

Corporate Health and Safety Manual



Corporate Health and Safety Manual	
Manual Number	
Person assigned to:	_



Corporate Health and Safety Manual

Introduction

Rare Energy Corp. has developed a Corporate Health and Safety Program.

Rare Energy Corp. has developed these Corporate Health and Safety Manuals as part of the Health and Safety Program with the purpose of providing personnel employed by or contracted to Rare Energy Corp. with the fundamental information required to conduct their daily tasks in a safe manner.

Rare Energy Corp. is committed to a comprehensive, proactive program to protect all workers from personal injury and health hazards. This commitment is clearly identified in the Corporate Health and Safety Policy.

All personnel including contractors working for Rare Energy Corp. shall become familiar with the information contained in the corporate Health and Safety Program.

The manuals are to be used as a resource document that will provide the user with sufficient information and direction to assure that safety is a part of a routine of all operating activities.

Revisions and updates to the Corporate Health and Safety Program will be supplied to all manual holders, as new information is available.

Manual holders are responsible for inserting updates into the manuals as soon as they are received.



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1. Section One- Introduction to Rare Energy Corp.

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Company Profile

Rare Energy Corporation Suite 1000, 207-9th Avenue SW Calgary, Alberta T2P 1K3 587-355-8500 info@rareen.com

Chief Compliance Officer: Robert Lee



Introduction:

This manual outline information required for Rare Energy Corp. to operate a successful Health and Safety Program. The cost of work related incidents and accidents are high both financial and human terms. To help reduce or eliminate accidents, an effective safety program must be in place.

Alberta has extensive OH&S Codes & Regulations, which apply to the Health and Safety of workers. There is a legal responsibility, which the company and its employees must meet. As a company and as individuals, we have the responsibility to ensure our workplace is maintained in a safe manner as possible. Some responsibilities are corporate while other responsibilities apply to each worker

The manual is to be used as a reference guide by employees and management. As safety and health issues arise, the appropriate section of the manual can be reviewed for answers.

This guide is not exhaustive, if additional information is required contact Management of Safety or refer to.

• Alberta's Occupational Health and Safety Act & Regulations



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Manual Disclaimer

The information outlines in this manual is intended for general use and may not apply to every circumstance. The information in this manual is not an explicit guide to the Alberta Occupational Health and Safety Act and Codes, and shall not exempt Rare Energy Corp. group or their employees using this manual, from their obligations as legislation by the Alberta Occupational Health and Safety Act and code. The author of this manual does not assume liability for the information presented herein.



Occupational Health and Safety Act & Code

Our Corporate Health and Safety Program was developed to assure compliance with federal, Provincial, and Local Regulations. With particular emphasis on the Alberta Occupational Health and Safety Act and Codes provide that every employee engaged in business in the Province of Alberta Shall.

- Furnish to each employee a place of employment free from recognized hazards that are causing or likely to cause death or serious physical harm.
- Comply with Occupational Health and Safety standard and rules, regulations and orders pursuant to the act that are applicable to company business and operations.
- Comply with, and require all employees to comply with Occupational Health & Safety Standards and codes under the act, Which are applicable to their actions and situations

Ensure employees contact their immediate supervisor for information that will help them understand their responsibilities under the act.



Safety Policy Statement

Rare Energy Corp. is committed to ensure a safe, accident free and healthy work environment for all employees. Our philosophy is that workplace accidents can be prevented with careful attention to safety standards. However, safe and healthy working conditions do not occur by chance. They are a result of diligent work and careful attention to safety policies, regulations, safety procedures and safe work practices.

Safety demands cooperation on everyone's part. Thus, it is important that communications be kept open at all times between the management and employees. Workers who notice hazards or other safety problems, or feel that they need additional training, must notify their supervisors. Supervisors and management must address these concerns and take corrective action when warranted.

Everyone is obligated to know the safety standards for their job, and it is just as important they must abide by them. Supervisors must install a positive attitude and safety awareness in their workers through personal adherence, personal contact, training and regular safety meetings. It is the duty of all employees to perform their work with regard for the safety of themselves and co-workers.

Our safety policies are based on past industry experience and current standards in Alberta and are also an integral part of the company's personnel policies. This means that compliance with the policies is a condition of employment and must be taken seriously. Failure to comply is sufficient grounds for disciplinary action or termination of employment.

Safety and health are top priority in this organization and is every bit important as the productivity and quality; in fact, they go hand in hand. Of course the best reason for you to observe these policies is because it's in everyone's best interest to do so. Conscientiously following this policy can help each of our employees stay safe, healthy and able to live life to its fullest.

Robert Lee (Chief Compliance Officer) September, 2020



Section Two

Corporate Policy & Responsibilities

2. Section Two- Corporate Policy & Responsibilities Commitment

- Commitment, Objectives, & Philosophy
- Responsibilities For Safety
- Senior Managements Responsibilities
- Health and Safety Responsibilities
- Employees Responsibilities



Commitment

Rare Energy Corp. is committed to providing a safe, accident free and healthy work environment for all our employees, sub-contractors, clients and the public. This Corporate Health and Safety Policy and Standards apply to all worksites and facilities within the control of Rare Energy Corp.

Objectives

To achieve our goal Rare Energy Corp. will implement a safety management program, which focus on the following objectives.

- Prevention of Accidents, Injuries and Incidents
- Compliance with Occupational Health and Safety Regulations.
- Hazard assessments and control
- Development of safe work practices and procedures relevant to the activities to Rare Energy Corp.
- Provision of safety training for employees, including safety meetings, orientations, and job specific training.
- Regular safety visits and inspections on our worksites
- Investigating incidents, and accidents, and communicating our findings to all employees.
- Maintenance of accurate safety records, including statistics to determine incidents trends and training needs.

Philosophy

Our primary philosophy regarding safety is the belief that all accidents can be prevented with sound management. Our safety policies and standards have been developed to effectively manage safety, and are based on past industry experience and current standards in Alberta Compliance with the Corporate Health and Safety Program and standards are a condition of employment and must be taken seriously. For information on safety, refer to the Occupational Health and safety codes.

Responsibilities For Safety

Functional responsibilities have been defined for Rare Energy Corp. employees and sub-contractors. All employees and sub-contractors are responsible to perform their work in a manner consistent with legislation, industry, and Rare Energy Corp.'s policies, practices and procedures.



Senior Management Responsibilities

- 1. Administer all aspects of the occupational health and safety program
- 2. Develop programs and technical guidance to identify and remove hazards from facilities operations, and sites.
- 3. Conducts inspections or have designated individual to conduct inspections to identify unsafe conditions or work practices.
- 4. Recommends programs and activities that will develop and maintain incentives and motivation for employees in health and safety
- 5. Required all sub-contractors and suppliers to comply with health and safety regulations
- 6. Investigates all incidents/accidents, obtains all pertinent data, and initiates/takes corrective preventive action.
- 7. Develops and maintains accidents and incident investigations and reporting procedures and systems. Investigates serious or reportable accidents and tales action to eliminate accident causes.



Health and Safety Responsibilities

Communicate directly with management in regards to major safety issues and concerns
 Acts as a liaison between government agencies and clients regarding major safety issues
 Regularly conducts and documents hazard assessments of active projects
 Regularly conducts and documents inspections of active projects
 Promotes safety awareness
 Investigates when requires accidents and incidents
 Orientates all new management, supervisors and employees to the Health and Safety Program

The safety information in this policy does not take precedence over applicable government regulations, with which all employees should be familiar.

8. Maintains and enforces. Health and Safety program



Contractors Responsibilities

- 1. Ensuring the company orientation is given to all employees starting under him/her.
- 2. Instructing employees under his/her supervision in safe work practices and work methods at the time employees are given work assignments.
- 3. Supplying and enforcing the use of proper protective equipment and suitable tools for the job.
- 4. Continuously checking to see that no unsafe practices or conditions are allowed to exist on any part of his/her job.
- 5. Acquainting his/her employees with all applicable safety requirements and seeing that they are enforces
- 6. Setting a good example for his/her employees.
- 7. Seeing that prompt first aid is administered to an injured employee and that all employees know the location and be familiar with the first aid and emergency procedures.
- 8. Initial investigations of any accident and completion of the accident reports, retrieve and record the witness statements and submit to the safety coordinator at or prior to completion of the work shift during which the accident took place and to assist the Safety Coordinator in making a complete investigation of accident to determine facts necessary to take corrective action.
- 9. Holding weekly safety meetings (Toolbox) with his/her employees to:
 - Discuss observed unsafe work practices and conditions as well as specific topics
 - Review any accidents or incidents experience and discuss corrective actions. Discuss positive, not just negatives.
 - Encourage safety suggestions from his/her employees and report them to the supervisor or safety coordinator.
 - The job foreman shall complete the Safety Meeting Minutes, which shall include names of all employees present and summit a copy of the meeting to Rare Energy Corp.
 - Immediate reporting to the safety coordinator or supervisor of job safety violations. .
 - Cooperating with all safety representatives having jurisdiction at a project site.



Employees Responsibilities

- 1. Each employee has a duty to take reasonable care to protect the health and safety of himself/herself and other workers.
- 2. The employees shall cooperate with their employer for the purpose of protecting the health and safety of himself/herself, other workers on site and the public on or near site, and any other personnel on site.
- 3. No employee shall carry out work or operate a tool, appliance or equipment if, in reasonable and probably grounds he/she believes that it will cause an immediate danger to employees, other workers on site, or any other personnel on site.
- 4. Rare Energy Corp. has the right to remove any employee from thesite who appears to be under the influence of alcohol or drugs.
- 5. Employees shall ensure that his/her personal protective equipment is in good working order.
- 6. If the equipment is defective in any manner, the employee must inform his/her supervisor to obtain new personnel protective equipment.
- 7. Employees must attend and contribute to weekly (Toolbox meetings)
- 8. Employees must cooperate with all safety representatives having jurisdiction at the project sites.
- 9. When arriving at a new site, the employees shall be familiar with the specific site safety rules by completing the onsite orientation program. This will also include the location of the first aid station and any other emergency procedures
- 10. If in doubt about performing a task in a safe and proper manner, the employees must ask their supervisor for direction to complete the task in a safe and proper manner.



ADDITIONAL INFORMATION

Program Audits

Rare Energy Corp. will ensure that they are meeting their obligations and complying with internal programs and government regulations by conducting regular audits. The audits will evaluate the Rare Energy Corp. Health and Safety Program to ensure its effectiveness and determine if goals are being met. Program deficiencies shall be identified and recommendations made for improvement.

The Company Safety Coordinator shall ensure the Occupational Health and Safety Program is audited once a year.

Worker's Right to Refuse Unsafe Work

Workers, who have reasonable cause to believe that to carry out any work process would create an undue hazard to the health and safety of themselves or any other worker, have the right to refuse to take such action,.

Under such circumstances the following order of actions must take place: Immediately report the circumstances of the unsafe condition or matter to the supervisor or employer. The supervisor or employer receiving the report must investigate the matter and:

Ensure the unsafe act is remedied, or

If, in his/her opinion the report is not valid, must inform the person who made the report.

If this does not resolve the matter, and the worker continues to refuse to carry out a work process, the supervisor or employer must further investigate the matter. This investigation must be carried out in the presence of:

Any other reasonably available worker selected by the worker who made the report.

If this does not resolve the matter and the worker continues to refuse to carry out a work process, both the supervisor or employer and the worker shall notify an officer of the Workplace Health and Safety, who will investigate the matter and take whatever actions are necessary.

No worker is to be disciplined for acting in compliance with these steps. Temporary assignments to alternative work at no loss in pay to the worker are not considered to be disciplinary action.

For further information on this topic refer to Occupational Health and Safety Act (Section 35.)



Due Diligence

What is meant by due diligence?

Due diligence is the level of judgment, care; prudence, determination, and activity that a person would reasonably be expected to do under particular circumstances.

When applied to Occupational Health and Safety, due diligence means that employers shall take all reasonable precautions, under the particular circumstances, to prevent injuries or accidents in the workplace. This duty applies to situations that are not addressed elsewhere in the Occupational Health and Safety legislation.

Why does due diligence have special significance?

"Due Diligence" is important as a legal defense for a person charged under the Occupational Health and Safety Legislation. If charged, a defendant may be found not guilty if he or she can prove that due diligence was exercised. In other words, the defendant must be able to prove that all precautions, reasonable under the circumstances, were taken to protect the health and safety of workers.

How does an employer establish a due diligence program?

The employer must have in place written Occupational Health and Safety policies, practices, and procedures. These would demonstrate that the employer carried out workplace safety audits, identified hazardous practices and hazardous conditions and made necessary changes to correct these conditions, and provide employees with information to enable them to work safely.

