.			
Casters are locked before work begins.			
Work platform is free of clutter, mud, snow, oil, or any tripping hazard.			
Minimum power line clearance (10 feet)			
If the scaffold is defective, has it been removed from service and tagged out?			
General Rules for Access			
No more than 2-foot step up or down or a 14-inch step across to get on or off a platform.			
Ladder first rung is not more than 24 inches above the ground.			
Hook-on and attachable ladders are designed for the scaffold.			
Add-on ladders must have a rung length of at least 11 ½ inches			
Built in ladders (part of the scaffold frames) must have a rung length of at least 8 inches.			
Rungs line-up vertically for the entire height of the scaffold.			
Cross braces are not used for climbing up or down the scaffold.			

☐ **Scaffolding is complete and compliant per OSHA Standards and safe to use**

☐ **Scaffolding is incomplete. DO NOT USE!**

Signature of Competent Person: _____ Date: _____

Short Service Employee

Purpose

This procedure provides guidelines for a Short Service Employee (SSE) Program to appropriately supervise, train and monitor new employees, both experienced and inexperienced. The purpose of the program is to ensure that all new hires, regardless of their experience, are properly onboarded and trained on the company's policies and procedures, work practices, management and client expectations, and other company-specific requirements before they are authorized to work independently. The objective of this programs is to improve the safety of all of the employees on the jobsite.

This program will define the time frame under which an employee is considered an SSE, and how their past work experience performing the same job, or tasks, will impact their designation as an SSE.

Definitions

Short Service Employee: All new hires with less than 30 days of employment with C & C Oilfield are considered a Short Service Employee. All new employees will be put into the Short Service Employee Program and assigned to a mentor. SSE's will graduate from the Short Service Employee Program at different intervals based on their knowledge and experience with the company and in the industry.

Inexperienced Worker: An employee with less than 6 months of oilfield experience. All inexperienced workers are designated SSEs because they do not have the experience necessary to recognize and react to the industry hazards and abnormal operating conditions. Inexperienced workers will work closely with their mentor to develop knowledge and skillset necessary to graduate from the program. Inexperienced workers will be identified with a green hardhat.

Short Service Experienced Worker: Short Service Experienced Workers are those new employees that have at least 6 months of experience in the industry and in the job for which they are being hired but are new to C & C Oilfield. Experienced workers that are new to the company will be designated SSEs for at least 30 days and longer if necessary. Experienced SSEs will have to demonstrate their ability to correctly perform the job/task they have been hired for safely before they will be considered for graduation from the SSE Program. In addition, experienced SSEs will have to learn all company policies and procedures, work practices and expectations before they are eligible to graduate from the SSE Program. Short Service Experienced Workers will be identified with a green sticker on a standard hardhat.

SSE Mentor: An SSE Mentor is a C & C Oilfield Employee with the knowledge and skillset to monitor and train new employees. Mentors should be patient, thorough, and detail-oriented in their training and preparing of new employees. Mentors should have no less that 12 months of

employment with the company and at least as much performing the job/task for which they are mentoring the new employee.

Notification

Prior to mobilizing for a job, C & C Oilfield will notify the client if SSE personnel will be engaged on the job and how those personnel can be identified.

All JSAs conducted on the jobsite will include mention of Short Service Employees and the additional precautions that will be taken to ensure the safety of everyone on location. Topics for the JSA should include experience level of the crew members, the "mentoring process", and ways to minimize health, safety, and environmental exposure with inexperienced workers in the crew.

Supervisor Responsibilities

- Ensure SSE Mentor maintains proper knowledge and skills in the particular job task they are assigned to mentor
- Ensure SSE Mentor is adequately training the SSE in the job they will be performing and all of the related policies and procedures—especially those pertaining to health and safety.
- Confirm the Short Service Employee is gaining the particular knowledge and skills in the particular job tasks
- Verify the Short Service Employee is appropriately identified and following all applicable health and safety guidelines and other client/company policies.
- Ensure SSEs are not working alone and crews do not have more than a 5 to 1 ratio of crew members to SSEs.

SSE Mentor Responsibilities

- Have the desire to be a mentor in order to strengthen the company workforce
- Have a patient disposition and be willing to devote the necessary time to succeed as a mentor
- Remain onsite with the SSE to monitor their performance and compliance with safety policies and procedures. Intervene when necessary to prevent injury, damage, or non-compliance. A mentor should only be assigned to one SSE or one crew containing SSEs at a time.
- Be willing and able to effectively listen to the SSE to determine if they are learning and retaining the knowledge and skills being taught. Answer any questions or concerns the SSE has in a constructive manner.
- Be willing to watch an SSE perform a job without interfering as long as the SSE is not in a position to hurt themselves or others, won't damage equipment, or do something that could compromise the integrity of the project.

- Provide a positive SAFETY attitude, avoid criticism, and strive to build confidence and self-esteem in the SSE
- Be able to teach the SSE the proper way to create a quality JSA and to follow that JSA in performing tasks
- Demonstrate a good example
    - Keep a positive work ethic at all times
    - Follow all company and client policies and procedures
    - Promote the company standards and culture
- Monitor your assigned SSE for competency and compliance with health, safety and environmental policies and procedures. Work with management to strategically graduate your SSE in accordance with their ability and experience.

Short Service Employee Responsibilities

- Maintain an open mindset and be ready to learn from your assigned mentor. Be proactive in learning the tasks you are being taught in order to be successful in the SSE Program.
- Read the company Health and Safety Manual and other company documents to learn all of the applicable policies and procedures you will be expected to follow. Ask questions if you do not understand any policy or procedure.
- Comply with all company policies and procedures.
- Maintain a positive attitude towards SAFETY and comply with all company and client health and safety requirements
- Stop and report unsafe conditions at any time
- Participate in safety meetings and JSAs. Learn the process for completing the JSA in order to contribute when applicable.
- Wear your appropriate SSE Identification (hardhat/sticker) at all times for your safety and the safety of those working around you.

Training

The supervisor and/or mentor shall ensure that each SSE is properly trained in:

- The hazard(s) present in the work place
- The policies, procedures, processes and PPE utilized to control these hazards to prevent injuries, property damage and/or environmental incidents
- The skills necessary to safely conduct their assigned jobs correctly

The supervisor shall ensure that each SSE is properly trained per Federal, State, Industry, Company, and Operator requirements before starting work when:

- The employee is first hired
- The employee is appointed a new job assignment

- The employee is exposed to new substances, processes, procedures, equipment, etc. that represent a new hazard to the employee

Supervision

The supervisor and SSE Mentor will provide supervision and prevent the SSE from performing any task for which they have not been properly trained. The Supervisor and the SSE Mentor shall ensure that the SSE understands the task to be performed, the appropriate steps to complete it, and the associated hazards.

Graduation from SSE Program

Once an SSE has met the required time period for graduation from the SSE Program, their assigned SSE Mentor provide management with their recommendation regarding the SSE. The Mentor can recommend graduation or additional time in the program based on their observations and experience with the SSE. The SSE Mentor should turn in all of the collected SSE Checklists (observations) along with the recommendation in order for management to decide how to proceed with the SSE. If management determines that the SSE has met demonstrated proficiency and competence for the job, compliance with all applicable policies and procedures and is a good fit for the company, the SSE will graduate from the program. Once graduated, the SSE can wear a standard hardhat without any SSE identification.

Subcontractors

Any subcontractor working for C & C Oilfield will be expected to comply with this Short Service Employee Program and advise C & C Oilfield of any SSEs deployed to perform work on C & C Oilfield projects. C & C Oilfield may, at its sold discretion, ask for additional information or documentation to ensure compliance with the program.

Respirable Crystalline Silica

Scope

These procedures apply to all C & C Oilfield employees. The procedures must be used where applicable in conjunction with other activities that may produce respirable crystalline silica such as:

- Masonry Saws
- Power Saws
- Walk-behind saws
- Drivable saws
- Rig- mounted core saws or drills
- Handheld and stand-mounted drills
- Dowel drilling rigs
- Vehicle-mounted drilling rigs
- Jackhammers and handheld powered chipping tools
- Handheld grinders
- Walk-behind milling machines and floor grinders
- Drivable milling machines
- Crushing Machines
- Heavy equipment and utility vehicles utilized in the fracturing and/or demolition activities
- Abrasive Blasting

Workplace Monitoring

Unless exact concentrations of hazardous substances are known, (in the absence of analysis), any concentrations and/or amount of substance shall be considered IDLH. When this condition does exist, personal protection equipment shall be provided for extreme (high) concentrations (worst case scenario). Full shift personnel samples are to be a representative of the employee's regular, daily exposure to silica.

If analysis is conducted, personal protective equipment shall follow all Safety Data Sheet requirements as to the found concentration levels. For example, respirable crystalline silica exposures (at a minimum) must not exceed the OSHA TWA of 25µg/m^3 averaged over an 8-hour-period. When feasible engineering controls and work practice controls cannot reduce worker exposure to respirable crystalline silica at or below 25µg/$m^{3,}$ respirators must be used to supplement the use of engineering and work practice controls.

At all times, engineering practices, such as: exhaust ventilation, enclosure/encapsulation, isolation, etc., will be utilized initially to remove hazardous substances. If ventilation is used, analysis must still be conducted to determine that levels are within acceptable ranges. In the absence of analysis, even when engineering practices are used, condition remains IDLH.

Personal Protective Equipment

All personnel who are performing functions that produce respirable crystalline silica and anyone working inside the designated area must wear PPE. Protective clothing should include heavy coveralls or a special blast suit, designed to protect the employee from flying debris. Some area may require fire-retardant clothing. **NOTE:** Leather gloves, eye protection, and safety shoes must be worn.

Respirators

When conditions expose employees to the action level of respirable crystalline silica, respirators shall be provided. Table 1 of 1926.1153 (c) is listed below for reference in regards to respirator usage. Any task performed by the employee not listed in the table shall utilize a respirator until monitoring or representative sampling can be performed. For further detail, refer to the C & C Oilfield respiratory protection policy.