Harassment

In cooperation with our employees, we are committed to a healthy, harassment-free work environment for all. We have developed a companywide policy intended to prevent harassment and to deal quickly and effectively with any incident that might occur. Harassment is any unwelcome physical, visual or verbal conduct. It is against the law. Harassment may include, but not limited to, verbal or practical jokes, insults, threats, or personal comments. It may take the form of posters, pictures or graffiti. It may involve touching, striking, pinching or any unwelcome physical conduct. Any behavior that insults or intimidates is harassment if a reasonable person should have known that the behavior was unwelcome.

The Human Rights Code protects everyone within provincial jurisdiction from harassment and other forms of discrimination on the basis of race, religion, sex (including pregnancy and sexual orientation), marital status, physical disability, mental disability, political opinion, color or ethnic, national or social origin and age.

CircaDyn Inc will not tolerate any such harassment, and this policy will be strictly enforced to its fullest potential.



Working Alone

There are four steps required by the Alberta OH&S Code. Three of the four requirements are already in place. They are:

- Conduct a hazard assessment
- Eliminate or reduce risks
- Ensure employees are trained and educated

The fourth element is the focus of this procedure. It is to establish an effective means of communication. The technology is already in place as each field employee is equipped with modern communication.

To work alone anytime we must establish a communication link with someone in a position to act as our safe keeper, "without exception". This applies to all employees in all hours of the day and night, seven days a week. During a normal working period your supervisor is your safe keeper and expects to hear from you on a regular basis.

During off hours and on weekends, the after hour supervisor is the safe keeper. A procedure standard as described will provide the effective communication link.

When an employee is called out to or is remaining on site after normal business hours, it is that individual's responsibility to call the afterhours supervisor and establish a communication link, and advise the supervisor of his/her present location and pertinent information (e.g. I'm Joe, and I am leaving home now. I am going to do work an ABC street, I will call you as soon as I arrive there with an estimate on how long the work will take to complete and my field level risk assessment).

Upon arrival at the destination the employee again calls the supervisor and advises, "I have arrived at site and completed my risk level assessment".



Section Three

Workplace Hazard Assessment & Control

Hazard Identification

- Rare Energy Corp. believes that proactive identification of hazards is a critical component of the health and safety program. This process is essential in establishing safe working conditions on projects, and ensuring ongoing safe work conditions
- Policy
- To effetely reduce or eliminate costly accidents, the supervisor and Forman will do a hazard assessment which identifies hazards and the controlling measures.
- Hazard assessments are to be reviewed by the safety coordinator.
- Sub contractors are required to conduct a formal hazard assessment identifying job site. Sub contractor hazard assessment are to be up dated as job conditions change the completed copies of hazard assessments are to be provide to Rare Energy Corp. for review.
- Standards
- The project supervisor will regularly conduct a hazard assessment of the assigned work area and a complete the hazard assessment form.
- The hazard assessment form will be completed at the start of each project in conjunction with health and safety consultant. Both workers and foreman should be included when possible conducting hazard assessment with consultant.
- The project supervisor is to review the project hazard assessment and site specific hazard control measure with all Rare Energy Corp. workers on site and all new transferred workers to the project. All Rare Energy Corp. subcontractors and employees on site must review and sign the hazard assessment form confirming that they have reviewed the projects hazard assessment and the identifying control measures.
- Supervisors on the project are responsible for conducting hazard assessments of new and unique tasks.
- Superintendents and project foreman are responsible to conduct hazard assessment on a on-going basis.
- Sub-contractors are responsible to ensure their employees are made aware of Rare Energy Corp. site hazard assessment and control measures
- Sub-contractors are responsible to provide documentation showing that they have reviewed their hazard assessment with their workers on site.

Ken Kan (Chief Compliance Officer)



Section Four Safe Work Practices

SAFE WORK PRACTICES

Getting the job done safely means that the people involved follow the Safe Work Practices.

Definition:

Safe work practices are a set of positive guidelines or "Do's and Don'ts" on how to perform a specific task that may not always be done in a certain way.

Safe Work Practices are ways of controlling hazards and doing jobs with a minimum risk to people and property. To reduce risks, an organization must have a written set of Safe Work Practices outlining what is to be done in general terms for each job considered to be hazardous. These must be developed to fit the particular company. Management must understand and fully endorse these Safe Work Practices, and ensure that:

- They are in writing.
- They are related to the scope of work.
- All employees understand the Safe Work Practices that apply to them.

POLICY

It is the policy of Rare Energy Corp. that written and practical instructions will be developed and maintained, on an ongoing basis, to eliminate or control the dangers likely to be encountered by our workers in the performance of their duties.

All workers are charged with the responsibility of following these written and practical instructions. Superintendents and Foremen are to be held accountable for the monitoring of the work place to ensure that compliance is obtained.

Generally, compliance will be obtained by mutual cooperation and by education of Superintendents and Foremen and Workers in the "WHYS" of our safety rules and procedures.

Schedule of Safe Work Practices Development and Review



Safe Work Practices	Development			Revie	ew		Revie	Review		
	Date By Whom Anne Moher			Date			Date	Date		
	M	D D	Y Y	M By w	By Whom P/F M D Y		By Whom P/F M D Y			
Defective tools	03	21	2013	03	28	2013	09	23	2014	
Use of Explosive/Power	03	21	2013	03	28	2013	09	23	2014	
Tools	0.5	21	2013	03	20	2013	0)	23	2011	
Portable Grinders	03	21	2013	03	28	2013	09	23	2014	
Grinding	03	21	2013	03	28	2013	09	23	2014	
Hand Held Power Circular	03	21	2013	03	28	2013	09	23	2014	
Saws										
Tiger Torches	03	21	2013	03	28	2013	09	23	2014	
Welding, Cutting, Burning	03	21	2013	03	28	2013	09	23	2014	
Use of Propane	03	21	2013	03	28	2013	09	23	2014	
Use of Compressed Air	03	21	2013	03	28	2013	09	23	2014	
Cleaning Solvents and	03	21	2013	03	28	2013	09	23	2014	
Flammables	<u> </u>			<u></u>						
Fire Extinguisher Use	03	21	2013	03	28	2013	09	23	2014	
Proper Lifting / Hoisting	03	21	2013	03	28	2013	09	23	2014	
Rigging	03	21	2013	03	28	2013	09	23	2014	
Use of Step Ladders	03	21	2013	03	28	2013	09	23	2014	
Use of portable ladders	03	21	2013	03	28	2013	09	23	2014	
Dust in construction	03	21	2013	03	28	2013	09	23	2014	
Fall Protection	03	21	2013	03	28	2013	09	23	2014	
Fire Prevention	03	21	2013	03	28	2013	09	23	2014	
Man Lift	03	21	2013	03	28	2013	09	23	2014	
Forklift	03	21	2013	03	28	2013	09	23	2014	
Portable Ladders	03	21	2013	03	28	2013	09	23	2014	
Manual Lifting	03	21	2013	03	28	2013	09	23	2014	
Loader Operations	03	21	2013	03	28	2013	09	23	2014	
Pneumatic Tools	03	21	2013	03	28	2013	09	23	2014	
Propane	03	21	2013	03	28	2013	09	23	2014	
Working Alone	03	21	2013	03	28	2013	09	23	2014	
Hoisting and Lifting	03	21	2013	03	28	2013	09	23	2014	
Housekeeping	03	21	2013 2013	03	28	2013	09	23	2014	
Incidents/Accidents	03	21		03	28	2013	09	23	2014	
Lockouts/Tag outs	03	21	2013	03	28 28	2013	09	23	2014	
Mobile Equipment Ouick Saws	03	21	2013 2013	03	28	2013 2013	09	23	2014 2014	
Electrical Shock	03	21	2013	03	28	2013	09	23	2014	
	03	21	2013	03	28	2013	09	23	2014	
Cleaning Solvents Air Tools	03	21	2013	03	28	2013	09	23	2014	
Operation of Air tools	03	21	2013	03	28	2013	09	23	2014	
Power Hand tools	03	21	2013	03	28	2013	09	23	2014	
Worksite Hazard	03	21	2013	03	28	2013	09	23	2014	
Assessment	03	∠1	2013	03	20	2013	09	23	2014	
Worksite Safety Inspection	03	21	2013	03	28	2013	09	23	2014	
Power Cords	03	21	2013	03	28	2013	09	23	2014	
Air Compressors	03	21	2013	03	28	2013	09	23	2014	
Table Saws	03	21	2013	03	28	2013	09	23	2014	
Temporary Heating	03	21	2013	03	28	2013	09	23	2014	
Propane Cylinders	03	21	2013	03	28	2013	09	23	2014	
Man lift	03	21	2013	03	28	2013	09	23	2014	
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Safe Work Practice

Defective Tools

General

Defective tools can cause serious and painful injuries.

If a tool is defective in some way, DO NOT USE IT.

Be aware of problems like:

- Chisels and wedges with mushroomed heads
- Spilt or cracked handles
- Chipped or broken drill bits
- Wrenches with worn out jaws
- Tools which are not complete, such as files without handles

To ensure safe use of hand tools, remember:

- Never use a defective tool
- Double check all tools prior to use; and
- Ensure defective tools are repaired.

Air gasoline or electric power tools; require skill and complete attention on the part of the user even when they are in good condition. Do not use power tools when they are defective in any way.

Watch for problems like:

- Broken or inoperative guards
- Insufficient or improper grounding due to damage on double insulated tools,
- No ground wire (on plug) or cord of standard tools,
- The on/off switch not in good working order
- Tool blade is cracked
- The wrong grinder wheel is being used
- The guard has been wedged back on a power saw



Safe Work Practice

Use of Explosive/Powder Actuated Fastening Tools

General

There are a number of tools utilizing an explosive charge in use throughout the construction industry to drive fastenings.

The manufacturers of these devices provide detailed instructions regarding their use and maintenance. These instructions along with the legislation specifically set out for their use, shall be closely adhered to at all times.

The following general recommendations apply to all explosive/powder-actuated tools.

- Only properly trained and qualified operators are to use this type of tools. The user shall possess proof of this training issued by the manufacturer authorized dealer/distributer other competent source.
- The tool must be CSA standard approved for "Explosive Actuated Fastening Tools"
- The tool should be loaded just prior to use with the correct load for the job anticipated. Tools should never be loaded and left to sit or be moved to an alternate work site after being loaded.
- The tool should never be pointed at anyone whether loaded or unloaded. Hands should be kept clear of the muzzle end at all times.
- Explosive/powder actuated tools should always be stored in their proper lockable boxes.
- Explosive/powder actuated tools must never be used in an explosive atmosphere.
- When used, the tool must be held firmly and at the right angles to the surface being driven into.
- The operator must wear eye protection. Where there is a danger of spilling full-face protection must be worn. Hearing protection is also to be worn in confined areas.
- To prevent free-flying studs, ensure that the material being driven into will not allow the stud to completely pass through it (i.e. glass block hollow tiles).
- Manufacturer's recommendations should be consulted and followed whenever there is a doubt about the material being driven into, maintenance procedure, or load strength to be used.
- Always be aware of other workers. Where a hazard to other workers is created by this operation, signs and barricades identifying the hazard area are mandatory.



Safe Work Practice

Use of Portable Grinders

General

Abrasive wheels can cause severe injury. Proper storage of new wheels, proper use of wheels and proper maintenance of wheels must be observed.

- Familiarize yourself with the grinder operation before commencing work.
- Ensure proper guards are in place and that safety glasses, face shields, gloves and safety boots are worn when using portable grinders.
- Never exceed the maximum wheel speed (every wheel is marked). Checks the speeds marked on the wheel and compare it to the speed of the grinder.
- When mounting the wheels check those for cracks and defects ensure that the mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.
- Before grinding run newly mounted wheel at operating speed to check for vibrations
- Do not use grinders near flammable materials.
- Never use the grinder for jobs for which is not designated such as cutting.



Grinding

General

Severe injury may occur if proper protective equipment is not used and properly maintained.

- Check the tool rest for the correct distance from the abrasive wheel maximum 1/8" or 3mm clearance
- If the wheel has been abused and ground to an angle or grooved, reface the wheel with the appropriate surfacing tool.
- If the wheel has been abused and ground to an angle or grooved reface the wheel with the appropriate surfacing tool.
- Protect your eyes with goggles or a face shield at all times when grinding.
- Each time a grinding wheel is mounted the maximum approved speed stamped on the wheel bladders should be checked against the shaft rotation speed of the machine to ensure the safe peripheral speed exceeding the manufacture's recommendation
- The flanges supporting the grinding wheel should be a maximum of 1/3 the diameter of the wheel and must fit the shaft rotating speed according to the manufacturers recommendation.
- Bench grinders are designated for peripheral grinding. Do not grind on the side of the wheel
- Do not stand directly in front of grinding wheel when it is first started



Use of Hand-Held Power Circular Saws

General

This type of power tool is one of the most commonly used in construction. Because of the common use there are numerous accidents due to thoughtless acts.

The following are the minimum accepted practices to be sued with this saw;

- Approved safety equipment such as safety glasses or a face shield is to be worn.
- Where harmful vapors or dusts are created, approved breathing protection is to be used.
- The proper sharp blade designed for the work to be done must be selected and used.
- The power supply must be disconnected before making any adjustments to the saw or changing the blade.
- Before the saw is set down be sure the retracting guards has fully returned to its down position
- Both hands must be used to hold the saw while ripping
- Maintenance is to be done according to the manufacturers specifications
- Ensure all cords are clear of the cutting area before starting to cut
- Before cutting, check the stock for foreign objects or any other obstruction which could cause the saw to "kick-back"
- When ripping, make sure the stock is held securely in place. Use a wedge to keep the stock from closing and causing the saw to bind.



Use of Tiger Torches

General

Tiger torches, although valuable to a job-site are sometimes misused in a matter that can make them dangerous.

Tiger torches are only to be used for preheating or piping etc. prior to welding.

- When torch is used, an adequate fire extinguisher must be present.
- Torches are not to be used for heating of work areas or thawing of lines and equipment etc.when not in use.
- Fuel lines are to have regulators
- Propane bottles shall be secured in an upright position



Welding, Cutting, Burning

General

Work involving welding cutting and burning can increase the fire and breathing hazard on any job and the following should be considered prior to the start of work.

- Always ensure that adequate ventilation is supplied since hazardous fumes can be created during welding cutting or burning
- Where other workers may also be exposed to the hazards created by welding cutting and burning, they must be alerted to these hazards or protected from them by the use of "screens"
- Never start work without proper authorization
- Always have firefighting or prevention equipment on hand before starting welding cutting or burning.
- Check the work area for combustible material and possible flammable vapors before starting work
- A welder should never work alone. A fire or spark watch should be maintained
- Check cables and hoses to protect them from slag or sparks
- Never weld or cut lines drums tanks etc. that have been in service without making sure that all precautions have been carried out and permits obtained
- Never enter weld or cut in a confined space without proper gas test and a required safety lookout
- When working overhead use a fire resistant materials (blankets, tarps) To control or contain slag and sparks
- Cutting and welding must not be performed where sparks and cutting slag will fall on cylinders (move all cylinders away to one side)
- Open all cylinder valves slowly, the wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use.



Use of Propane

General

Since propane is heavier than air and invisible, it is a special concern when it used on the job site.

All installations and use of this product on the job site must comply with the government legislation set out for its safe use.

Suppliers delivering the product or setting up the equipment at the site must be part of the safe work practice.

- Nylon slings must be used in a "choker" fashion when loading, off loading or lifting propane tanks.
- "Lifting Lugs" provided on tanks are not to be used. Slings are to be wrapped around the shell tank.
- Tank valves and regulators are to be removed from the tank prior to any movement of the tank.
- Crane hooks shall be equipped with a "safety latch"
- All trucks, cranes or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of tank being handled..
- Except in an emergency, any movement or repositioning of tanks shall be performed by a competent worker.
- Tanks are not to be heated to increase flow.
- When in use propane bottles are to be securely held in an upright position
- Tanks are not to be hooked up and used without proper regulators



Use of Compressed Air

General

Air powered tools in construction range from stapling guns or jack hammers. If not treated with respect, these tools can become a powerful enemy rather than a servant.

- Compressed air must not be used to blow debris or to clear dirt from any workers clothes.
- Ensure that the air pressure has been turned off and the line pressure relieved before disconnecting the hose or changing tools.
- All hose connectors must be of the quick disconnect pressure release type with a "safety chain/cable"
- Wear personal protective equipment such as eye protection and face shields and ensure other workers in the area are made aware of or have restricted access to the hazard area.
- Hoses must be checked on a regular basis for cuts bulges or other damage. Ensure that defective hoses are repaired or replaced.
- A proper pressure regulator and relief device must be in the system to ensure that correct desired pressures are maintained.
- The correct air supply hoses must be used for the too/equipment being used
- The equipment must be properly maintained according to the manufacturer's requirements.
- Follow manufacturer's general instruction and comply with legislated safety requirements.



Use of Cleaning Solvents and Flammables

General

Cleaning solvents are used in the day-to-day construction work, to clean tools and equipment. Special care must be taken to protect the worker from hazards, which may be created from the use of these liquids. Wherever possible, solvents should be non-flammable and non-toxic.

The following instructions or rules apply when solvents/flammables are used:

- Use non flammable solvents for general cleaning.
- When flammable liquids are used, make sure that no hot work is permitted in the area.
- Store flammables and solvents in special storage areas.
- Check toxic hazards of all solvents before use (MSDS)
- Provide adequate ventilation where all solvents and flammables are being used
- Use goggles or face shields to protect the face and eyes from splashes or sprays.
- Use rubber gloves to protect the hands.
- Wear protective clothing to prevent contamination of workers clothes
- When breathing hazards exist use the appropriate respiratory protection
- Never leave solvents in open tubs or vats return them to storage drums or tanks
- Ensure that proper containers are used for transportation storage and field use of solvents/flammables
- Where solvents are controlled products ensure all employees using or in the vicinity of use or storage are trained and certified in the Work Place Hazardous Materials Information System.
 Ensure all WHMIS requirements are met.



Fire and Use of Fire Extinguishers

General

Good housekeeping is essential in the prevention of fires. Fires can start anywhere and at anytime. This is why it is important to know which fire extinguishers to use and how to use it.

Always keep fire extinguishers visible and easy to get at. Fire extinguishers have to be properly maintained to do the job. Where temperature is a factor, ensure that care is taken in selecting the right extinguisher.

Types of Fires:

Class A: These fires consist of wood, paper, rags, rubbish and other ordinary combustible materials.

Recommended Extinguisher:

Water from a hose pump type water can, or pressurized extinguisher, and soda acid extinguisher

Fighting the Fire:

Soak the fire completely – even the smoking embers.

Class B: Flammable liquids, oil and grease.

Recommended Extinguisher

ABC units, dry chemical, foam and carbon dioxide extinguishers.

Fighting the Fire

Start at the base of the fire and use a swinging motion from left to right, always keeping the fire in front of you.

Class C: Electrical Equipment

Recommended Extinguishers

Carbon dioxide extinguishers and/or dry chemical (ABC units) extinguishers.

Fighting the Fire

Use short bursts on the fire. When the electrical current is shut off on a class C fires it can become a Class A fire if the materials around the electrical fire are ignited.



Proper Lifting Practices – Hoisting

Evaluating the Load

Determine the weight of the object or load prior to a lift to make sure that the lifting equipment can operate within its capabilities.

Balance Loads

Estimate the center of gravity or point of balance, the lifting should be positioned immediately above the estimated center of gravity.

Landing the Load

Prepare a place to land the load, lower the load gently and make sure it is stable before slackening the sling or chain.

- Select only alloy chain slings and NEVER exceed the working load limits
- Make sure the hoist or crane is directly over the load
- Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings never use bolts or nuts.
- Never permit anyone to ride the lifting hook or the load.
- Make sure all personnel stand clear from the load being lifted
- Never work under a suspended load, unless the load is properly supported
- Never leave a load suspended when the hoist or crane is unattended
- Inspect all slings thoroughly at specified intervals and maintain hem in good condition
- Ensure that the safety latches on hooks are in good working condition
- Ensure that the signaler is properly identified and understands techniques of proper signaling
 - Make sure a tagline is used to control the load

Rigging

General

Rigging looks like an easy operation that requires no particular skill or experience .But if you have an idea that just anybody can do it you're on the wrong track. Too many people have lost fingers or hands or have suffered more serious in juries because they thought," Anyone can do that"



Here are some dos and don'ts to remember:

- Name one member of the crew to act as a signalman, and instruct the equipment operator to recognize signals from that person only. The signalman must be careful not to order a move until he has received the "all ready" to the signalman.
- Each rigger must be sure he or she is gives an "all ready" to the signalman. When you have positioned the sling or choker you're using release it if possible before you give the "all ready" signal.
- If you must hold the sling or choker in position be sure your hand is clear of pinch points. In fact your hand should be far enough away so there's no possibility of a frayed wire catching your glove and jerking your hand into a pinch point (of course fray cables should never be used)
- Watch out for the roll of swing of the load. Since it is almost impossible to position the hookexactly over the load center there will almost always be a swing or roll. Anticipate the direction of the swing or roll and work away from it.
- Never place yourself between material, equipment or any stationary project and the load swing. Also stay away from the stacked material that ma be knocked over by a swinging load.
- Never stand under the load and keep from under the boom as much as possible chances are that nothing will break, but something might.
- Look over the place where the load is to be set. Remove unnecessary blocks or other objects that might fly up if struck by the load.
- When lowering or setting the load you must be absolutely sure your feet and all other parts of your body are out from under. Set the load down easily and slowly so that if it rolls on the blocking it will be a slow shift that you can get away from.
- Identify the designated signalman by the use of distinctive vests, armlets, etc.
- Use tag lines to control the leads.



Safe Work Practices Power Lifts

General

Working on the Power lifts machines these are some safety issues that are required.

- All workers must be trained on the proper use of the lifts.
- Inspection must be completed prior to the lift being started.

Note:

- An inspection of the platforms.
- The mast must be plumb from all angles.
- Check the areas around the machines to ensure no materials are blocking
- Guard rails must be in place and secure.
- Put the key into the machine.
- Never alter or modify the platforms.
- Ensure fall protection is to be worn when erecting and dismantling masts.
- Floor planks must be to code and scaffold grade laminated
- All guard rails must be in place.
- Must not use ladders for extra height on the lifts.

Note: Movement of these lifts

- When operating power lifts the operator is to ensure there are no obstacles that might hinder the movement.
- Before moving the lifts up you must insure that workers in the area are aware
- Before bring the machine down to the ground operator is to yell "COMING DOWN" or have a spotter to ensure no one is under the lifts.
- Ensure clearance (Windows, trees, power lines).
- Ensure that debris is removed from the lifts as this may cause serious injury

Unfavorable weather conditions

- 1. Strong winds free standing base platforms if winds are greater than 45 km
- 2. If winds are in the forecast greater than 75 km the platforms must be brought down to the lowest level
- 3. Electrical storms
- 4. Freezing rain
- 5. Heavy snow



Safety rules reminder

- Secure the location around the base and the platform before work begins
- Inspect the site and the platforms before work begins
- Wear anti-fall protection equipment when needed.
- Never use a step ladder or extension ladder to reach a work surface.
- Always keep an eye on the available overhead clearance when using the platforms.
- Leave the platform before electrical storm or strong winds.
- Keep the platform free of any debris accumulated on.
- Check for electrical power lines nearby before using the platforms.
- Never over load the platform; always consult the load chart in the user's guide. A warning panel for the load capacity for your configuration.
- Inspect your equipment daily.

DO NOT OVER LOAD THE LIFTS FOR ANY REASON



Safe Work Practices

Dust in Construction

Dust in everywhere on a construction site. It begins with excavation when the job first comes out of the ground and does not end until the final sweeping before the finished building is turned over to the owner. In addition to general dirt and debris, other common dusts include concrete dust, wood, dust, brick dust, marble, granite and gypsum dust.

Quartz dust or silica is also present either in the form of abrasive sands or as component of concrete, brick or granite dust. Although these dusts do not smell bad or cause light-headiness like solvents, they can also be hazardous. The tragedy of black lung among coal miners is strong evidence of that. The amount of harm that can be caused by dust will depend on the type of dust, exposure limits, and quantity of dusts.

Silica and Other Construction Dusts

- The hazard posed by silica will depend on how much quartz dust is generated. Processes that cause mechanical disturbances of quartz containing materials present silica dust hazard. These processes include cutting, grinding and crushing. The most hazardous process involving quartz is sandblasting. Sandblasting causes quartz to breakdown into smaller particles and creates very high dust levels.
- Some other common dusts on construction sites are excavation dusts, concrete dust, gypsum dust, brick marble, and granite dust. These dusts used to be called 'nuisance dusts'.

Precautions against Dust

- The best protection against the hazards of dust is use of local exhaust ventilation. Examples of this include dust collectors fitted onto power tools like hammer drills and jack hammers.
- Safer materials should be used as substitutes for sand when abrasive blasting. The National Institute for Occupational Safety and Health (NIOSH) has recommended that the use of sand or any abrasive containing more than 1% crystalline silica should be prohibited. Glass beads, pumice, sawdust, slag, steel grit, and walnut shells are available substitutes.
- High Efficiency Particulate Air (HEPA) filter vacuums should be used rather than dry sweeping. Wetting down dust before sweeping will also control some of the dust.