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	− When used outdoors.	None	APF 10
	− When used indoors or in an enclosed area.	APF 10	APF 10
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. − When used outdoors. − When used indoors or in an enclosed area.	None APF 10	None APF 10
(v) Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.		
	− When used outdoors.	None	APF 10
	− When used indoors or in an enclosed area.	APF 10	APF 10
	OR		
	Use tool equipped with commercially available shroud and dust collection system.		
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.		
	− When used outdoors.	None	APF 10
	− When used indoors or in an enclosed area.	APF 10	APF 10

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism. − When used outdoors. − When used indoors or in an enclosed area.	None None	None APF 10

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.	None	None
	For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.	None	None
	OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		≤ 4 hours /shift	**> 4 hours /shift**
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None

Employee Training

No employee is permitted to perform any silica causing functions until he/she has fulfilled the respirable crystalline silica policy requirements, including a respirator fit test, medical evaluation, and respiratory protection training. All employees who's exposure meets or exceeds the action level (8-hour TWA of 25µg/m^3) of respirable silica will be medically evaluated.

All C & C Oilfield employees that participate in abrasive blasting will receive training, as well as refresher training, in the following areas:

- Information about the potential harmful effects of silica exposure
- Safety Data Sheets for silica.
- Instruction about obeying signs that mark boundaries of work areas containing crystalline silica
- Discussion about the importance of engineering controls, personal hygiene, and work practices in reducing crystalline silica exposure
- Instruction about the use and care of appropriate protective equipment (including protective clothing and respiratory protection)
- Overview of the respirable crystalline silica rule and
- Written exposure plan review. The written exposure plan shall be available for both viewing and copying. This can be done physically or electronically.

Written Program Effectiveness

All personnel will be trained and medically tested to work within the confines of the plan. The written program will be reviewed and updated at least annually to reflect significant changes in C & C Oilfield compliance status such as regulatory updates, changes in equipment, and exposure incidents.

Housekeeping

Good housekeeping must be maintained to assure the safety of all C & C Oilfield employees in relation to respirable crystalline silica dust. Housekeeping techniques that should be avoided are as follows:

- Dry brushing
- Dry sweeping
- Cleaning using compressed air

Housekeeping techniques that should be utilized are as follows:

- Wet sweeping
- HEPA-filtered vacuuming system that can effectively capture silica dust and particles.

Medical Surveillance Program

Employees who, for 30 days or more per year, perform any task, operation or job for which exposures meet or exceed the action level of 8-hour TWA of 25µg/m3 of respirable crystalline silica or who would be required to wear a respirator more than 30 days are covered by the medical surveillance provisions. A baseline assessment shall be performed within 30 days of initial assignment unless a previous medical examination within the past three years has been conducted and meets the criteria of this policy. Medical examinations and procedures shall be performed by or under the supervision of a licensed physician without cost to the employee. Each affected employee shall individually notified in writing of the results of the assessment or post the results in an appropriate location accessible to all affected employees. Whenever an exposure assessment indicates that employee exposure is above the PEL, C & C Oilfield shall describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

C & C Oilfield will maintain all exposure and medical surveillance records, and will make the records available to the employee and his representative. This shall include any air monitoring and/or objective data.

Silicosis: Signs and Symptoms and Adverse Health Effects

When workers inhale the crystalline silica, the lung tissue reacts by developing fibrotic nodules and scarring around the trapped silica particles. This fibrotic condition of the lung is called silicosis. If the nodules grow too large, breathing becomes difficult and death may occur. Silicosis victims are also at high risk of developing active tuberculosis.

A worker may develop any of three types of silicosis, depending on the airborne concentration of crystalline silica:

- **Chronic silicosis** usually occurs after 10 or more years of exposure to crystalline silica at relatively low concentrations.
- **Accelerated silicosis** results from exposure to high concentrations of crystalline silica and develops 5 to 10 years after the initial exposure.
- **Acute silicosis**, which occurs where exposure concentrations are the highest and can cause symptoms to develop within a few weeks to 4 or 5 years after the initial exposure.

Silicosis is characterized by shortness of breath, fever, and cyanosis (bluish skin); it may often be misdiagnosed as pulmonary edema (fluid in the lungs), pneumonia, or tuberculosis. Silica dust causes severe fungal infections to develop. This condition could be fatal.

Spill Prevention and Response

General

C & C Oilfield employees work around various chemicals while performing their job. A product release or spill is always feasible, so attention to safety and prevention is critical. These spills pose physical hazards (combustible liquid and/or gases), and health hazards (carcinogens, corrosives). Some spills require professionally trained responders (i.e. Hazwoper), so be certain to reference the appropriate SDS whenever there is a release of product.

Training

C & C Oilfield employees must be instructed on the proper response procedures for spilled materials. The training should include materials available for use, proper waste disposal, practices for preventing spills, and communication procedures. Furthermore, it shall include those processes and materials that are within the employees designated area, the hazards associated with the process and material and the procedures for properly storing the material along with any special requirements for cleanup.

Procedures

While working with or around any chemical, an employee must know what engineering controls, and safe work practices have been implemented for his/her safety, and what personal protective equipment is required while performing the job.

Chemical substances should be stored in proper containers to minimize the potential for a spill. Furthermore, the chemical shall be compatible with the container along with the environment that they container and/or chemical is stored. Whenever possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water. Areas where chemicals may be used or stored must be maintained using good housekeeping practices. This includes cleaning and good organization, labeling of containers, and a secondary containment where necessary.

Safety Data Sheets will serve as the primary source of information regarding handling, spill, contact, and clean-up procedures. A complete material inventory shall be maintained along with the SDS sheets to identify the risks, hazards and potential spills.

Response to spills and releases should adhere to the following procedures (each situation will dictate different responses based on spill types/amounts, and these are general procedures):

1. Report all spills to clients and C & C Oilfield immediately (degree of spill amount, reporting and related hazards are left up to the decision of client and management). Depending on the size and/or type of spill, formal written reports along with notification to applicable local, state and federal agencies may be required.

2. A proper spill kit must contain the appropriate supplies for materials that may be spilled. Supplies must be easily accessible when required, and considerations must be made for both the type and quantity of materials.

3. Summon emergency services per client and management directives.

4. Do not enter the contaminated area without respiratory and skin contact protection. Enter only if you have the appropriate training.

5. Do not try to rescue the person by holding your breath and entering the contaminated area.

6. Even with proper respiratory protection, do not enter a contaminated area without standby help.

7. As soon as the victim is in a safe area, personnel should conduct an assessment to determine if the victim is breathing and perform cardiopulmonary resuscitation (CPR) if needed.

8. Any employee who experiences a significant exposure to any hazardous substance, either liquid or vapor, must report the incident to the supervisor immediately. The supervisor ensures that the safety department has been contacted, and Safety will initiate the applicable protocol for testing and medical response.

9. If toxic materials contact the skin or clothing, remove the contaminated clothing and refer to SDS for first aid procedures. Launder these clothes separately.

10. Clean up of spilled material is based on Safety Data Sheets and those persons conducting clean up will be trained and equipped to do so.

11. Personnel should avoid ditches, bell holes, ravines, and other low-lying areas where vapors, fumes, or mists may collect.

12. If necessary, evacuation should be upwind and crosswind.

Stop Work Authority

Purpose

The purpose of this procedure is to ensure that all C & C Oilfield employees are given the responsibility and authority to stop work whenever any of the following conditions exist:

1. Employees believe that a situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger
2. That could adversely affect the safe operation or cause damage to the facility
3. That could result in a release of chemical or radiological effluents to the environment above regulatory requirements or approvals
4. This procedure extends the authority to stop work to situations where an employee believes there is a need to clarify work instructions, or to propose additional controls

C & C Oilfield employees are encouraged to contribute ideas towards, or provide a method for resolving the issue.

Scope

This procedure is applicable to all personnel working at the jobsite.

Responsibilities and Roles

C & C Oilfield employees are responsible to initiate a Stop Work intervention when warranted, and management is responsible to create a culture where Stop Work Authority is exercised freely without potential for retribution.

Employees

- The responsibility and authority to stop work or decline to perform an assigned task without fear of reprisal, to discuss and resolve work and safety concerns. The Stop Work may include discussions with co-workers, supervision, or safety representative to resolve work-related issues, address potential unsafe conditions, clarify work instructions, or propose additional controls, etc.
- The responsibility and authority to initiate a Stop Work immediately when the employee believes a situation exists which places himself/herself, a coworker(s), or the environment in danger or at risk.
- All employees have the authority and obligation to stop any task or operation where concerns or questions regarding the control of HSE risk exist.
- Are expected to report any activity or condition for which they have initiated a Stop Work. Notification should be made to the affected worker(s), and to the supervisor or their supervisor's designee at the location where the activity or condition exists.

Stop Work

- The responsibility to notify their supervisor if a raised Stop Work issue has not been resolved to their satisfaction through established channels prior to the resumption of work.
- All Stop Work Interventions shall be documented for lessons learned and corrective measures to be put into place.
- Stop Work reports shall be reviewed by supervision in order to measure participation, determine quality of interventions and follow-up, trend common issues, identify opportunities for improvement, and facilitate sharing of learnings.
- Employee can contact their safety representative with a concern, or to initiate a stop work, if the employee prefers to remain anonymous.

Management/Supervisor/Person in Charge (PIC)/ Field Work Supervisor (FWS)

Management and supervision are committed to promptly resolve issues resulting from an employee-raised Stop Work [10 CFR 851.20]. Management (e.g., Directors, Managers, Supervisors) responsibilities are to:

- Resolve any issues that have resulted in an individual stopping a specific task(s) or activity before returning to work.
- Provide feedback to individual/s and the affected work group who have exercised their Stop Work responsibility on the resolution of their concern prior to resuming work. If the employee that issued a stop work is not available due to reasons such as vacation, shift change, or training, then the supervisor provides the feedback to the safety representative prior to resuming work.
- Ensure no actions are taken as reprisal or retribution against individuals who raise safety concerns or stop an activity they believe is unsafe.

Safety Representatives are expected to:

- Assist employees, supervision and management in the resolution of safety issues and concerns.
- Immediately contact management and work to resolve issues when an employee has called a situation to their attention that has not been resolved.
- Discuss resolution with employees involved in a work stoppage where resolution was completed after their shift or when they were unavailable, or where he/she acted as their representative in reaching resolution.
- Work as the agent of an employee that prefers to remain anonymous to work directly in the resolution of the stop work.

- Be sure that all employees have received Stop Work Authority training before any initial assignment. The training must be documented including the employee's name, the dates of training and subject.

Process

1. **STOP**
2. Notify
3. Correct
4. Resume

When an unsafe condition is identified the Stop Work Intervention will be initiated, coordinated through the supervisor, initiated in a positive manner, notify all affected personnel and supervision of the stop work issue, correct the issue, and resume work when safe to do so.

1. Stop work if an activity or condition is believed to be unsafe, such as:
    a. A situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger;
    b. A situation could adversely affect the safe operation or cause damage to the facility; or
    c. A situation could result in a release of chemical or radioactive effluents to the environment above regulatory requirements or approvals.
    d. To clarify work instructions or to propose additional controls
2. Ensure the work/activity is in, or placed in a safe condition and immediately notify supervision/management and affected workers when you stop work or decline to perform an activity.
3. Resolve any issues that have resulted in an employee stopping work or an activity.
4. It is the desired outcome of ANY Stop Work Intervention that the identified safety concern(s) has been addressed to the satisfaction of all involved employees prior to the resumption of work. Additional investigation or follow-ups may be required to identify and address root causes.

Trenching, Excavation and Shoring Safety

Objectives

To provide guidelines to ensure:

- Personnel are protected during excavation activities
- Clients' facilities are protected during excavation activities
- Requirements of OSHA Standard 29 CFR 1926.650 are met

Scope

All C & C Oilfield employees and contractors working on or near excavations and trenching activities shall be certified to perform their role in excavation work and should adhere to the following guidelines.

Requirements/Guidelines:

1. To protect employees against cave-ins, a protective sloping, benching, shielding or shoring system must be installed in each excavation:
2. All soil is to be assumed to be class C soil. Slope ratios of 1.5:1 or above, an engineering evaluation is mandatory to determine the most suitable shoring methods based on the specific soil properties and slope stability.
3. In excavations more than 4 feet in depth or in excavations less than 4 feet if there is any indication of cave-ins, shielding and shoring systems must be designed and constructed to withstand the anticipated loads.
4. C & C Oilfield will have a Competent Person on-site who is capable of identifying existing and predictable hazards in the surroundings, and who can take prompt corrective measures to eliminate such hazards. This person must be on-site during all excavation activities where the potential for employee injury exists.
5. The pipeline, all valves, sleeves, and other appurtenances must be properly supported at all times during excavation, repair, and backfill operations.

Permit-Required Confined Space

If a C & C Oilfield client requires a trench to be labeled a permit-required confined space or if a hazard conditions exists that require a confined space permit, then a confined space permit must be completed. In addition, rescue equipment must be available and attended, and all other components of the confined space permit shall be followed.

Excavations more than 20' feet deep

Excavations more than 20' feet deep must be designed by an engineer educated and certified for excavation projects of this nature.

Before Excavations Take Place

- Review facility drawings/pipeline atlas.
- Place all calls to DigTess (One Call notification) with at least 48 hours notice and document this call.
- Conduct line finding operations
- Probe all lines
- Consider electrical hazards especially near rectifiers
- Consult with persons that may have information about existing underground facilities, so that the underground facilities can be protected, supported, or removed as necessary to safeguard employees
- If a utility company or owner cannot respond to a request to locate underground utility installations within 24 to 48 hours, or cannot determine the exact location of these installations, C & C Oilfield may proceed, provided supervisors and equipment operators exercise caution and utilize detection equipment or other acceptable means to locate utility installations.
- **Management/Field Supervision:** Before excavation activities begin, management must ensure that every employee or subcontractor working around the proposed excavation has received the necessary training. Furthermore, the manager must verify that those employees assigned excavation-related responsibilities are trained and qualified to perform those duties and have the tools necessary to perform them safely and appropriately.

Hazard Recognition and Prevention

An excavation must be inspected daily by a Trenching/Excavation Competent Person before anyone enters excavation or any work is done and after every hazard-increasing occurrence (ie. rainstorm, equipment vibration, or pipe move, etc.) to detect:

- Potential cave-ins
- Failure of protective systems and hazardous atmospheres
- Potential for personal injury
- Soil subsidence, cracking, shifting, or water undermining and seepage indicate potential cave-ins.
- Hazardous atmospheres: tests should be conducted for air contaminants (oxygen, flammable gases, etc.) and ventilation provided where necessary.
- Employees must be protected from water accumulation. Such precautions could include a support or shield to protect against cave in, a pump to prevent accumulation, or a harness and lifeline. A competent person must inspect the integrity of the sides of a trench before work may commence where water accumulation is present.

- Competent persons should examine the possibility of cave-ins, failures or protective systems, etc. If problems are found, provisions should be made for immediate personnel removal.

If any hazard is identified, corrective action must be taken immediately.

Diversion ditches or dikes should be used to prevent natural drainage from entering an excavation. The Competent Person must determine if accumulated water impacted the excavation and the protective system that needs to be utilized prior to anyone entering the excavation.

Note: All C & C Oilfield Supervisors and persons responsible for erecting trenches have received Competent Person training and will follow all aspects of this training as well as each component of the Excavation Permit. These persons will conduct the daily excavation inspections.

Excavation Requirements and Precautions

- Ladders or ramps (earthen or structural) must be used to enter and exit excavations that are 4 feet deep or deeper.
- Ladders or ramps for access and egress must be positioned such that all employees have a means of egress within 25 feet of lateral travel. Ladders will be secured at the top to prevent tipping or falling and extend at least 3 feet above grade.
- Keep heavy equipment and vehicles as far away from the edge of the excavation as practical.
- Keep spoil at least 2 feet away from the edge of the excavation.
- Do not lift loads over personnel, and personnel should not work under loads while they are being lifted. This responsibility rests with both parties.
- Where employees or equipment are required or permitted to cross over excavations, walkways or bridges will have standard guardrails, mid rails and toe boards. Guardrails must be utilized where walkways are 6 feet or more above lower levels.
- Unattended excavations must be barricaded. This includes leaving work at the end of the day. Post “Open Pit” signs in clear view along the barricade.
- Atmospheric monitoring is required on trenches 4 feet deep or more if there is a potential for explosive environments, low oxygen content, or other hazardous or toxic atmospheres.
- When trenching is conducted near vehicular hazards, employees will be provided orange or fluorescent green reflective vests. These vests are worn when hazards are present. If necessary, signs and barricades should be installed as well as flaggers and spotters.

Determining Pipeline Location

To protect against electrical shock or line puncture, insulated probe bars should be used when probing through soil to identify underground facilities.

If any foreign facility is located within the area of proposed excavation, the exact location and depth of the facility should be determined:

- By probe inspections and hand-digging
- In the presence of the C & C Oilfield client/pipeline owner
- With as many test pits as necessary

If it is possible to determine (by electronic line locating devices or mechanical inspection probes) the approximate horizontal and vertical location of the facility, powered excavation equipment may be used during the initial excavation period. However, no powered excavating equipment will be used within a tolerance zone of 18 inches of a facility until its exact running depth (linear) and size are verified by actual probing rod inspection and placement of the probe rod at the line.

Probing should be used to identify additional lines that may not be identified in facility documentation. In some cases, hand digging may be the only way to do the work safely. If this is to be the chosen form of facility exposure, each person hand digging should be given adequate breaks and watched closely by the supervisor.

Erosion Control

C & C Oilfield will maintain temporary and permanent erosion control measures before, during, and after excavation to prevent right-of-way damage, stream pollution, and public inconvenience.

Support Systems

Where the stability of adjacent structures may be compromised by excavation, support systems (shoring or bracing) must be installed.

Remove or support any surface objects in the area before excavation begins. Do not undermine the base of a foundation, sidewalk, pavement, or similar structures unless a support system is installed.

Soil Classifications

The soil exposed by an excavation may be homogenous or composed of multiple layers with various stabilities. The stability of each layer must be classified as (in decreasing order of stability): Stable rock, Type A, Type B, or Type C. Soil types are defined below:

Stable Rock: Solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Type A Soil: Cohesive soils with an unconfined compressive strength of at least 1.5 tons per square foot (tsf). Examples are clay, silty clay, sandy clay, and clay loam. Soil cannot be classified Type A if it is fissured, subject to vibration, or previously disturbed.

Type B Soil: Cohesive soil with an unconfirmed compressive strength greater than .5 tsf. Type A soil that is fissured or subject to vibration.

Unstable rock: Material that is part of a sloped, layered system where the layers slant toward the excavation on a slope less steep than 4 horizontal to 1 vertical.

Type C Soil: Cohesive soil with an unconfined compressive strength of .5 tsf or less. Includes:

- Granular soils like gravel, sand, sandy loam
- Unstable submerged rock
- Submerged soil
- Soil from which water is seeping
- Material in a sloped, layered system where the layers slant toward the excavation on a slope of 4 horizontal to 1 vertical or steeper.

"Mud" is not a soil classification. Soil must be classified based on a visual and a manual analysis.

Visual Test

Observe the excavation site, soil adjacent to the excavation, soil forming the sides of the excavation, and soil samples from excavated material.

Soil that is primarily composed of fine-grained material is considered cohesive: it will remain in clumps when excavated. Soil composed primarily of coarse-grained sand or gravel is granular material: it breaks up easily when excavated.