Safe Work Practices

Dust in Construction - cont'd

Precautions against Dust – cont'd

- However, there is some concern that this may control the larger visible dust without doing a good job of controlling the smaller, invisible respiratory dust.
- If respirators are used, they should be part of a respiratory protection program that includes a written program, training on use and limitations, regular cleaning, proper storage, and regular inspections.
- Workers should not be assigned to jobs requiring a respirator until it has been determined that they can safely wear the respirator while doing the job.
- If an air-purifying respirator is used, they should be equipped with HEPA cartridges.
- Disposable dust masks should only be used for very low exposure to non silica containing dust. Disposable masks don not form a snug seal with the face and may provide very little protection.
- A CE abrasive-blasting respirator operated in the positive-pressure mode (APF of 2000) should be used when sandblasting.

Hazards

- The amount of dust you come in contact with through breathing is referred to as an "inhalation exposure".
- The amount of harm dust may cause will depend on the type of dust it is.

Safe Work Practices

Dust in Construction - cont'd



Regulations and Authoritative Bodies

There are three resources of exposure limits.

- The Occupational Health and Safety Administration (OSHA) issues limits, which are legally enforced, called "Permissible Exposure Limits" or "PEL"s. These are usually based on exposures averaged over an eight-hour day.
- The National Institute for Occupational Health and Safety (NIOSH) conducts research, provides technical assistance to workers and employers and recommends standards to OSHA. They publish recommended exposure limits (RELs) that are usually more current. Unlike OSHA, (which considers the cost to industry when creating PELs), NIOSH RELs are based solely on consideration of health risk.
- The American Conference of Government Industrial Hygienists is an association of hygienists that publish recommended exposure limits called "Threshold Limit Values" or "TLV".

Safe Work Practices

Fall Protection

- All employees or subcontractors working at heights over 10 feet or where unusual risk of injury could occur must be protected from the hazards of falling by a fall protection system.
- A fall protections system may include the use of barriers, guardrails, fall restraint, fall arrest, safety harnesses and lifelines, or another effective means.



- A site specific fall protection plan is to be developed and implemented whenever a fall hazard of 25 feet or more above grade exists, or whenever work procedures such as a control zone or safety monitor system is selected as a method of preventing a fall.
- Fall prevention equipment shall be inspected on a daily basis and any equipment found defective must be removed from use. Fall prevention equipment that has arrested a fall must be removed from use and is not to be re-used unless re-certified.

Definitions

Anchor: A secure point of attachment for a lifeline or lanyard. The anchor for fall restraint must not be less than 800 pounds, and anchors for fall arrest must not be less than 5000 pounds.

<u>Carabineer</u>: A link with a gate that is normally closed or that automatically closes, and is used to connect components of a personal fall protection system.

Control Zone: The area between an unguarded edge of a building or structure and a line, which is a set back of a safe distance. Control zones shall be a minimum of $6\frac{1}{2}$ feet.

<u>Fall Arrest System</u>: A system that will stop a worker from falling before the worker hits the surface below.

Fall Protection System: May consist of:

- Guardrails,
- A safety belt or full body harness with a lanyard and/or lifeline, and an anchor and their related equipment,
- A safety net, a control zone,
- A safety monitor with a control zone, or
- Other procedures acceptable to the Board.

Safe Work Practices

Fall Protection - cont'd

Definitions – cont'd

Fall Restraint System: A system to prevent a worker from falling from a work position, or a travel restriction system such as guardrails, or a personal fall protection system to prevent a worker from traveling to an edge from which the worker could fall.

<u>Free Fall Distance</u>: The distance from the point where a worker would begin to fall to the point where the fall arrest system would begin to slow down the fall.



<u>Full Body Harness</u>: A Harness designed to distribute a fall arresting force over at least the thigh, shoulders, and pelvis with provisions for attaching a lanyard, lifeline or other components.

Horizontal Lifeline System: A system composed of a synthetic or wire rope, installed between two anchors, to which a worker attaches a personal fall protection system.

Lanyard: A flexible line of webbing or rope used to secure a safety belt or full body harness to a lifeline or anchor.

Lifeline: A line rigged from one or more anchors, to which a worker's lanyard or other part of a personal fall protection system is attached.

Personal Fall Protections System: An individual worker's fall protection system composed of a safety belt or full body harness, a lanyard, a lifeline, and any other connecting equipment that is used to secure the worker to an individual anchor or to a horizontal lifeline system.

<u>Safety Monitor System</u>: A system where a trained worker is designated to monitor work activities in a control zone to ensure the work is done in a manner that minimizes the potential for a worker to fall.

Shock Absorber: A device intended to limit the forces applied to a worker during a fall arrest.

Swing Fall Hazard: The hazard of swinging and colliding with an obstruction following a fall by a worker connected to a lifeline at an angel to the anchor location.



Safe Work Practices

Fall Protection - cont'd

Definitions – cont'd

Total Fall Distance: The distances from the point where a fall begins to the point where the fall would be stopped.

<u>Unusual Risk of Injury</u>: There is a risk of injury greater than the risk of injury from the impact on a flat surface (i.e. from a fall onto operating machinery or into a tank of chemicals).

Responsibilities of Personnel Involved

- Take reasonable care to protect your own safety and health ant that of other workers.
- Use the required protective clothing and equipment.
- Follow the work procedure for fall restraint and fall arrest.
- When the use of fall restraint is not practicable, use a fall arrest system.
- Where the use of a fall arrest system would result in a hazard greater than if the system were notused, the employer must ensure:
 - A control zone is used in accordance with these regulations, or
 - A safety monitor system with a control zone in accordance with these regulations, or
 - > Other procedures acceptable to the Board are followed.

Fall Protection Plan

The intention of a fall protection plan is as follows:

- Assist the employees in identifying the fall hazards before work commences at the work-site.
- Assist in the selection of a fall protection system(s) appropriate to the work being planned to
 provide a safe, effective and efficient method to minimize and eliminate injury to workers from
 falls.
- Assess the correct fall protection program on a job specific basis and develop a site specific fall protection plan procedure when required.



Safe Work Practices

Fall Protection – cont'd

Fall Protection Plan – cont'd

- Determine the method for the safe, prompt rescue of a worker who has fallen and is suspended in a fall protection system.
- A specific written fall protection plan is required when:
 - Work is being done at a location where workers are not protected by permanent guardrails from which a fall of 25 feet or more could occur.
 - ➤ The employer uses a safety monitor and control zone or other work procedures as the means of fall protection.
 - The Board provides direction because a fall may involve an unusual risk of injury. Therefore, the plan must be available at the work-site before work commences.
- The plan must detail:
 - > The fall hazards expected in each section,
 - > The system or systems to be used in each section,
 - > The procedures to assemble, maintain, inspect, use and disassemble the system, and
 - The procedures for rescue of a worker who has fallen and is suspended by a personal fall protection system.

Anchors

- Prevention of falls is only as effective as the anchors. Anchors must be substantial to withstand the excessive forces that are applied when a fall is arrested.
- Vertical lifelines must have a minimum strength of 6000 pounds and permanent anchors support of strength of 5000 pounds in any direction approximately the weight of a mid-size pickup.
- Temporary anchors must have a minimum strength of 800 pounds.
- Suitable anchor points include the following:
 - ➤ Roof structures such as large masonry chimneys.
 - Concrete or structural steel columns or beams.
 - Engineered anchors specifically installed for that purpose.
 - Manufactured portable anchors.
 - Manufactured rings attached to anchor plates.

Safe Work Practices



Fall Protection - cont'd

Lanyards

- A lanyard must meet the requirement of CSA Standard Z259-1-1995.
- When tools are used that could sever, abrade, or burn a lanyard or safety strap, the lanyard must be made of wire rope.
- When using lanyards or lifelines of wire rope construction a shock absorber should be utilized as part of the fall arrest system.
- The distance of a fall must be limited to 4 feet. When using shock absorbers, allowances must be allowed for the increase of total fall distance. The free fall distance should not exceed 61/2 feet.
- To prevent snap hooks from becoming unattached from the anchor they must be of a self-locking type.

Retractable Lanyards

- Retractable lanyards allow for a wider range of movement from the anchor point. They are designed to lock if a worker suddenly falls.
- They can also be used on a temporary or permanent horizontal lifeline.
- Normally they are attached to a lifeline with a shackle or carabineer. Remember to consider the swing hazard when using a retractable lifeline. Many workers have been seriously injured when they have fallen due to the swing hazard.
- The first option for fall protection is guardrails. Guardrails must consist of:
 - Top rail must be at least 2 x 4 lumbers for a span of up to 2.4 meters between supports and 2 x 6 for a span between 2.4 meters and 3.0 meters between supports.
 - An intermediate rail at midpoint between the top rail and the toe board.
 - \triangleright A top rail 40 44 inches about the work surface.
 - A toe board.
- The guardrails must be secured to the tops or inner side of the vertical support
- They must also be able to withstand a 125 pound force applied perpendicular to the span in a horizontal or vertically downward direction at any point in the top rail.

Safe Work Practices

Fall Protection - cont'd



Stairs

Every flight of stairs with more than four risers must be equipped with handrails:

- On all open sides,
- On one side of enclosed stairways 44 inches or less in width, and
- On both sides of enclosed stairways over 44 inches in width.

Floor Openings

- All floor openings accessible to workers must be securely covered or fitted with fixed, removable, or collapsible guardrails.
- Covers must be identified and workers must be instructed not to remove the covers unless
 required to perform work. When the cover is removed the worker must be provided with a fall
 protection system to prevent falling into the openings.

Fall Restraint or Travel Restriction System

- A fall restraint system s used to prevent workers falling from unguarded portions of a structure. The system consists of safety harnesses, rope grab, lifeline, and an anchor for the lifeline:
 - When using temporary anchors for a vertical lifeline or a lanyard used without a lifeline the anchor must have a minimum strength of 800 lbs.
 - Lifelines have minimum breaking strength of 6000 lbs.
 - Lifelines must be protected against abrasion.
 - > Lifelines must be effectively secured to the anchors.
 - > Safety harness must be CSA certified.
 - Manufactured Anchors.
- Workers who are required to work within 2 meters of the leading edge must be provided with and use fall protection or other procedures acceptable to the OH&S/WCB.
- When it is impracticable to use fall restraint, a fall arrest system must be used. A fall arrest system consists of a full body harness attached to a lifeline or lanyard.

Safe Work Practices

Fall Protection - cont'd

Vertical Lifelines

To allow for the reduction in the strength of a lifeline when it is attached to the anchor with a knot, the minimum breaking strength must be at least 6000 pounds for vertical lifelines. Some knots such as "bowline" will reduce the Working Load Limit (WLL) of the rope by 25 percent or more. They:



- Must not have any knots or splices except at the ends.
- Must be protected as required to prevent chaffing or abrasion caused by contact with sharp or rough edges. A piece of rubber hose is an excellent method of protection.
- Must be of wire rope construction when there is a hazard that the lifeline could be damaged or severed by welding or burning. The only exception is when working near electrical conductors. Then another effective method of fall protection must be used.
- Must extend to within 4 feet of a safe lower surface. This does not apply to a lifeline used on a sloped roof.
- Cannot exceed 300 feet in length without prior authorization of the WCB.
- Must be secured to an independent anchor when used for fall arrest.
- Can only be one worker attached to a lifeline.
- Must be installed and used in a manner that will minimize swing hazard.
- Must not reduce the strength of the lifeline if a splice or know is at the end of the lifeline.

NOTE: Although any knot can be used to attach a lifeline to an anchor workers must be aware that most knots reduce the strength of the lifeline up to 25%. Wherever possible, use a tensionless hitch. This type of attachment reduces the strength of the lifeline the least.

Horizontal Lifeline Systems

- There are three types of horizontal lifeline systems that may be sued:
 - ➤ A temporary system for fall restraint
 - > A temporary system for fall arrest.
 - A permanent system for fall arrest.

Safe Work Practices

Fall Protection - cont'd

Horizontal Lifeline Systems – cont'd

- A temporary horizontal lifeline system for fall restraint must have an ultimate load capacity of 800 pounds for each worker connected to the system.
- Unless a registered professional engineer certifies the system a temporary lifeline system used for fall arrest must meet the following requirements:



- Must be a minimum of ½ inch wire rope having a breaking strength of at least 20,000 lbs.
- Must be free of splices except at terminal ends.
- Connecting shackles, etc. must have a load capacity of 16,000 lbs.
- > Span of the temporary lifeline system must be at least 20 feet and not be greater than 60 feet.
- Anchors must have a capacity of 16,000 lbs.
- Must have unloaded sag approximately the span length divided by 60.
- Must be at least 39 inches above the working surface.
- Free fall must be limited to 4 feet and must have a minimum of 12 feet of unobstructed free space available below the working area.
- No more than 3 workers are to be secured to the horizontal lifeline.