Check the sides and surface of the excavation for:

- Cracks (fissures)
- Fallen chunks of soil
- Layered systems
- Water run-off or seepage

Observe the excavation and the adjacent area for evidence of previously disturbed soil and sources of vibration (traffic or equipment).

Manual Test

To estimate the unconfined compressive strength of cohesive soils, pick up a large clump of undisturbed soil and apply pressure to it with your thumb. The thumb can readily indent Type A soil, but cannot easily penetrated it. With regular effort, the thumb can penetrate Type B soil. Type C soil is easily penetrated several inches by the thumb, and can be molded by light finger pressure.

Soil must be re-classified when factors or conditions may change it in any way (i.e. rain, flooding, and vibration, etc.).

Excavating

Only qualified power equipment operators will be permitted to excavate in the close proximity of an underground facility. C & C Oilfield prefers that a client representative be present when excavating in these situations.

Every reasonable precaution to prevent damage to underground facilities must be taken. Any accidental damage to pipe, coating, valves, corrosion protection wires, or other accessories must be reported immediately to the local supervisor. Damages requiring repair will be repaired before back filling.

C & C Oilfield Supervisors and client representatives will discuss covering the teeth of the bucket with a metal plate. This is a good practice and is encouraged by C & C Oilfield management.

Precautions must be taken to protect against the hazards of soil instability and unsafe accumulation of vapors. Trenches may be considered confined spaces and will go on confined space entry permits based on free product being visible, vapor/gas seepage is probable, and/or a hazardous atmosphere exists.

A protective sloping, shielding, or shoring system must be installed in excavations over 4 feet deep or as soil conditions warrant.

Protective Systems

Sloping

Where field conditions permit, sloping is the preferred protective system. The slope of an excavation face is expressed as the ratio of horizontal distance to vertical rise (H:V).

All unsupported excavations more than 5 feet deep must be sloped at an angle no steeper than the maximum allowable slope. Maximum Allowable Slopes:

Soil/Rock Type	Allowable Slope
Stable rock	Vertical (90°)
Type A	¾: 1 (53°)
Type B	1:1 (45°)
Type C	1 ½: 1 (34°)

A short-term excavation (open 24 hours or less) in Type A soil that is 12 feet deep or less has a maximum allowable slope of ½: 1 (63°).

Maximum allowable slopes apply to layered soil conditions. However, when a less stable soil layer is located below a more stable soil layer, the less stable soil layer must determine the degree of slope for all of the excavation above the layer.

Retaining barriers should be installed as needed on the excavation slope to stop and contain any falling rocks, materials, or equipment.

Benching

The maximum allowable slopes identified in the sloping section may not be exceeded when incorporating benching as a protective system.

Shielding Systems

Shielding systems are designed to protect employees in case of a cave-in. They are not designed to support the sides of an excavation.

Pre-manufactured shielding systems must be used in accordance with the manufacturer's recommendations and limitations.

Job-built shielding systems should be avoided, but if needed (narrow trenches), must be constructed in accordance with tabulated data designed or approved by a registered professional engineer.

Shields must be installed in a manner to restrict lateral movement.

Shields must be installed at least 18 inches above the top of the vertical side of the excavation.

Side excavations around a shield must not exceed 2 feet below the bottom of the shield.

Employees are not allowed in a shielding system when it is being installed, removed or moved horizontally.

Shoring

An aluminum pneumatic, aluminum hydraulic, or timber shoring system must be installed in trenches, except stable rock, that are not protected with sloping or shielding.

Soil must be classified prior to installing a protective shoring system.

Support members of a shoring system may include cross braces, wales, uprights, and wood and steel sheeting.

Members of the support system must be securely connected together, starting at the top of the excavation and working downward.

The shoring system must be installed tight against the walls of the trench to avoid impact loading.

Keep all members of the shoring system as straight as possible. Do not walk or climb on support members.

Side excavations must not exceed 2 feet below the bottom of support members.

Removal of shoring must start at the bottom of the trench and work backward.

Backfilling must begin immediately after the removal of the shoring system. No personnel entry after the system is removed.

Training

All C & C Oilfield employees who work in or around excavations shall receive training when hired and at least annually thereafter. Training will include, but not be limited to, all of the components and material covered in this program, ground markings, other relevant elements of safe digging to prevent the striking of a pipe, and applicable local rules related to digging, including any tolerance zones.

Accident-Incident Reporting and Investigation

All incidents, no matter how minor, must be reported to a supervisor immediately. Subcontractors must also comply with this requirement. "Immediately" is defined as within fifteen (15) minutes of the incident, or sooner if the situation dictates. When an incident occurs, it must be reported in a specified manner. See the **Accident-Incident Reporting and Investigation policy** in this manual for additional guidance and instruction. Owner Clients require all incidents to be reported including injuries, spills, property damage, fires, explosions, and vehicle damage.

All incidents that result in any damage to any buried infrastructure must be reported to the appropriate agency within the appropriate timeframe. The appropriate agency will vary by location of the incident.

Written incident reports should be prepared and include an incident report form and a detailed narrative statement concerning the events. The format of the narrative report may include an

introduction, methodology, summary of the incident, investigation board member names, narrative of the event, findings and recommendations. Photographs, witness statements or drawings should be included.

The information gathered in the Investigation Report will be utilized to develop a Root-Cause Analysis—the primary cause of an incident. All incidents will be investigated to the appropriate level with regards to incident severity. Management may require the individuals involved in the incident to meet and discuss the incident. If so, the entire incident scenario will be discussed and recommendations made. The Safety Department will record all notes taken during the Root-Cause Analysis and make the final report available, with recommended actions and date of completion, to all affected employees.

The Root-Cause Analysis will be the basis for Corrective Action. Once the cause of the accident/incident is established, executive and field-level management will work with the safety department to determine what, if any, corrective action must be taken to ensure the accident/incident isn't repeated. Once Corrective Action is determined, executive management will determine who should be responsible for the implementation of the identified action, and all affected C & C Oilfield employees and subcontractors will be provided the findings, corrective action, and steps necessary to complete the corrective action.

Stop Work Authority

All C & C Oilfield employees are given the responsibility and authority to stop work whenever any of the following conditions exist:

1. Employees believe that a situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger
2. That could adversely affect the safe operation or cause damage to the facility
3. That could result in a release of chemical or radiological effluents to the environment above regulatory requirements or approvals
4. This procedure extends the authority to stop work to situations where an employee believes there is a need to clarify work instructions, or to propose additional controls

C & C Oilfield employees are encouraged to contribute ideas towards, or provide a method for resolving the issue.

C & C Oilfield employees are responsible to initiate a Stop Work intervention when warranted, and management is responsible to create a culture where Stop Work Authority is exercised freely.

C & C Oilfield management, supervisors, and persons in charge are committed to promptly resolve issues resulting from an employee-raised Stop Work [10 CFR 851.20], and will ensure

no actions are taken as reprisal or retribution against individuals who raise safety concerns or stop an activity they believe is unsafe.

C & C Oilfield

Trenching, Excavation, and Shoring

To: All C & C Oilfield Employees

C & C Oilfield is committed to safe digging practices such as “call before you dig” and following any applicable state and local laws related to excavations.

_____ _____

C & C Oilfield Executive Signature Date

I agree to follow the guidelines and policies set in this program. Before I conduct any task I will understand all C & C Oilfield safety policies and my role and responsibilities in preventing incidents during excavations. I understand that working safely is the key to efficient production, my personal safety and the safety of my co-workers. I will bring to the attention of my Supervisor or member of Management any safety concern I may have.

_____ _____

Employee Signature Date

_____ _____

C & C Oilfield Signature Date

Vacuum Trucks

Overview

This procedure defines the methods and responsibilities for safe control and operation of vacuum and pneumatic trucks when loading, unloading and transporting materials.

Vacuum trucks are widely used for recovering waste materials that cannot be completely purged or drained from process equipment and/or piping prior to maintenance, and for transporting these waste materials to disposal sites. They typically recover sludge or "bottoms" in tank cleaning, spill recovery and material transfers involving hydrocarbons, chemicals, water and mixtures of these chemicals. A vacuum truck is essentially a trailer or truck mounted tank equipped with a vacuum pump which is capable of "picking up" liquids or vapor into the tank or reversing its action to "pump out" the tanks contents. The pump on a vacuum truck is driven by either an auxiliary power unit or by a power takeoff from the truck engine which is typically a diesel one. Although the potential fire, explosion and chemical exposure hazards are recognized in the use of vacuum trucks, they can be controlled to insure their safe operation. Some of these hazards include:

1. The vacuum/pneumatic truck can serve as an ignition source.
2. Evolution or exhausting hazardous vapors.
3. Formation of flammable mixtures in the system or leaks of flammable mixtures due to hose failure.
4. Discharge of electrostatic sparks.
5. Reduction in the flash point of some liquids when placed under vacuum, from above to within ambient temperature range.
6. Releasing hydrogen sulfide from a sour liquid under vacuum.
7. Generating hydrogen sulfide by inadvertently mixing a sour liquid with an acid.

Qualified Drivers

Vacuum drivers must have a valid and current license to operate the vehicle. Drivers must be appropriately qualified, assessed, licensed, and trained to operate the vehicle.

- Vacuum trucks shall not enter into tank dike area until such areas have been checked/monitored and rendered safe.
- Vacuum trucks cargo tanks shall be depressurized.
- Vacuum truck operators must be aware of the effect of speeds, turns and the changing center of gravity.
- Vacuum truck operators shall maintain proper distances when operating vacuum trucks inside facilities with restricted clearances.

Vehicle Inspection

C & C Oilfield requires its drivers to visually inspect the vacuum truck before operations begin each day. A checklist will need to be made at the time of inspection and should include the following:

- Service brakes including trailer brake connections
- Parking brake
- Steering mechanism
- All lighting devices and reflectors
- Tires
- Horn
- Windshield wipers
- Rear vision mirrors
- Coupling devices
- Wheels and rims
- All emergency equipment

This checklist will be kept with the Truck Log and should be should be turned in at the end of the week to the supervisor along with any necessary logs.