Permanent Horizontal Lifelines

When using a permanent horizontal lifeline there must be an approved signed and dated engineered drawing for the lifeline in use. There must also be instructions outlining the use of the system.

Control Zone and Safety Monitoring

- The last option is the control zone and safety monitor system.
- If the use of a fall arrest system is not practicable or will result in a hazard greater than if the system was not used, a control zone, a safety monitor, or other procedures acceptable to the WCB may be used.
 - \triangleright The width of the control zone must be at least 2 meters (6 ½ ft).
 - A fall protection system does not have to be used if workers will remain further from the unguarded edge than the width of the control zone.
 - ➤ If a worker is working within 2 meters of the control zone a raised warning lie marking the edge of the control zone is required.



Safe Work Practices

Fall Protection – cont'd

Control Zone and Safety Monitoring - cont'd

- The warning line:
 - A line of high visibility material or a line flagged or clearly marked with a high visibility material at intervals not exceeding 2 meters (6 ½ ft).
 - Must be between .85 meters and 1.15 meters (34 and 45 inches) above the working surface.
 - Additional distance must be added if the working surface is slippery or sloped, the work is carried out at an elevation relative to the unguarded edge and the risk is increased by the use of equipment near the control zone.
- The use of a control zone is NOT allowed if:
 - The working surface has a slope in excess of 4 vertical to 12 horizontal.
 - ➤ It is on a skeletal structure.
 - > It is for the installation or removal of scaffolding.

Safety Monitor System

- A safety monitor system is a set of monitoring procedures assigned to a competent person for warning workers who are unaware of fall hazards or who are acting in an unsafe manner.
- A safety monitor system is used in conjunction with a controlled access zone and a fall protection plan appropriate in situations where all other options of fall protection are impracticable.
- The safety monitor is responsible to ensure all activities performed inside the control zone are completed in accordance with the fall protection plan. Requirements are:
 - Must be experienced and trained.
 - Must be present whenever workers are in the control zone.
 - Must have complete authority.
 - ➤ Is not engaged in any other activities.
 - > Is situated so that there is a clear view of the work being performed.
 - Is able to speak to the workers in a normal voice. Does not have to yell.
 - ➤ Is wearing clothing that distinguishes the monitor from other workers.

The Fall Protection Plan for the work must specify the name of the monitor and

detail the monitor's training.

Safe Work Practices

Fall Protection - cont'd



Inspections

- A qualified person must inspect all fall arrest equipment before use on a shift.
- The equipment must be kept free from substances and conditions that could cause deterioration.
- Any fall protection equipment that is defective is to be removed from use.
- If a fall protection system, has been used to stop the fall of a worker it must be removed from service and is not to be used again unless it has been recertified by the manufacturer or by a professional engineer.

Rescue

- If workers are working in an area not protected by guardrails; that is, 25 feet or more about grade, there must be written procedure for initiating the rescue of a worker who has fallen and is suspended in a fall protection system.
- Workers must be informed and trained in all aspects of rescue techniques. In some areas it may be as simple as calling the fire department if they have been trained in rescue methods. Other options may be the use of ladders or equipment.



Safe Work Practices

Fire Prevention

- Fire extinguishers must be visually inspected on a weekly basis. ABC fire extinguishers.
- Extinguishers must have a tag identifying service by a qualified agent within the last year
- Extinguishers that have been set-off must be immediately removed from the site and sent in for recharge.
- Workers must know the locations and types of fire extinguishers in their work area
- There are four general classes of fires, and each requires a particular type of extinguishing agent. Portable fire extinguishers are labeled as to the types of classes of fires on which they should be used.

Class "A" Fires – Occur in materials such as rags, paper, wood and trash

Class "B" Fires - Arise from vapor-air mixtures found in flammable liquids such as gasoline, oil, grease, paints and thinners.

Class "C" Fires – Are electrical fires or fire occurring in or near electrical equipment, thereby presenting the additional hazard of electric shock.

Class "D" Fires – Involve combustible metals such as sodium and magnesium.



KNOW YOUR FIRE EXTINGUISHERS

		TYPE OF FIRE				
7005.05		ORDINARY COMBUSTIBLES - wood	FLAMMABLE LIQUIDS gasoline	ELECTRICAL EQUIPMENT - motors		
TYPE OF EXTINGUISHER		- paper - cloth. etc.	- paints (oil based) - oils, etc.	- switches	RANGE	HOW TO OPERATE
WATER	Werne able rest	D.	NO	NO	9m to 12m	Place foot on footrest, pump handle and direct stream at base of flame.
	STORED PRESSORE		NO	NO	9m to 12m	Pull pin, rupture cartridge if applicable, squeeze nozzle to release agent. Direct discharge
co ₂		NO	·	Ķ	1m to 1.5m	at base of flames in a sweeping motion, then direct it gradually forward or at remaining material
HALON		¥			2.5m to 4.5m	that is burning.
DRY CHEMICAL	ORD-NARY	NO	1	Ŧ	1.5m to 6m	
	MOUNTE ADEAGON		*	T	5m to 7.5m	NOTE: All extinguishers require annual servicing or ser- vicing after use.



Safe Work Practice

Man lift

Purpose: To inform and protect workers regarding the hazards of operating

and working from boom supported aerial platforms.

Application: JLG Telescopic boom lift Model 600A

Protective Safe Job Procedure

Mechanisms Manufacturer's specifications

PPE

Man lift Training

Man lift Certification/maintenance/inspection schedules

Selection As per Safe Work Practice and Use Manufacturer's specifications

Supervisor To ensure workers understand and use the Safe Work Practice.

Responsibility Provide and document operator training.

Selection of equipment

Ensure equipment inspections and certifications are complete and

documented.

Ensure required repairs are completed in a satisfactory manner.

Worksite Inspection Hazard Assessment

- Elevating Platforms and Aerial Devices will be inspected and maintained according to the manufacturer's specifications. Only competent persons will perform inspections and maintenance.
- Equipment will be provided with warning devices, protective structures, and other safety equipment as required by CSA Standards and WH&S Code.
- A permanent, visible, and legible plate must be located on the platform listing the following:
- Make, model, serial number.
- Manufacturer's name and address.
- The rated working load.
- The maximum platform height and reach.
- Special warnings or restrictions necessary for safe operation including the use of outriders or stabilizers.
- The operating instructions and a notice indicating the need to read the operating manual



before use.

Worker

1. Read, understand, and follow the manufacturer's operator manual and training procedures,

Responsibility

and all warning signs on the machine.

- 2. Use all available protective safety devices.
- 3. Prior to operation, inspect the machine and report all deficiencies.
- 4. Plan the work and ensure the work area is acceptable to safe machine

operation.

- 5. Follow all recommended starting and operating procedures.
- 6. Follow all recommended shut down and maintenance procedures.

Operator Requirements

Man lifts will only be operated by competent personnel trained in their use, or by a worker under the direct supervision of a trained and competent worker.

- The operator must perform a visual circle inspection of the equipment before start-up, and perform and record a monthly inspection as described in Preventative Maintenance.
- The operator must remove the equipment from service when repairs are required that affect its safe operation, and document and report such problems in a way that ensures they are addressed in a timely manner.
- Operators are responsible for ensuring that the equipment is operated safely.
- Operators must use all protective and safety devices provided.
- Operators must maintain the controls area and platform free of material that may interfere with operation of the equipment or footing and free movement on the work platform.
- The operator must not move or operate the equipment in any manner that puts another worker at risk.
- The operator must ensure that the machine is prevented from unintentional movement by engaging any movement limiting safety devices and placing the transmission in the park position, or by chocking the wheels.
- Never exceed the rated workload. Include the weight of the operator and all tools and equipment on the platform.
- Before raising the platform, disperse the load evenly and ensure nothing will interfere with the controls.
- Never alter, remove or substitute any item, which will reduce the overall weight or base stability of your machine.



- When the work area is or may become crowed or congested, communication must occur between the man lift operator and other workers/equipment operators to determine the duration of work, positioning of the man lift, barricades, reschedule of work, notification of plans/hazards to other workers.
- When sharing work areas with other machinery and workers or pedestrian or vehicle traffic of any kind, cones, warning flags, barricades or other high visibility warning devices should be positioned to guard your work area and alert others to your presence and position. Consideration must be given to the use of flag persons in high traffic areas.
- New workers and equipment operators entering the area must be oriented to the current man lift operating plan.

Operational Requirements – Starting and testing

• See Man lift Safe Job Procedure

Worker Responsibilities Operational Requirements – During Operation.

- While elevated, personnel on the platform must use fall protection connected to the recommended anchor location. (See Fall Protection Plan)
- Never belt off to an adjacent structure when working from an aerial platform.
- If there is more than one person on the platform only the designated operator should operate the controls.
- Operate the controls smoothly. Avoid sudden stops, starts or changes in direction. Never attempt to work the controls except from the operator's control station.
- Know which direction is forward/reverse, left/right in relation to your aerial platform.
- Should malfunction occur, shut off the engine and seek qualified assistance to correct the situation. Do not operate the machine until the condition has been corrected.
- If the platform cannot be lowered, request rescue. Do not attempt to jump clear or slide down the boom. Never use the boom to gain access to or leave a platform. Enter and exit the platform from the ground only.
- Never attach wire, cable or similar items to the platform. Keep ropes, electrical cords and hoses coiled and stowed away when not in use.
- Secure all tools, equipment or material placed on the platform. Keep the platform floor clear of debris and loose objects, which might cause you to slip.



- When the platform is in the working position do not allow any object to interfere with the operating controls.
- Never use ladders, planks, steps or other devices to provide additional reach or gain greater height. Do not lean over or sit or climb on the platform railing. Always keep both feet on the platform floor at all times.
- Do not operate equipment where it is possible for a rollover due to slope or uneven terrain. Approach and traverse all curb ramps or inclines straight on, keeping the machine stable at all times.
- Keep your attention in the direction of travel. Check clearance above, below, and on all sides.
- Use a designated signaler when your view is obstructed.
- Never allow ground personnel near your machine and never permit anyone to stand or pass under a raised platform. Never move or position any part of a machine over anyone.
- Never drive an aerial platform up to someone standing in front of a fixed object.
- Do not use drive to maneuver in close to an obstacle. Place your machine and then use the swing and boom functions to get in close. Never drive the base or platform into a stationary object.
- When driving the machine or positioning the platform, keep all parts of your body inside the platform railings.

Worker **Operational Requirements – During Operation – Man Lift Responsibilities**

- Do not remain on a moving platform where doing so puts you in danger. If there is no danger, you may remain on the platform when moving a short distance to reposition the machine.
- Whenever possible, travel only in the full down stowed position for maximum stability.
- If the platform or any part of the machine tangles with an adjacent structure do not attempt to free it by operating the platform controls. Never attempt to free a machine by lifting the wheels off the ground with the boom.
- Never allow anyone to service or operate a machine from the lower control station while
 personnel are on the platform, except in an emergency. Never override any hydraulic,
 mechanical, or electrical safety device.
- Never attempt to mount or dismount a moving machine.
- Never use the machine to push or pull another object.



• If the aerial platform becomes disabled, attach warning tags to the upper and lower control stations. If the equipment should not be started, attach tag-out tags to indicate the no-start condition.

Shut Down

• Park your machine in a designated area or out of traffic on level ground. Place controls in neutral. Idle engine for gradual cooling. Shut off engine/electrical power. Engage parking brake and take necessary steps to prevent unauthorized use. The work platform must be in the fully stowed position during transport or when left unattended.

Towing/Hauling

- Follow all manufacturers' specifications when pushing or towing your machine.
- If your machine is to be hauled, ensure truck and ramp inclines/capacities are adequate.
- Never raise, swing, or rotate the boom or platform when a machine is loaded for transporting. Refer to the manufacturer's manual when preparing the machine for transport. Make sure all tie downs and blocks are in place.
- When transporting the lift on a truck or trailer, know the overall height to avoid contacting overhead obstructions.

Fueling

- The vehicle must be equipped with an operable fire extinguisher suitable to the fuel source.
- Lower the aerial platform the stowed position and turn off all power before fueling.
- The vehicle must not be refueled within 7.5m of an ignition source. No worker is allowed to smoke within 7.5m of the machine when it is being re-fueled.
- Be sure to use the correct type and grade of fuel. Ground the fuel funnel or nozzle against the filter neck to prevent sparks. Be sure to replace the fuel tank cap.
- Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately.