Truck Operator Responsibilities:

1. Follow all federal and state regulations.
2. Keeping and maintaining a Truck Log that contains the following information:
    a. Date and time the tank was washed and neutralized. This must be verified by use of pH paper or better test.
    b. All Loads
        i. Record date and time
        ii. Description of material
        iii. Quantity of material
        iv. Destination of off loaded
        v. Driver/Operators name
        vi. Truck Number
3. Weekly – Submit the Truck Log and Vehicle Inspection Report to the Safety Coordinator at C & C Oilfield.
4. Verify only conductive hoses and fittings are being used in hydrocarbon service.
5. Verify proper grounding of Truck. Vacuum trucks and pneumatic must be attended by the truck operator at all times during loading and unloading operations.
6. Verify that hose whip checks are used anytime pressure off unloading is being performed.
7. Ensure that the materials of construction of the truck tank, fittings and hoses are suitable for the material to be loaded, transported and unloaded.

8. Display any DOT required placarding, Bill of Lading and/or SDS when transporting over public roads.
9. Communicate to the crew, including third party workers, the most current Job Hazard Analysis/Job Safety Analysis.

Before Loading, the truck driver should:

1. Determine the content/characteristics of the material to be hauled
2. Determine the appropriate location for pick-up and drop-off of the material prior to loading the truck. It is the responsibility of the operator to contact the receiving area supervisor to determine these locations. The receiving area will need to know what the material to be off loaded is, the quantity of the material, and when it is to be off loaded.
3. Be aware of the properties and hazards of material being hauled.
4. Complete and have authorized the Vacuum/Pneumatic Truck permit.
5. Initiate a Straight Bill of Lading for refinery products being transported over the road via Vacuum Truck.
6. Be aware of safety requirements.
7. Ensure that all DOT requirements are met before truck departure. These requirements could include driver qualifications, placards, SDS, manifest.

Before Unloading, the truck driver should:

1. Verify that the vacuum/pneumatic truck is in the correct unloading location.
2. Verify that a Vacuum/Pneumatic truck permit form has been completed.
3. Be aware of safety requirements.
4. Authorize (by signing) the Vacuum/Pneumatic Truck Permit.
5. Complete the Bill of Lading for refinery products and transmix transported over the road via Vacuum Truck.
6. Receive and sign manifest for loads delivered. Send receiver copy to the Environmental Team. Contact the Environmental Team if manifest is for Hazardous Waste. **Do not permit unloading of hazardous waste materials without Environmental Team approval**.

Grounding and Bonding

Trucks must be grounded when they are being loaded or unloaded. The grounding must be done by the truck operator. Connectors for bonding and grounding such as copper wire and clamps must provide a good conductive path. To insure this, dirt, rust, paint, and corrosion must be removed. Connections must be metal to metal. Typical cables are woven or braided copper strands. Special purpose clamps (typically with pointed contacts and heavy duty springs) shall be used for temporary bonding and grounding. The vacuum truck should be grounded to the same vessel or piping that is being vacuumed.

When a temporary grounding rod is used, it must be made of copper and must be driven at least 2 feet into the ground. Rebar is not acceptable. Grounding clamps must also be made of copper.

Suction hose and fittings shall be conductive throughout; if not, any isolated conductive areas shall be bonded. (Bonding is connecting each individually grounded part in a system together to ensure that the system has the same ground potential). To bond isolated conductive areas together, a low resistance ground wire/cable shall be connected from the truck, around the hoses, across the hose fittings to the vessel or tank being emptied or filled. **NO aluminum fittings or hoses are allowed to be used in hydrocarbon service due to aluminum's high arcing potential.**

All components used in the collection of hydrocarbon-material during vacuum truck operations must be made of metal and be properly grounded. Collection funnels used to guide flowing liquids into a pan should extend to the bottom of the pan to help prevent an electrostatic discharge.

Conductive Hoses and Materials

Vacuum hose constructed of conductive material or thick walled hose with imbedded conductive wiring, shall be used when transferring flammable and combustible liquids when the potential for a flammable atmosphere exists in the area of operations. Conductive hose shall provide suitable electrical conductance less than or equal to 1 mega ohm per 100 feet (as determined by the hose manufacturer). Thin walled metallic spiral wound conductive hoses should not be used because of the potential for electrical discharge through the thin plastic that covers the metal spiral.

Venting

Under normal conditions, the absence of oxygen minimizes the risk of ignition in a vacuum truck. However, operating rotary lobe blowers and vacuum pumps at high speeds creates high air movement and high vacuum levels, resulting in high discharge air temperatures and high discharge vapor concentrations that can present potentially ignitable conditions. In addition, inadvertent mixing of chemicals can occur in the truck which can produce toxic or flammable vapors.

The following methods can be used by vacuum truck operators to safely vent vacuum pump exhaust vapors:

- Locating the truck upwind of vapor sources and by extending the vacuum pump discharge away from the diesel engine air intake.
- Vapors may be returned to the source container using conductive and closed connections; vapors may be vented into the atmosphere to a safe location using a safety venture.

- Vacuum truck operators may provide vertical exhaust stacks, extending approximately 12’ above the vacuum truck (or higher if necessary), to dissipate the vapors before they reach ignition sources or other potential hazards and personnel.
- Vacuum truck operators may attach a length of exhaust hose to the vacuum exhaust that is long enough to reach an area that is free from potential hazards, sources of ignition, and personnel. The hose should be preferably extended 50’ downwind of the truck and away from the source of the liquids.

Monitoring

In areas where vacuum trucks will operate must be free of hydrocarbon vapors in the flammable range. The areas where the vacuum truck operator and others work without respirators must also be at or below air-contaminant PEL’s/STEL’s. Testing shall be performed by a qualified person using properly calibrated and adjusted gas monitors. Testing shall be conducted prior to starting any operations, and if necessary, during operations, including but not limited to the following:

- When operations in the area are subject to change such as automatic pump start-up or product receipt into, or transfer out of, a tank located in the vicinity of the transfer operations;
- When off-loading;
- When atmospheric conditions change such as wind direction, when an emergency situation, such as product release, occurs in within the facility that may affect atmospheric conditions in the transfer area

Personnel Safety

Vacuum truck personnel working in petroleum facilities shall be trained in the safe operation of the vacuum equipment. Each employee is trained on the following:

- To be familiar with the hazards of petroleum products, by-products, wastes and materials being transferred
- Be aware of relevant government and facility safety procedures and emergency response requirements
- SDS
- Appropriate PPE
- All personnel shall leave the vacuum truck cab during loading and off-loading operations
- When transferring flammable liquids or hazardous materials, vacuum truck operators shall remain positioned between the vacuum truck and the source or receiving tank, vessel or container and within 25’ of the vacuum truck throughout the duration.
- Truck operators shall monitor the transfer operation and be ready to quickly close the product valve and stop the pump in the event of a blocked line or release of material through a broken hose or connection

- No Smoking under any circumstances within at least 100’ or any other source of ignition or spark
- Drivers should be aware of the weight distribution and center of gravity for the load they carrying. They are also more likely to turn over due to their higher center of gravity.
- Truck drivers should familiarize themselves with blind spots for lane changing, turning, stopping, etc.

We ensure that all workers are educated to work in a safe manner and that they use all protective devices and practices required by C & C Oilfield.

Welding, Cutting and Hot Work

General Requirements

Precautions that are to be taken shall be in the form of a written permit. Before cutting or welding is permitted the area shall be inspected and a written permit shall be used to authorize welding and cutting operations.

A hot work permit must be issued before hot work is performed:

- Within 150 feet of an area where combustible/flammable vapors or dust are or could exist; or
- Within 35’ of a solid combustible material.

Hot work is defined as any work that will generate sufficient heat to ignite combustible and/or flammable materials. Combustible materials are substances that will freely support combustion once ignited. The following activities are examples of hot work; however, there may be more that are applicable at specific locations:

- Welding
- Flame Cutting
- Grinding
- Portable Heaters or Steamers
- Electrical Tools/Equipment (that are not explosion proof or intrinsically safe)
- Sandblasting operations (static charges)

The supervisors are responsible for the pre-work inspection, and once completed, they must ensure that all work is permitted prior to authorizing the commencement of any hot work. The pre-work inspection and subsequent preventative actions must all be documented.

Hot Work Procedures

C & C Oilfield employees must obtain authorization from the supervisor overseeing the work before beginning any hot work. Any person may authorize the stoppage of work if there is reason to believe an unsafe condition or situation exists.

The company representative responsible for supervising hot work must complete the hot work permit before work may begin. (Host facility permits and gas tests are acceptable provided they meet the requirements of this section.)

The permit must be reviewed and signed by the person performing the work, the person authorizing the work, and the person approving the work to ensure his/her acknowledgment of the conditions set forth in the permit. If contract personnel are performing the hot work, the contractor's representative at the location where the hot work is being conducted must retain a

copy of the permit.

The person giving approval for the hot work to begin must ensure that the area is periodically surveyed to ensure the conditions remain suitable for hot work. The work area shall be re-surveyed following all breaks, meals, meetings or other interruptions in the work.

If the object to be welded or cut cannot be moved, all moveable fire hazards must be removed. If all the fire hazards cannot be removed, then guards shall be used to confine the heat sparks and slag and to protect the immovable fire hazards. If removal and/or guards are not feasible, then the work cannot be done.

Operators of equipment should report any equipment defect or safety hazards to their supervisor and discontinue use of the equipment until it has been inspected, and its safety has been assured. Repairs shall be made only by qualified personnel.

While working in confined spaces, proper ventilation and lifelines must be utilized, and all gas cylinders must be secured. Buckets will be used for removal of electrodes. Gas cylinders must be able to be shut off immediately in the event of an emergency, and warning signs must be posted at the point of entry. Continuous monitoring should be provided in areas where conditions are likely to change, and in high-risk areas such as in tanks, or a plant's process area.