Worker Liquid Petroleum Gas (LPG) Responsibility

- Close the fuel valve on the tank when parking the aerial platform more than momentarily. If the platform is to be left overnight or longer, it must be parked outside or the LPG tank removed and stored outside. Do not store LPG tanks near heat or open flame.
- Only trained and authorized personnel are permitted to operate filling equipment. Fill LPG tanks outdoors. Stay at least 15 m from buildings, motor vehicles, electrical equipment or



other ignition sources. Stay at least 5m from LPG storage tanks.

- Always wear gloves when refilling or changing tanks to prevent freeze burns to the skin.
- Do not use a damaged LPG tank. Damaged LPG tanks must be removed from service. Frost on the valves or fittings indicates a leak. A strong odor of LPG fuel can indicate a leak.

Batteries

• Only authorized qualified personnel will perform maintenance. Charge batteries only in a well ventilated area. When working with batteries always wear a face shield to avoid acid in the eyes. Wear rubber gloves and protective clothing to keep acid off skin.

Tires/Wheels

• Check your tires and wheels once a day. Check tires for correct pressure, cuts or bulges, nails or spikes, uneven or excessive wear, missing valve caps. Check wheels for damaged rims, missing or loose wheel nuts, bolts or bearing caps. Have cuts/punctures repaired by authorized personnel before adding air.

Safe Limits of Approach Distances from Overhead Power Lines for Persons and Equipment

Operating voltage of overhead power line distance for persons	Safe limit of approach	
between phase conductors	and equipment	
*0-750 V insulated or polyethylene covered conductors	0.3 meters	
0 – 750 bare uninsulated	1.0 meter	
*Above .75 kV insulated conductors		
$.75 \mathrm{\ kV} - 40 \mathrm{\ kV}$	3.0 meters	
69kV, 72 kV	3.5 meters	
138kV, 144kV	4.0 meters	
230 kV, 260 kV	5.0 meters	
500kV	7.0 meters	

^{*}Conductors must be insulated or covered throughout their entire length



Know exactly how much clearance you have around power lines and apparatus. Do not approach closer than specified distances with any part of the machine or your body. Allow for platform sway, rock or sag and power line swaying. Contact with energized power lines can cause death or serious injury to persons in the platform or on the ground in contact with or near the machine. Beware of strong and /or gusty wind conditions.

For further information see the appropriate current Workplace Health & Safety Codes, and the applicable Safety Program Safe Job Procedures.



Safe Work Practice

Forklift

Purpose: To inform and protect workers regarding the hazards associated with operating a

forklift.

Application: Model _____

Protective Safe Job Procedure

Mechanisms Manufacturer's specifications

PPE

Forklift Training

Selection

and Use Manufacturer's specifications

Supervisor To ensure workers are familiar with and understand the Safe Work Practice.

Responsibility Facilitate operator training and document completions.

Equipment selection

Documented Monthly Forklift Inspection

Ensure required repairs are completed in a satisfactory manner.

Hazard Assessment Worksite Inspection.

Worker 1. Read, understand, and follow the Safe Work Practices, manufacturer's operator

manual.

Responsibility forklift safety training procedures, and all warning signs on the machine

2. Use required protective safety devices.

- 3. Prior to operation inspect the machine and report all deficiencies.
- 4. Plan the work and ensure the work area is acceptable to safe machine

operation.

- 5. Follow all recommended starting and operating procedures.
- 6. Follow all recommended shut down and maintenance procedures.
- All operators must successfully complete forklift training.
- All operators must be familiar with the operators' manual and forklift capacities.
- The operator is responsible for the safe operation of the lift truck and ensuring loads are within capacity.
- Operators must not move a questionably unsafe load.
- Where available, seatbelts must be worn while operating the forklift.
- The forklift cannot be used to transport riders.
- Keep your arms and legs within the guard area. Never reach through the uprights for any purpose.
- If the forklift begins to tip over, stay on the vehicle. Hold on firmly and lean away from the point of impact.



- Never leave a vehicle unattended with the motor running or the brake released.
- The operator is responsible for taking the machine out of service if an unsafe condition exists.

Worker Pre-Use Inspection and Safety Checks

Responsibility The operator must inspect the forklift each day before use to ensure it is fully functional. Report any malfunction so repairs can be made. When deficiencies make the unit unsafe to operate, ensure the keys are with your Supervisor and unavailable for use until repairs are complete. Refueling

Do not let the fuel level drop below ¼ full. If the vehicle runs out of fuel during operation a hazardous situation may occur due to a load being stranded in a raised or other awkward position.

- The vehicle must not be refueled within 7.5m of an ignition source. Do not smoke within 7.5 m when re-fueling.
- The engine must be stopped and the operators off the truck before re-fueling.
- Ensure the correct type and grade of fuel is used capacity
- Ensure capacity plates or decals are visible and legible.
- Understand the principle of load center and how it affects the forklift's rated capacity.
- The forklift's rated capacity is based on a 24 inch load center (the horizontal distance from the back of the forks to the center of the load). If the load center is more than 24 inches away from the heels of the forks the rated capacity is reduced. A few inches can reduce the capacity by several hundred pounds.
- Loads that overhang the forks also reduce lift capacity.
 - The lift capacity should be reduced when traveling over rough or uneven terrain.
 - The higher the lift, the lower the capacity of the machine and the less stable it becomes.
 - Any attachment added to the truck will decrease the rated capacity. Attachments added by the
 manufacturer will be accounted for in the capacity plate information. Where attachments are added
 after, the manufacturer should be consulted regarding final capacities and the plates changed to reflect
 the new values.
 - Fork extensions add weight to the vehicle, shift the center of gravity, and therefore reduce the machine's capacity.

Forks

- To prevent damage or injury from protruding forks, they should be shorter than the load.
- To ensure a stable load, the forks should extend at least 3/4 of the distance under the load.
- If the forks are longer than the load, pick up and deposit with the forks inside the pallet or load. Travel with the load back against the heel of the forks.
- Make sure your forks are centered on the truck and the load before picking up the load.
- Always keep the forks spread as wide as load or pallet permits to maintain better balance.
- When parking, lower forks completely and tilted forward slightly to keep ends against floor.

Pallets

- Do not carry loads on damaged or broken pallets.
- Ensure loads are balanced and secure on pallets.
- Never overload a pallet.

Worker Steering



Responsibility As the truck pivots on the front wheels, the counterweight swings wide when turning. Ensure there is clearance from merchandise, racks, equipment, or people maneuvering.

- Never turn at normal traveling speed. Always slow down to maintain balance and control. When turning a lift truck be aware of centrifugal force, your speed and rear end swing.
- When backing from a narrow area, allow room for forks to clear before starting to turn.
- When starting turns in narrow areas, start close to the inside corner, not from the outside. This allows for the wide arc the rear of the vehicle will travel as it rounds the corner.
- When approaching a stack take the turn wide. Allow room for the rear of the vehicle to swing around safely.
- To turn the forklift around, back into the turn and pull out in the forward direction. This allows the vehicle to turn with the least amount of maneuvering while still allowing a clear view as you move forward.

To Pick up a Load

Approach the center of the load straight on with forks in a traveling position.

- Stop when fork tips are a foot away from the load.
- Level forks and ensure they are set as far apart as required to safely pick up the load.
- Slowly drive forward until the load is resting against the backrest. Keep in mind load center and fork length.
- Lift load high enough to clear whatever is under it.
- Carefully tilt the mast back to stabilize the load.
- Look over both shoulders to make sure you are clear, and then back up about a foot. Ensure load is in travel position.
- When lifting from a stack, lower the load to traveling position as soon as the load clears the stack.

Transporting a Load

Never drive with a load or the mast raised. Travel with the load as close to the ground as possible and tilted back slightly for stability. Always wait until you are stopped in the loading area before raising load or mast.

- Proceed to location, always looking in the direction of travel.
- Approach bumps from an angle so only one wheel at a time is affected.
- Never lift a load while you are moving.
- Never turn a truck with a raised load or even with raised empty forks. When negotiating a turn, drive steadily.
- Never drive across a gradient so that the truck leans sideways.
- Watch for potholes or obstructions that could tip the truck. Drive slowly on uneven ground. Travel in a forward direction unless your vision is obscured. If you cannot see around the load, drive in reverse. Do not try to look around a load without a guide or signaler to help.
- Avoid sudden stops. When a vehicle stops suddenly, momentum will shift both the load and the operator forward.
- Slow down when turning sharp corners and be aware of centrifugal force, your speed, and rear end swing.
- Do not speed or use excessive maneuvering. Stay alert to other vehicles and pedestrians in the area.



- Perform only one function at a time. Do not lift, lower, tilt, etc. while traveling
- Always check for sufficient height, width or depth clearances, adequate rear end swing space, obstructions or surface hazards and pedestrians or other vehicles.
- Loads are dangerous if they are top heavy, unstable, projecting or unequally distributed.
- When handling long loads be aware of load swing when turning, or loads shifts which upset the truck's balance.
- Focus your attention in the direction of travel.

Worker Placing a Load

Responsibility Drive safely to the location, square up and stop about a foot away.

- Drive ahead until about halfway into the drop point and stop. Level the forks and drive the rest of the way in.
- Lower the load to the landing point.
- Tilt forks slightly forward to make sure you do not hook the load when you back out.
- Look over both shoulders and back straight out until the forks have cleared the load.
- To stack loads on top of others stop about a foot away from the stack and lift mast high enough to clear the top.
- When stacking loads, be sure there are no ceiling obstructions.
- Slowly move forward until the load is square over the top of the stack.
- Level the forks and lower the mast until the forks are free of the load.
- Look over both shoulders and proceed to back straight out.

Portable Ladders

Purpose: To inform workers regarding the hazards associated with working with portable ladders.

Application: Extension ladders, straight ladders, step ladders

Protective Manufacturer's specifications

Mechanisms PPE Policy

Safe Job Practices Safe Work Procedures Worksite Hazard Assessment

worksite Hazard Assessment

Fall Protection Plan

Supervisor . Hazard Assessment **Responsibility** Worksite Inspection

Ensure workers understand and use Safe Work Practices and Safe Job

Procedures. Facilitate and /or provide proper instruction/training to workers on safe use and protection requirements

Selection

Manufacturer's specifications



Ladder Select ion

Ensure the ladder you are using has an adequate Duty Rating for the job to be performed. You must allow for the combined weight of the user, equipment and materials.

Duty Rating	Rated Use	CSA Code
200 lb.	Light Duty Household	Grade 1
Type III 225 lb.	Medium Duty Commercial	Grade 2
Type II 250 lb.	Heavy Duty Commercial	Grade 3
Type I	ricavy Duty Commercial	Grade 3
300 lb.	Extra Heavy Duty Commercial	N/A
Type IA		



Extension ladders, straight ladders, step ladders (Cont.)

The chart below will allow you to determine the length of ladder you require. In order to do this it is necessary to measure from the ground to the highest point you wish to access.

• Safe working practice **does not** allow working above 3 feet from the top of an extension or straight ladder, or standing on the top or the first step from the top of any stepladder.

Secure base From movement Employee Responsibility

Fall Protection

Workers are required to use fall protection whenever they can fall a distance of 3 meters or more, or where a fall from a lesser height involves an unusual risk of injury. However, a worker may move up or down a ladder without the use of fall protection if 3 points of contact can be maintained at all times during the ascent or descent.

- A worker may also perform work at height from a ladder, without fall protection, where an anchor of sufficient strength is unavailable or impractical to use and:
 - The work is light duty (e.g. inspection, painting, light material application).
 - The work at each spot where the ladder is set up is less than approximately 15 minutes in length.
 - The worker can keep his/her center of gravity (belt buckle) between the side rails of the ladder.
 - The worker generally has one hand available to hold on to the ladder or other support.

If any one of these conditions cannot be met, fall protection is required.

Employee Responsibility

Ladder Inspection

Straight Ladder

• Inspect before each use. Never use a damaged or worn ladder.



- Never use a ladder that has been exposed to excessive heat or chemical corrosion.
- Inspect for loose fasteners, broken, bent or cracked rails, rungs and steps. Do not attempt temporary repairs:
- Damaged or bent side rails should not be straightened. The strength of the profile has been compromised.
- Loose rungs are caused by over-stress. Tightening the rungs will not make the ladder structurally sound.
- Loose rungs must never be welded. Welding will soften the material, reducing its tensile strength.
- Clean ladder of oil, grease, other foreign material.
- Ensure the feet are not worn or damaged and are the proper type for the surface on which it will be used.
- Ensure the ladder is the right type, length, and duty rating for the job being performed.

Step Ladder (in addition to above)

- Inspect top for cracks, dents, make sure rivets, nuts and bolts are tight.
- Inspect pail tray to see that it moves freely, is tight and sets up properly.
- Inspect spreader arms making sure they are tight and move freely.
- Inspect all steps, horizontal braces and step braces, making sure they are tight.
- Inspect the front and backside rails for cracks, dents, bends or any other blemishes. Extension Ladder (in addition to previous page)
- Inspect slide guides for cracks, chips or worn areas.
- Inspect rope to ensure it is tight and not frayed or knotted.
- Ensure that the base and fly sections are straight and free from warp.
- Inspect all rungs from dents and cracks and make sure they do not rotate.
- Inspect the safety feet for worn rubber pads and loose rivets, nuts and bolts.
- Inspect all end caps; they should be tight and free from cracks, chips and wear.



- Inspect the side rails of the base and fly making sure there are no dents, cracks or other blemishes.
- Inspect the gravity locks. They should pivot freely and the fingers should be in good working order

Do not use worn or damaged ladders. Employee Responsibility

Ladder Use - General

- Be aware of and follow all manufacturer specifications and Employer Safe Work Practices.
- Prior to erecting ladders at any worksite a Hazard Assessment must be completed and all identified hazards eliminated or adequately controlled. Report unsafe conditions.
- Ensure the immediate area where the ladder is to be used is free of obstacles impeding stepping onto or off of the ladder. Use appropriate PPE and Fall Protection.
- Use portable ladders only when no permanent or temporary stairways or work platforms are available.
- Use an alternate approach (scaffolding, man lift) when a ladder must be used to near its full limit to access the job.
- Do not use a ladder beyond its manufacturer's specified rated load or height capacity. This includes the weight of the worker and all tools and material. All workers using the ladder must be aware of the ladder's rated load capacity.
- Never use a ladder rung to directly support a scaffold plank.
- Ladders must be inspected, erected, removed, and maintained by or under the direct supervision of a competent person.
- Do not use in poor health, if taking drugs or alcoholic beverages, or if physically handicapped.
- Keep shoes clean. Leather soles should not be worn.
- 1. Set up barriers or warning devices when placing ladders in front of doors, in corridors, driveways, or other areas frequented by pedestrian or vehicle traffic.
- Always cordon off below the working area, unless there will be absolutely no one at lower levels.



- Do not leave erected ladders unattended in areas with public access.
- Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits.

Ladder Use - Stepladders

- Select a stepladder 3 to 4 feet lower than the area you want to reach.
- Ensure all 4 feet will rest on an even, stable surface.
- Ensure the ladder is fully open and the spreaders are locked.
- Do not use stepladders in the closed position, to lean against the side of a structure.
- Always face the treads when using a stepladder.
- Do not stand on top of, or on the top 2 rungs of a stepladder.
- Never use a stepladder for entry to or exit from another work area.
- Do not place a stepladder on boxes or scaffolds to gain extra height.
- Do not use a stepladder to access or egress rooftop sites, or move from one level to another.
- Unless specified by the manufacturer, never use a stepladder as a support for a working platform.

Ladder Use – Single and Extension Ladders

- Set up so the base is out 1 foot for each 4 feet up (4:1).
- Do not set up on an unstable or uneven surface.
- A ladder must not be placed against an unsafe or unstable support.
- Secure ladders at both ends where practicable, or enlist the aid of someone to hold the base of the ladder for you.



- The top of the ladder should be tied off to a fixed object where practical.
- Anti-slip or rubber safety feet are considered adequate if they rest on a firm, non-slippery surface. Where such a surface is not present, or it is possible for the base of the ladder to move, then it should be secured.
- The side rails of a ladder must extend at least 1 meter above any platform, landing, or parapet where the ladder is used as a means of access to that level.
- Ladders must not be erected on boxes, tables, scaffold platforms, man lift platforms, or vehicles.
- Do not carry equipment, tools, or material up or down a ladder.
- Do not place your belt buckle outside the rails (lean or reach too far).
- Do not perform work from the last 2 rungs of a portable ladder.
- Do not climb the back of a ladder or step from one ladder to another.
- No more than 1 worker on a ladder at a time.
- Do not use in high winds or during a storm.
- Do not use a ladder rung to directly support a scaffold plank.

Safe Work Practice

Full Body Harnesses

Purpose: To advise workers regarding the safe use of full body harnesses.

Application: Safety Direct Ltd. Harness Model 101 and other rear dorsal 'D-ring',

horizontal chest strap models.

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices

Safe Job Practice

PPE Policy

Fall Protection Plan



Fall Protection training

Selection Manufacturer's specifications

and Use Full body harnesses must be used in conjunction with an approved fall arrest system and anchorage. All components in the fall arrest system must be in compliance with applicable regulations and standards. The total operating weight of the user, tools, equipment, special clothing and harness may not exceed 300 lbs. (136 kg). Harness life expectancy depends on frequency of use and industrial Conditions. Harnesses that see heavy use will need replacing more Often than a well maintained harness dedicated single user.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and

Safe Job Procedures To facilitate/provide proper instruction to workers.

Responsibility Worksite Inspection

Hazard Assessment

Worker 1. Use Safe Work Practices and Safe Job Procedures.

Responsibility 2. Inspection, Maintenance and Storage.

3. Report unsafe conditions.

Maintenance and Storage:

To clean, wipe with a wet sponge. For more difficult stains, use mild soap. Do not use chemicals or detergents. Rinse off soap with clear running water and hang to dry. Do not dry with heat. Harnesses should be hung up by the rear dorsal D ring or placed loosely in a container. Store in a clean, dry area free from excessive heat, sunlight, harmful fumes, corrosive agents, or rodents. Harnesses can be marked for identification with marker pens only on the extreme ends of webbing straps.

Following any fall incident, even a light one, a qualified safety officer should inspect the harness. He will decide if the harness is safe or if it should be repaired or destroyed.

Any repairs to your harness must be carried out by an approved servicing agent Equipment in need of or scheduled for maintenance must be tagged "Do Not Use" and removed from service.

Worker Inspection

Responsibility

- The harness must be inspected by the user prior to each use.
- Inspection is done with both the hands and the eyes. Look and feel for damage over the full length of all webbing by bending short sections into a 'U' between the hands. This reveals worn, cut, frayed, burnt, or damaged fibers. Check both sides and along the edges of all webbing. Inspect both sides of plastic keepers and D-ring plates.
- Remove the harness from service if:
- It has been subjected to the force of arresting a fall
- If markings or labels are illegible or absent.
- If there are defects or damage to buckles or D-rings including cracks, burrs, dents, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, misuse, excessive aging or excessive wear.



- If there is evidence of improper function, improper fit or alteration of any component.
- If there is splitting, burns or melting to plastic components. Ensure no strap keepers are missing.
- If there is evidence of any damage, discoloration, stiffness or excessive wear to any synthetic component including stitching. Damage is indicated in the presence of cuts, tears and abrasions. Inspect webbing at crossovers or webbing joints for stitching that is broken, frayed, or absent.
- When inspection reveals defects, damage or inadequate maintenance the harness must be removed from service to undergo adequate corrective maintenance or replacement.
- If the harness fails any of the inspections or checks, show any other visible damage, or fail to fit correctly, it must be returned to a suitably qualified person for detailed inspection.
- Unauthorized repairs/modifications are not allowed. Harnesses must be returned to an approved servicing agent.



Adjustable Lifeline System Use

Purpose: To advise workers regarding the safe use of adjustable lifeline systems.

Application: Safety Direct Ltd. Model MRA GR110 Rope Adjuster and 5/8"

synthetic lifeline (rope), and corresponding models.

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices, Safe Job Procedures

PPE Policy

Fall Protection Plan
Fall Protection training

Selection Manufacturer's specifications

and Use All users of this system must read and understand these instructions before using the system; failure to do so could result in serious injury or death.

- The system provides either a fall arrest or travel restraint function on inclined or flat surfaces and roofs, or where a worker is exposed to an edge or opening that could result in a fall to a lower elevation.
- The lifeline must always be attached to a permanent anchor installed during construction and certified by the builder. This anchor must be rated at 5000 lbs. or certified as capable of withstanding twice the expected fall force.
- Use a 50 mm (2 ") carabineer (rated 5000 lb. minimum) to attach the lifeline to the anchor point. This will prevent damage to the gate of the hook caused by binding on the anchor.
- The system is made up of 50 ft. of 5/8" synthetic rope with an eye in one end permanently attached to a shock absorber. A locking snap hook is permanently attached to the other end of the shock absorber. A mechanical rope grab with integral lanyard and snap hook is installed on the rope.
- The rope grab can be moved to any position along the lifeline. If the worker releases the rope grab or falls, the rope grabs locks automatically. The worker is attached to the rope grab with the integral lanyard and snap hook to the rear D-ring of the full body harness.
- The inscribed arrow on the rope grab must always point to the shock absorber.



- The lifeline must extend to within 1.2m (4 ft.) of the ground.
- The system is rated at 5000 lbs. minimum and designed for a maximum of 300 lb. (1 person) when the lifeline is attached to an approved anchor.
- The worker must be aware of system clearance requirements and free fall distances.

Selection Clearance, Free Fall Distance, Swing Fall

And Use Clearance is the safe distance required to prevent the worker from striking the next level or an obstruction below.

• The extended length of all the system components (rope, lanyard, deployed shock absorber, height of D-Ring on body) must be less than the distance to the next level or obstacle below.

or Example: If the anchor point is 10 feet from the edge of the roof and the edge of the roof is 16 feet above ground the extended length of your system components must be than less 24 feet to event you from striking the ground. Always add a 0.6m (2 ft.) safety factor.

Length of rope between the anchor point and your D-Ring

Deployed shock absorber length (44 inches)

D-Ring height (5 ft.)

Safety factor (2 ft.)

Minimum Clearance Requirement

Do not allow slack in the rope between the anchor and your D-Ring.

Free Fall Distance is the vertical distance from the point where a worker falls to the point where the fall arrest system begins to stop the fall

- The longer the free fall, the harder you hit the end of the rope, and the more force is applied to the anchor point and your body.
- The maximum free fall allowed is 2.0m (6.5 ft.).

For Example: If there is 20 ft. of rope between you and the anchor but the anchor point is only 10 ft. from the edge of the roof you will free fall 10 ft, plus the height of the D-Ring on your body, or about 15 ft. That is more than double the allowable distance and will

generate terrific force on the anchor point and your body. Plus, it will not help if the edge of the roof is only 10 ft. off the ground.

Free fall can be reduced by



- Selecting higher anchor points
- Shortening the rope or lanyard connecting you to the anchor point

A 6 ft. lanyard can allow a free fall of 12 ft. if it is anchored at its lowest possible point.

Rope (or lanyard) length Distance between anchor point and edge

Height of D-Ring Free Fall Distance

Swing Fall is the pendulum effect that will occur when you hit the end of the rope in a free fall if you were not working directly under your anchor. This could cause you to impact an adjacent wall, piece of equipment or other obstacle in the path of your arc.

Whenever practicable, position or select your anchor so you will be working as close to directly beneath it as possible.

Travel Restraint: If the length of rope between you and the anchor point is

less than the distance From the anchor to the edge you are in Travel Restraint, and cannot fall from the roof. To ensure you remain in travel restraint, a knot can be tied in the rope at the appropriate position to prevent the rope grab from passing that point

Supervisor Ensure workers are familiar with and use the Safe Work Practices and Safe Job Procedures.

To facilitate/provide proper instruction to workers.

Responsibility Worksite Inspection

Hazard Assessment

Worker

1. Use Safe Work Practices and Safe Job Procedures.

Responsibility

- 2. Inspection, Maintenance and Storage.
- 3. Report unsafe conditions.

Maintenance and Inspection:

- The system must be inspected by the user before each use and by a competent person on an annual basis
- If defects or deformation in any component of the system are identified it must be removed from service immediately until the problem has been repaired or the component has been replaced.
- The following conditions should all result in removal of the system from fall protection service.
- If it has been subjected to the force of a fall arrest.
- Lack of labels or illegible labels
- Removal of any system components



- Evidence of deterioration or damage to any component, such as cracks, cuts, tears, burns, corrosion or excessive wear.
- Alteration of any device, component or connector.
- Any evidence that the shock absorber has been partially deployed, as identified by the appearance of any white webbing from the protective sheath of the shock absorber.
- The system should be stored in a container in a cool, dry place when not in use.
- If the lifeline becomes soiled it can be cleaned by the use of a mild soap solution in water and a sponge. The use of chemicals or harsh detergents should be avoided.
- After sponging with the soap solution the components should be rinsed with clean water and allowed to air dry.
- Any hardware components should be cleaned and lubricated with a light oil to ensure correct operation, any excess oil should be removed to avoid build-up.
- Avoid using the lifeline where it will come into contact with a rough or sharp edge, unless the edge is protected.
- Any system that has arrested a fall must be removed from service immediately and must be inspected and certified by a competent person before it is returned to service.