Ventilation and/or respirators must be utilized if any employee inside of a work area is welding, cutting or burning lead base metals, zinc, cadmium, mercury, beryllium or any other potentially hazardous metal not listed here.

If hot work conditions change and a permit expires due to a potential danger (i.e., leak, wind change, evolution of hazardous fumes, gases or dust, lower explosive limit (LEL) reading above 10 percent, etc.), no work will be performed until additional testing is conducted. The source of the hazard must be determined, controlled and the area re-inspected and permitted before work can resume.

Expired hot work permits will be kept on file at the facility for at least one month beyond their expiration date.

Permits will not be valid for shifts other than the one in which the work started. Each permit will be dated and will carry an expiration time.

The checking and testing that precedes the issuing of a permit should be as close as practical to the time the work is to be done. The percent of the lower explosive limit will be recorded on the permit.

Hot work shall not begin if a lower explosive limit (L.E.L.) greater than 10 percent is measured. No exceptions to this rule shall be made. Non-direct reading instruments are not permitted for hot work or confined space entry jobs.

Combustible gas indicators will be calibrated prior to performing the gas test. If the meter is to be used multiple times throughout the shift it only needs to be calibrated at the beginning of the shift. The calibration results must be documented and filed appropriately at the location.

NOTE: Special considerations must be given to tanks that are being purged with an inert gas. "Normal" combustible gas indicators will not accurately measure the combustible gas in a tank being purged.

When a fire watch is necessary, he/she must be on duty at all times during the performance of the work.

In the event the hot work will extend past the permit's expiration time, a new permit must be obtained.

When the work is complete, the company representative that is responsible for the hot work must be notified.

Welders assigned to operate arc welding equipment must be properly trained and qualified to operate the equipment. Cutters, welders and supervisors must be suitably trained in the safe operations of their equipment and/or the equipment for which they are responsible.

Welders must be trained on and familiar with 29 CFR 1910.254, and 1910.252(a)(b) & (c). If gas shielded arc welding is done they must be familiar with the American Welding Society Standard A6-1-1966. Before work will be permitted, a welder's training and credentials must be verified.

A first aid kit must be available at all times and for all work areas in case of an injury or emergency.

Fire Watch

The operating supervisors are responsible for assigning a fire watch when the welding, flame cutting, grinding, use of portable steamer equipment, etc. is within 35 feet of a potential combustible or vapor source. The fire watch must be trained in the proper use of a cartridge-operated fire extinguisher. The fire watch must also be familiar with the facilities so he/she can sound an alarm in the event of a fire, where applicable. Supervisors must be familiar with the duties of a fire watch, including:

1. Understanding the location and nature of the hot work.
2. Survey the area to be sure the necessary fire protection equipment is in place and ready for use.
3. Survey the area for combustible or flammable materials.
4. Remain in the area while the work is being performed and remain in constant communication range with person(s) doing the hot work.
5. Never leave the area for any reason without a replacement.

6. When bulkheads or walls are involved in hot work, both sides require a fire watch.

The fire watch must be in the ready position at all times while hot work is being performed. The ready position consists of being attentive and having the appropriate fire extinguisher readily available, and in position prior to the start of work.

The extinguisher nozzle must be in hand while the hot work is being performed. The extinguisher must be returned to its assigned location when the hot work is complete.

The fire watch must periodically survey the area with an LEL monitor to ensure the area is suitable for hot work. The work will stop immediately if the combustible gas indicator registers 10 percent or greater of the lower explosive level (L.E.L.) in the atmosphere. Only direct reading instruments are permitted for this work.

The fire watch is authorized to stop the work whenever he/she believes the conditions are not suitable for such work. The fire watch is also authorized to stop the work if the work description on the permit is being exceeded.

The fire watch shall be equipped with the personal protective equipment (PPE) needed to perform the work safely (i.e. properly shaded goggles for working with welders).

A fire watch shall be maintained at least a half an hour after the welding or cutting operation was completed.

A fire watch must be present when:

- Work is performed at a location where a fire might develop.
- Combustible materials are closer than 35 ft. (10.7M) to point of operation.
- Combustibles are 35 ft. (10.7M) or more away but are easily ignited.
- Wall or floor openings within 35 feet (10.7M) radius expose combustible materials.
- Combustible materials are adjacent to the opposite side of metal partitions, ceilings or roofs.
- For a minimum of 30 minutes following completion of the job.

Confined Spaces

While working in confined spaces, proper ventilation and lifelines must be utilized, all gas cylinders and welding machines must be secured outside of the confined space, and, prior to operations starting, heavy portable equipment mounted on wheels must be securely blocked to prevent accidental movement.

Local exhaust or general ventilating systems shall be provided and arranged to keep the amounts of toxic fumes, gases, or dusts below the maximum allowable concentration. Where this is not possible, respirators shall be required.

When the point of entry to the confined space is a manhole or other small opening, means shall be provided for quickly removing employees in the confined space in case of an emergency. Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of the entrant.

In all cases of Permit-Required Confined Space entry, the Attendant(s) shall be posted outside of the entry exit in order to monitor the work environment for hazards that have the potential to endanger entrants. The Attendant(s) is also responsible for activating the rescue plan, if necessary.

The Attendant(s) shall be in constant communication, by the most practical and effective means available, with the individual(s) in the confined space. Circumstances may require that more than one Attendant be posted at different access/entry points.

When welding is to be suspended for any substantial period of time, such as during lunch or overnight, all electrodes shall be removed from the holders and the holders carefully located so that accidental contact cannot occur and the welding machine shall be disconnected from the power sources. Buckets will be used for removal of electrodes.

In order to eliminate the possibility of gas escaping through leaks of improperly closed valves, when gas welding or cutting, the torch valves shall be closed and the fuel-gas and oxygen supply to the torch positively shut off at some point outside the confined area whenever the torch is not to be used for a substantial period of time, such as during lunch hour or overnight. Where practicable the torch and hose must also be removed from the confined space.

Gas cylinders must be able to be shut off immediately in the event of an emergency, and warning signs must be posted at the point of entry. Continuous monitoring should be provided in areas where conditions are likely to change, and in high-risk areas such as in tanks, or a plant’s process area.

Once hot work operations are completed, the entrant shall mark the hot metal or provide some other means of warning other entrants.

Compressed Gas Cylinders

Rules for handling cylinders:

1. Do not accept damaged cylinders.
2. Keep protective caps on cylinders while they are not in use.
3. Keep cylinders away from direct flame, heat and sources of ignition.
4. Properly secure cylinders at all times. While moving a cylinder, avoid rough handling and the striking of cylinders.

5. Cylinder contents must be properly labeled; do not rely on the color of the cylinder, and return improperly labeled cylinders to the vendor.
6. Close all valves when not in use.
7. While in use, cylinder valves must have a handle or other shutoff mechanism in.
8. Regulators are to be removed from cylinders when not in use unless the regulator is designed to be capped or the cylinders are in an approved welding cart.
9. Discharge leaking cylinders outdoors by opening the discharge valve slowly one-fourth of a turn.
10. Use proper lifting cradles for cylinders. Do not lift by the valve or protective cap. Ropes and slings are not to be used for lifting cylinders.
11. Compressed gas cylinders are not used for any purpose other than for containing compressed gas—bottles, for example, are not to be used as rollers.

NOTE: Employees who work with or supervise the care of oxygen or fuel gas supply equipment must be properly trained, tested and judged competent for such work.

Using Cylinders

1. Never use a cylinder of compressed gas without a pressure-reducing regulator connected to the cylinder valve.
2. Always close the cylinder valve before attempting to stop leaks.
3. Do not use oil or grease as a lubricant on valves or attachments to oxygen cylinders.
4. Threads on fittings must correspond to cylinder valve outlets.
5. Check valves/flame arrestors are to be utilized on fuel gas/oxygen systems.
6. Do not use oxygen in place of compressed air.
7. Use safety equipment that matches the hazards of the compressed gas.

Storing Cylinders

1. Store cylinders in an upright, secured position, and store empty and full cylinders separately.
2. Do not store oxygen cylinders within 20 feet of combustible materials or fuel gases unless divided by a 5 foot fire resistant wall that is fire-rated for one-half hour.
3. Mark empty cylinders ‘Empty,’ and they can only be refilled by their owner. A cylinder is considered empty when it only has 25 psi of gas remaining.
4. Cylinders shall not be subjected to temperatures either above 125 degrees F or artificially created low temperatures.
5. Cylinders shall be separated by hazard class. For example, oxidizers must be stored away from flammable gases.

Working Alone Policy

C & C Oilfield has employees/contractors that will occasionally work alone. Typically, when a person works alone, he is in a potentially more hazardous situation than he would be had he been working with another person. Hazards and risks associated with working alone include, but are not limited to, inefficient emergency response/lack of emergency response, lack of proper first aid response, insufficient communication/lack of communication, potential for shortcuts, lack of proper hazard analyses, and work situations that would normally require at a minimum two persons and the individual cannot simply do the work alone and gets injured trying to do the work alone.

C & C Oilfield, in order to assist the employee working alone, requires the following procedures to be adhered to:

1. Individuals working alone will conduct a Job Safety Analysis (Hazard Assessment) for all work to be conducted. The JSA will be conducted the same as that of a JSA for multiple persons. Refer to JSA policy for exact procedures.

2. The Hazard Assessment for working alone will anticipate work and travel time, weather, communications (general and emergency), type of work, employee medical conditions and training. Additionally, the Hazard Assessment will address hazards and identify control measures in order to minimize the associated risk.

3. **As with all work, if the Hazard Assessment indicates that methods to ensure safe work cannot be achieved, then work will cease, the immediate Supervisor will be contacted, and means to ensure safety will be discussed and implemented before work resumes or commences.**

4. All employees working alone will have the use of a reliable radio, cellular phone, electronic monitoring device or another form of direct communication. A backup form of communication is required in case the primary is unexpectedly rendered unreliable. *Reliable* is defined as communication that is capable of being relied upon. If the communication form is not reliable, due to reception, malfunction, or any other reason, work will cease until a reliable method is established.

5. Supervisors will know destination, estimated time of work, work load, and contact means for all employees, but particularly for those who are working alone.

6. To ensure that individuals working alone are monitored at regular intervals, once at the jobsite, the individual will contact the immediate Supervisor. The individual will give the estimated time of job completion to the Supervisor. The individual will call the Supervisor at the completion of work. The Supervisor will monitor the estimated time and will call the employee at the end of this estimated time if the employee has not

already may contact. **If employee completes job and is redirected to another job location on the same day, the communication process begins again.** Per the Hazard/Risk Assessment, additional contact may be necessary and the lone employee and the Supervisor will discuss and implement said communication procedures.

7. If an employee cannot be reached, the length of time missing, weather conditions, physical fitness of the employee, or any other fact that may lead the individual to believe that the lone employee may need assistance, must be considered and help summoned if necessary. Prior to the work assignment, if any of the above conditions would preclude the work from being conducted safely, the work cannot proceed until alternative means for ensuring safety are established.

8. If the Supervisor is not available for this communication requirement, the Supervisor will appoint equally responsible personnel to ensure the requirements of Number 6 above will be properly managed.

9. Supervisor, or appointed individual, will document the results of lone employee communication. Documentation will include lone employee(s) name, destination, time of arrival, estimated time of work completion, actual time of work completion and the times all parties made contact. If the Supervisor has to leave his post for any reason, the appointed person will be briefed as to documentation status and follow-up contact requirements. The appointed back-up person may not relinquish his duties unless the Supervisor appoints an equally-qualified person to maintain communications. Maintain documents for at least 30 days.

10. The Supervisor, or designated person, upon breakdown in/lack of communication with lone employee, will contact local emergency services and report said information. After all information has been given to emergency services, the Supervisor or designated person will travel to last known destination to ascertain employee's whereabouts. **An employee search is necessary at the time breakdown in communication occurs.**

Working Near Water

Introduction

While C & C Oilfield employees will not be working offshore, employees may be required to work in proximity to lakes, rivers, and other bodies of water while working on a jobsite. This program defines the training, personal protective equipment, procedures, and engineering controls necessary to mitigate the hazards associated with water and drowning while working on, near, or over water. In addition to pre-job training, a pre-task plan is required to be completed and signed by all members of the crew that may be working over or near water before the work may begin.

Safety Equipment

All safety equipment and personal protective equipment (PPE) shall meet OSHA standards, including safety harnesses and belts, safety lines, safety nets, life preservers and personal floatation devices, and safety boats. Safety equipment (including PPE) shall only be used for employee protection and shall be inspected prior to and periodically during each use. Any personal fall arrest equipment actually subjected to a fall while in use shall be removed from service and not reused. Safety equipment showing signs of mildew, broken fibers, deterioration, excessive wear or damage, which could materially affect its strength, shall be removed from service and destroyed. Nets, ropes, harnesses, belts, and lanyards should not be allowed to become wet. If they do, they must be thoroughly dried before storing. Storage shall be in a dry location away from caustics or corrosives, or other sources of damage or deterioration.

Procedures

Employees working in areas where the danger of drowning exists, that are not protected by an approved passive fall protection system, must wear a U.S. Coast Guard-approved life jacket or buoyant work vest, commonly referred to as a personal flotation device (PFD). Workers must inspect the PFD they are issued for defects which could alter its strength or buoyancy prior to, and after, each use. If a defect is discovered, the equipment must be tagged and permanently removed from service. If an employee cannot fall into the water as a result of the use of active or passive fall protection, there is no danger of drowning, and a PFD is not required. However, if the potential for drowning exists, and adequate personal protective equipment and/or engineering controls are not in place, then a PFD must be worn at all times.

Safety lines that prevent employees from reaching the water eliminate the danger of drowning, and negate the need for a PFD. The same is true when working on a barge or floating platform with an approved railing system. However, the following shall be in place and immediately available at all times: a skiff or boat for emergency rescue operations, equipped with paddle or oars, a ring buoy or other life preserver, and a reach extension device. Where water current exists, the skiff or boat must be either motorized or occupied at all times.

A safety line may be connected between the boat and a structural member capable of maintaining the position of the boat. All occupants of boats must wear a PFD, with the exception noted above. One or more ring buoys, with at least 90 feet of line attached, located at 200 foot intervals across the distance of the work area which is over water. Employees working over or near water where the distance to the water is greater than the length of the lanyard (and by virtue of safety devices no danger of drowning exists), are not required to comply with requirements for working in proximity to water.

Employees who exit the basket of the aerial lift to a location that is over or near water, (and the danger of drowning as a result of a fall exists), and do not maintain 100% fall protection, must wear a PFD. Employees shall not work alone in situations where a drowning hazard exists.

Training

Any employee that is going to be working in proximity to, over, or on any body of water must be trained on their responsibilities, and the hazards associated with water (regardless of its depth). In addition to covering the hazards associated with water, employees must be trained on the proper use, inspection, and limitations of the flotation devices they are issued. Employees must also be trained, if applicable, on the hazards of the environment, including wildlife, mud, and current, etc.

C & C Oilfield Service
Health and Safety Manual

To: All C & C Oilfield Service Employees

After reading the C & C Oilfield Service HSSE Manual, if you have any questions, ask any Supervisor or member of Management for clarification. After all questions have been answered, sign this page and return to Human Resources.

I have received the C & C Oilfield Service Safety Manual. Before I conduct any task I will understand all C & C Oilfield Service safety policies. I understand that working safely is the key to efficient production, my personal safety and the safety of my co-workers. I will bring to the attention of my Supervisor or member of Management any safety concern I may have.

_____ _____
Employee Signature Date

_____ _____
C & C Oilfield Service Signature Date

Employee Violation Form

Employee Name _____
Date of Warning _____
Employee/Payroll Number _____
Job Number/Location _____

Type of Violation

Attendance	Carelessness	Insubordination
Lateness/Early Quit	Failed to follow instructions	Violated safety rules
Failure to wear or abuse of selected PPE	Willful Damage to Material/Equipment	Lack of commitment to safety program
Unsatisfactory Work Quality	Violation of company Policies or Procedures	Other

Employer Statement Employee Statement

Date of Incident_____ Time _____am pm	_____ I agree with Employer's Statement _____ I disagree with Employer's description of violation. The reasons are:

Action to be taken: Warning Probation Suspension Dismissal
Other_____

Consequences should action occur again:
_____
_____
_____

I have read this Employee Warning Notice and understand it.

_____
Signature of Employee Date

_____
Signature of Supervisor issuing Warning Date

Routing:

Safety Manager (if safety related)/ **Operations Manager**/ **General Manager**/**Personnel File**

SUPERVISOR'S INCIDENT INVESTIGATION REPORT

THE SUPERVISOR IN CHARGE OF THE JOB SITE IS RESPONSIBLE FOR THE COMPLETION AND ROUTING OF THIS REPORT

EMPLOYEE INFORMATION			**SITE INFORMATION**
1. Date of Report:	2. Date of Incident	3. Time of Incident	10. Customer Name
4. Name of Employee Involved:			11. Location
5. Last 4 Digits Social Security Number			12. Unit or Plant
6. Job Title	7. Pipeline or Facility or Station		13. Name of Supervisor On Site
8. Home Phone Number:			14. Customer Contact and Phone Number
9. Employer: C & C Oilfield Services, LLC			15. Was Customer Notified of Incident? ☐YES ☐NO ☐N/A

TASK INFORMATION

16. Scope of Work (describe)	17. List Tools or Equipment Being Used and Condition
18. Describe Task Being Done At Time of Incident	19. List All PPE Used At Time of Incident

INJURY INFORMATION

20. Describe Injury and Indicate Body Part Affected:

21. Describe Object, Tool, or Substance Involved in Injury:

22. List Witnesses

Name	Employer	Phone Number

23. Describe Immediate Actions (First Aid, Transportation of Injured, Actions to Prevent Recurrence)

TREATMENT INFORMATION

24. Describe Treatment Given:

Was Drug & Alcohol Tests Administered ☐yes ☐no

25. List any Medications Given	26. Name and Address of Hospital or Doctor:

INCIDENT CAUSE

27. Check Causes That Contributed to the Accident/Incident

☐ Design of equipment or facility.	☐ Improper or inadequate personal protective equipment
☐ Job planning or instructions	☐ Personal protective equipment not used
☐ Rules or procedures not followed	☐ Chemical Exposure
☐ Incorrect body position	☐ Improper vehicle operation
☐ Incorrect or misuse of tools	☐ Environmental factors (weather, wet floors, high winds, etc,)
☐ Guarding or protective device missing	☐ Animal, Reptile, or insect
☐ Improper operation of equipment	☐ Inattention
☐ Housekeeping	☐ Action of others
☐ Lack of maintenance or inspection	☐ Other

28. Root Cause Identification

CORRECTIVE ACTIONS

29. Describe Corrective Actions:

30. Describe Follow-Up Actions –

31. Completion Date for Corrective Actions	32. Responsible Individual & Title
32. Prepared By / Title:	33. Reviewed By / Title:

OSHA REPORTING **(to be completed by General Manager)**

Status	Category		MANAGEMENT REVIEW
☐ Recordable	☐ Medical Treatment (other than first aid)	Number of Lost Days 0	Monthly Management Review – Sign & Date
☐ Not Recordable	☐ Lost Time (one or more days)	Date of First Lost Day N/A	
☐ Pending	☐ Restricted Work or Motion	Number of Restricted Days N/A	Initials Please:
	☐ First Aid Only		
	☐ Vehicle Accident	Date of First Restricted Day N//A	
	☐ Near Miss		

C & C Oilfield
Behavioral Audit Form

Date: _____ **Auditor Name:_____**

Dept.:_____ **Accompanying Auditor_____**

		OK	Not OK	IF NOT OK, WHAT BEHAVIOR DID YOU SEE HAPPEN?	CORRECTIVE ACTION	SPECIAL INSTRUCTIONS
1	**PPE worn 100%** Glasses w/shields, boots, hearing, gloves, face shield, respirators, etc.					Observe all employees during walk through.
2	**Haz. Communication** All safety cans, cleaning materials, fuels, solvents, etc are clearly labeled & stored properly.					
3	**Line of Fire** Are employees positioning body, hands, etc in the correct manner to avoid pinch points, impact hazards, etc.					If line of fire behavior is not observed, ask employee what would be the proper position to be in and what hazards they are being exposed to if not in the correct position.
4	**Pushing/Pulling**					If pushing/pulling behavior is not observed ask employee about proper pushing/pulling techniques (include getting help when necessary and use of ergonomic aids)
5	**Lifting**					If lifting behavior is not observed, ask employee about proper lifting techniques (including getting help when needed)
6	**Eyes on Path**					For those operating equipment make sure they are looking behind before backing up. Observe employees for paying attention where they are walking, etc.
7	**House Keeping**					Check the area for trash and whether individual employees are keeping their work areas manageable.
8	**Equipment Operators**					Are equipment operators observed operating equipment in a safe manner. If not ask employee about safe operating procedures and what hazards could be avoided.
9	**Portable Power Tools**					Are employees observed using portable power tools in a safe manner, if not ask employee what the proper procedures would be and what hazards would be encountered if not used.
	Misc. Instructions			**Audits can be done by walking through areas or from one vantage point. Include as many employees as possible.**		

C & C Oilfield
Personal Protective Equipment
And Fall Protection Systems

I, _____ acknowledge receipt of training on fall protection systems and their components.

Training was received on _____ , 20_____

Employee Signature _____ Date _____

Trainer's Signature _____ Date _____

NOTE: If a company endorsed form is unavailable to document the training, this form may be used.

Forklift Operator Observation/Evaluation Form

OSHA rule 29 CFR 1910.178(l) on the training of powered industrial truck operators requires employers to observe & evaluate the performance of their lift truck operators during a three (3) year cycle.

Operator's Name: _____ Date: _____

I (Observer/Evaluator) _____ observed the above named operator doing the following:

	Safe Operator Actions:		
1.	Do and Record results of Daily/Shift Examination of truck s/he is driving.	**No**	**Yes**
2.	Dead stop at least one (1) truck length from pedestrians or other hazards in path of travel.	**No**	**Yes**
3.	Move mast/upright controls ONLY when truck is at dead stop.	**No**	**Yes**
4.	Park truck 4 or more feet away from marked pedestrian walkways, emergency equipment or exit ways.	**No**	**Yes**
5.	Travel with load no higher than the distance of the drive wheel axel(s) to the travel surface (Approx. 6,10,or 18 inches for typical trucks).	**No**	**Yes**
6.	Pick up loads without sliding or "barging".	**No**	**Yes**
7.	Place loads without "poking" or pushing or touching other loads, racks or building members.	**No**	**Yes**
8.	Before abandoning truck, set parking brake, neutralized all controls and removed key from switch.	**No**	**Yes**
9.	Before entering trailer or rail car, place chock in correct position.	**No**	**Yes**
10.	Sound horn BEFORE moving from dead stop.	**No**	**Yes**
11.	Dead stop BEFORE all blind corners, through intersections, and marked pedestrian walkways.	**No**	**Yes**
12.	Travel with all body parts within operator's compartment or platform.	**No**	**Yes**

Worksite Specific Respiratory Protection Plan

Task description:

_____

_____

Atmospheric hazards:

- Oxygen levels: _____
- Is this oxygen level deficient?
- Monitoring (List the monitoring frequency and method for each atmospheric hazard)

Controls to be implemented to reduce employee exposure to atmospheric hazards:

1. _____
2. _____
3. _____

Respirators to be worn (List type, cartridge type if APR, concentration and limits for use):

_____

_____

_____

Authorized employees (list with employee number):

1. _____
2. _____
3. _____
4. _____
5. _____(List additional on back of page)

Emergency Response:

- Signs and symptoms of overexposure

  _____

  _____

- Evacuation procedures

  _____

  _____

- First aid and emergency medical procedure

  _____

  _____

- Reporting procedures

  _____

  _____

Signature of the Respirator Administrator (or designee):

_____ Date: _____

Signature of the Jobsite Supervisor:

_____ Date: _____

C & C Oilfield
Fit Test And User Seal
Check Result Sheet

Employee: _____ Date: _____

Company: _____ Social Security #: _____

Fit Test Method Used: Qualitative (QLFT) _____ Quantitative (QNFT) _____

Irritant Smoke_____ Isoamyl Acetate_____ Saccharin_____

Portacount_____ Aerosols_____

Respirator Type: _____ Model: _____ Size: _____

1. Move Head Up & Down:
2. Bend At Waist:
3. Run In Place:
4. Move Head Side To Side:
5. Talk:
6. Breathe Deeply
7. Grimace
8. Rainbow Passage

Fit Test Results: Pass / Fail

Comments:

_____
_____
_____
_____

Employee's Signature: _____ Date: _____

Test Administered By: _____

Scaffolding Inspection Form

Date of Inspection:	Time:
Location of Scaffold:	
Inspected by (Designated Competent Person):	

BEFORE USING THE SCAFFOLD

- ☐ Has this work location been examined before the start of work operations and have all the appropriate precautions been taken?
  e.g. checking for: overhead objects, falling or tripping hazards, uneven ground, opening onto a door.
- ☐ Will fall protection be required when using this scaffold?
- ☐ Has the scaffold been setup according to the manufacturer's instructions?

General Rules for All Scaffolds	**YES**	**NO**	**N/A**
Scaffold components can support at least four times their maximum intended load.			
Scaffold is fully planked – No more than 1 inch gap between planks.			
Platform is at least 18 inches wide (12 inches on pump jacks).			
Guardrails are used or personal fall arrest system is used, if work height is over 10 feet. Guardrail system: ☐ Handrail ☐ Mid-rail ☐ Toeboard ☐ Posts			
Scaffold is 14 inches or less from face of work, if workers remove front guardrails (18 inches for plasterers).			
Planks do not extend past the ends of the scaffold frames more than 12 inches.			
Casters are locked before work begins.			
Work platform is free of clutter, mud, snow, oil, or any tripping hazard.			
Minimum power line clearance (10 feet)			
If the scaffold is defective, has it been removed from service and tagged out?			
General Rules for Access			
No more than 2-foot step up or down or a 14-inch step across to get on or off a platform.			
Ladder first rung is not more than 24 inches above the ground.			
Hook-on and attachable ladders are designed for the scaffold.			
Add-on ladders must have a rung length of at least 11 ½ inches			
Built in ladders (part of the scaffold frames) must have a rung length of at least 8 inches.			
Rungs line-up vertically for the entire height of the scaffold.			
Cross braces are not used for climbing up or down the scaffold.			

☐ **Scaffolding is complete and compliant per OSHA Standards and safe to use**

☐ **Scaffolding is incomplete. DO NOT USE!**

Signature of Competent Person: _____ Date: _____

Short Service Employee Checklist

	Initial Observations	Mentor	SSE
	Shows up for work on time		
	Hase the necessary PPE and is prepared for work		
	Does not take unnecessary risks		
	Asks for help or additional direction when needed		
	Understands his/her Stop Work Authority		
	Is an engaged participant in the JSA		
	Has read and understands the company Safety Manual		
	Has read and understands the company Driving Safety Policy		

	Task Performance Observation		
	Demonstrates the ability to perform the task		
	Has a clear understanding of the task to be performed		
	Knows the hazards associated with the task to be performed		
	Performs the task appropriately while supervised		

	Short Service Employee is able to Identify the Following:		
	Electrical hazards		
	Caught-between and/or Struck-by hazards		
	Pinch points		
	Respiratory hazards		
	Fall hazards--and the associated mitigations/precautions		
	Hot surfaces/Burn hazards		
	Trip hazards		
	Chemical hazards		
	Identifies overhead power lines		
	Identifies traffic hazards		
	Identifies suspended loads		
	SSE works safety around the identified hazards		

	Short Service Employee exhibits compliance with the following		
	Safety Manual--company safety policies and expectations		
	Housekeeping policy		
	PPE requirements		
	Site-Specific Emergency Action Plan		
	Client-specific policies and procedures		
	Company handbook policies and procedures		

	Additional Behavior Observation		
	Short Service Employee is respectful to coworkers and others on site		
	SSE is a hard worker and contributes to the crew		
	SSE demonstrates his/her intention to learn and improve		
	Other:		

	SSE has demonstrated competence in the following	Mentor	SSE
	Task Name:		
	Task Name:		
	Task Name:		
	Task Name:		
	Equipment Name:		
	Equipment Name:		
	Equipment Name:		
	Other:		
	Other:		

Additional Notes

Observation Date:
Hire Date:
30-Day Review:
60-Day Review:
90-Day Review:
120-Day Review:

C & C Oilfield

Trenching, Excavation, and Shoring

To: All C & C Oilfield Employees

C & C Oilfield is committed to safe digging practices such as “call before you dig” and following any applicable state and local laws related to excavations.

_____ _____

C & C Oilfield Executive Signature Date

I agree to follow the guidelines and policies set in this program. Before I conduct any task I will understand all C & C Oilfield safety policies and my role and responsibilities in preventing incidents during excavations. I understand that working safely is the key to efficient production, my personal safety and the safety of my co-workers. I will bring to the attention of my Supervisor or member of Management any safety concern I may have.

_____ _____

Employee Signature Date

_____ _____

C & C Oilfield Signature Date