In the event of a fall and the worker is suspended by the full body harness the worker must be rescued immediately. There must be a rescue plan in place to effect the rescue without delay.

See Emergency Preparedness – Emergency Response Plan



Self Retracting Lanyards (SRL's)

Purpose: To advise workers regarding the safe use of self retracting lanyards.

Application: Type "1" (1.5m – 3.0m in length) and Type "2" (greater than 3.0m) Self

Retracting Lanyards .

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices, Safe Job Procedures

Fall Protection Plan
Fall Protection training

Selection Manufacturer's specifications

and Use All users of this system must read and understand these instructions

before using the system;

failure to do so could result in serious injury or death.

- Self Retracting Lanyards perform a tethering function while allowing movement (below the device) to the maximum working length of the device, which will arrest a users fall.
- Manufacturer's specifications must be read carefully as some SRL's are approved for use only where the worker is directly below the device. Others can be used where the worker is off the vertical but still below the device, such as when working on a sloped roof with the SRL anchored at the peak.
- SRL's provide either a fall arrest or travel restraint function on inclined or flat surfaces and roofs.
- Where the maximum working length of the unit allows a worker access to the edge the function is fall arrest. For Fall Arrest function, the unit must be connected to a permanent anchor.
- Where the maximum working length of the unit is too short to allow the worker access to the edge the function is travel restraint and the unit may be connected to either a permanent or temporary anchor.
 - Designed for use by only one worker at a time, working at a normal pace.
 - SRL's are like the seat belt on a vehicle. Steady movement in any direction will allow the lanyard to move in and out of the unit. Any sharp movement, such as bending over too quickly or falling, will cause the mechanism to "lock up".
 - The locking mechanism effectively reduces Free Fall to as little as 6 inches, thus greatly reducing fall force and clearance space.



- Type 2 SRL's require annual inspection by the manufacturer after the second year from the date they were put into service.
- Type 2 SRL's have load indicators which will indicate when a large force, such as that required to arrest a free fall, has been exerted on the device. If the indicator has been activated the SRL must be returned to the manufacturer for certification.
- Connect the SRL to the anchor point with a 50mm. (2"), 5000 lb. carabineer. Connect the locking snap hook on the end of the lanyard to the back (dorsal) D-Ring on the full body harness.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and

Safe Job Procedures.

Responsibility To facilitate/provide proper instruction to workers.

Worksite Inspection Hazard Assessment

Worker Responsibility 1. Use Safe Work Practices and Safe Job Procedures.

2. Inspection, Maintenance and Storage.

3. Worksite Hazard Assessment

4. Report unsafe conditions.

Maintenance and Inspection:

- Inspect and test the locking mechanism before each use.
- Inspect the length of the lanyard for defects and to ensure the load indicator has not been activated.
- Do not let the lanyard run over a sharp edge or at a sharp bend.
- Do not leave the lanyard extended for long periods of time.
- If the unit is to be left anchored at a particular location, allow the lanyard to retract fully. A tagline that extends to the work area can be connected to the snap for easy retrieval of the lanyard.
- Do not use a SRL on its side without manufacturer approval.
- Chose an anchor point that allows you to remain as close to directly below the unit as practical, thus avoiding swing fall.
- The unit should be stored in a container in a cool, dry place when not in use.
- Keep the lanyard and housing free of any substance that could contribute to the deterioration of the equipment.



- If defects or deformation in any component of the system are identified it must be removed from service immediately and returned to the manufacturer for re-certification or replacement
- The following conditions should all result in removal of the system from fall protection service.
- If it has been subjected to the force of a fall arrest.
- Lack of labels or illegible labels
- Removal of any system components
- Evidence of deterioration or damage to any component, such as cracks, cuts, tears, burns, corrosion or excessive wear.
- Alteration of any device, component or connector.
- Any evidence that the load indicator has been partially deployed.

In the event of a fall and the worker is suspended by the full body harness the worker must be rescued immediately. There must be a rescue plan in place to effect the rescue without delay. See Emergency Preparedness – Emergency Response Plan

For further information see the applicable current Workplace Health & Safety Codes, the appropriate Safe Work Practices, or the manufacturer's specifications.



Permanent and Temporary Anchors

Purpose: To advise workers regarding the safe use of temporary and permanent anchors.

Application: Commercial wood frame construction.

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices, Safe Job Procedures

PPE Policy

Fall Protection Plan
Fall Protection training

Selection and Use

All users of these systems must read and understand these instructions before using the system; failure to do so could result in serious injury or death.

Anchor Points – Definition: A point to which fall protection equipment may be securely attached.

- As the first component of a travel restraint or fall arrest system, the anchor point is the fixed object upon which the entire fall protection system is based. Key to understanding the strength requirements of an anchor point is to understand how force is created:
- Three factors that determine how much force is generated in a fall are:
- Mass (weight of the falling object)
- Free fall distance
- Type of connector

Example: A 220 lb. worker free falling 1.8m (6 ft.) connected to the anchor by a 6 ft., 3 strand, 5/8 " nylon rope lanyard will generate 3000 lbs. of force when he hits the end of the rope.

- Your anchor does not only need to be able to hold you; it needs to be capable of holding a smallpick-up truck.
- The reason why you should always attempt to use travel restraint instead of fall arrest is because of the high forces generated in arresting a fall.
- It is important that anchors be installed according to manufacturer's specifications.



- If you are ever unsure about an anchor point, do not use it.
- Anchor points for fall protection can be classified into 2 categories, Permanent and Temporary.
 - Anchor points may be installed by the end user or during construction as part of the structure.
 - Anchor points come in a variety of different forms and are built to specific standards.
 - Some examples are:
- Anchor strap (webbed)
- Permanent roof anchor
- Reusable roof anchor
- Joist or truss anchors
- All anchor points found or installed in wood frame, sloped roof construction are designed and intended for use by only one person at a time.

Selection and Use

- Because falls can produce such large arrest forces, OH&S has set a Minimum Breaking Strength for all anchor point strengths, connecting components, and full body harnesses.
- All anchors must meet the strength requirements for any direction in which the load may be applied

1 KN (kilo Newton) = 225 lbs.

Temporary Anchor Points

- Travel Restraint: 3.5 KN (800 lbs.)
- For wood frame, sloped roof construction only
- Created/installed by the end user using approved anchorage connectors
- Installed, used and removed according to the manufacturers specifications
- Permanently marked as being for travel restraint only
- Fall Arrest: 22.2 KN (5000 lbs.)
- Where it is not practicable or possible to achieve 5000lbs. capacity an anchor point that is capable of
 withstanding twice the maximum arresting force to which it may be subjected may be used if the
 following guidelines are met
 - Designed, installed and used in accordance with manufacturer's specifications or specifications certified by a professional engineer.
- All temporary fall arrest anchors must be removed from use on the date the work is completed or the time specified by the manufacturer, whichever is earliest.



Permanent Anchor Points

- Travel Restraint 8.7 KN (2000 lbs.)
- For wood frame, sloped roof construction only
- Is installed and used according to the manufacturers specifications
- Is permanently marked as being for travel restraint only
- Fall Arrest anchor point: 22.2 KN (5000 lbs.)
- Where it is not practicable or possible to achieve 5000lbs. capacity an anchor point that is capable of
 withstanding twice the maximum arresting force to which it may be subjected may be used if the
 following guidelines are met
- Designed, installed and used in accordance with manufacturer's specifications or specifications certified by a professional engineer.
- Anchor points' designed using a safety factor of 2 is common in wood frame construction.
- All fall protection equipment is rated to a minimum 5000 lbs. (22.2 KN).
- Intended for workers weighing between 120 and 300 lbs.
- People weighing less than 120 lbs. are not heavy enough to induce stretch in the connecting components when the fall is arrested and are subject to greater fall arrest forces because of the more sudden stop they experience.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and Safe Job Procedures.

Responsibility To facilitate/provide proper instruction to workers.

Worksite Inspection Hazard Assessment

Worker 1. Use Safe Work Practices and Safe Job Procedures.

Responsibility 2. Inspection, Maintenance and Storage.

3. Worksite Hazard Assessment 4. Report unsafe conditions.

Maintenance and Inspection:

- All anchor point components must be inspected as required by the manufacturer before use.
- If defects or deformation in any component of the system are identified it must be removed from service immediately until the problem has been repaired or the component has been replaced.



- The following conditions should all result in removal of the system from fall protection service.
- If it has been subjected to the force of a fall arrest.
- Lack of labels or illegible labels
- Removal of any system components
- Evidence of deterioration or damage such as cracks, cuts, tears, and burns, corrosion or excessive wear.
- Alteration of any device, component or connector.
- Keep free from substances and conditions that could contribute to the deterioration of the equipment
 - In the event of a fall and the worker is suspended by the full body harness the worker must be rescued immediately. There must be a rescue plan in place to affect the rescue without delay.

See Emergency Preparedness – Emergency Response Plan

For further information see the applicable current Workplace Health & Safety Codes, the appropriate Safe Work Practices, or the manufacturer's specifications.

Safe Work Practice

Snap Hooks and Carabineers

Purpose: To advise workers regarding the safe use of snap hooks and carabineers.

Application: Auto Locking, Minimum strength of 5000lbs. (22.2 KN)

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices, Safe Job Procedures

Fall Protection Plan
Fall Protection training

Selection Manufacturer's specifications

and Use Situated between the user's full body harness and the anchor point.

Snap Hooks



- All snap hooks must be rated for no less than 5000 lbs. (22.2 KN) and have a locking mechanism. Non-locking snap hooks are not allowed.
- Snap hooks must be connected to only compatible equipment and correctly when connected to prevent roll out and forced roll out.
- Roll out is the unintentional disengagement of a non-locking snap hook caused by a portion of an incompatible (too small or of non-standard design) connector applying pressure to the snap hook gate during use.
- Forced roll out is the destruction of the gate of a locking snap hook caused by pressure applied to the gate by incompatible hardware during a fall.
- The gate on a snap hook is not rated for 5000 lbs. (22.2 KN). Any configuration, which allows contact on the gate, must be avoided.
- Compatible hardware is designed so no portion of the hardware can touch or put pressure on the snap hook gate.
- A snap hook must be connected to only one connector, never place 2 or more connections in the same snap hook.
- E.g. A sling or lanyard doubled back on itself with both ends in the snap hook.

Carabineers

- All carabineers must be rated for no less than 5000 lbs. (22.2 KN) and have an auto-locking mechanism. Manually locking carabineers are not approved for industrial use.
- Carabineers are designed to withstand forces in a lengthwise (along the spine) orientation only; forces in other directions are hazardous as too much force will be applied on or around the gate.
- 3-way loading 3 connections in the carabineer all exerting force in different directions.
- Cross gate loading where the carabineer becomes with the direction of force and pressure is applied directly to the gate
- Gate over an edge
- The gate on a carabineer is not rated for 5000 lbs. (22.2 KN). Any configuration, which allows contact on the gate, must be avoided.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and Safe Job Procedures.

To facilitate/provide proper instruction to workers.

Responsibility Worksite Inspection

Hazard Assessment

Worker

1. Use Safe Work Practices and Safe Job Procedures.

Responsibility

2. Inspection, Maintenance and Storage.

3. Worksite Hazard Assessment

4. Fall Protection Plan

5. Report unsafe conditions.



Maintenance and Inspection:

- Snap Hooks and Carabineers must be inspected as required by the manufacturer before it is used on each shift.
- Inspect the gate for proper operation, damage, deformation
- Inspect the body of the unit for sharp burrs that may damage sling material.
- Inspect lanyard connection at the eye of the snap hook for damage or deterioration.
- Keep free from substances and conditions that could contribute to equipment deterioration
- Snap hooks and carabineers that have been exposed to fall forces must be removed from service Always hook and look a connection into place, do not rely on the sound of a click or snap.

For further information see the applicable current Workplace Health & Safety Codes, the appropriate Safe Work Practices, or the manufacturer's specifications.

Safe Work Practice

Lanyards

Purpose: To advise workers regarding the safe use of connecting lanyards.

Application: Synthetic webbing, rated 5000 lbs. (22.2 KN), 4' to 6' (1.2m – 1.8m) length. As part of a personal fall protection system.

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices, Safe Job Procedures

Fall Protection Plan
Fall Protection training

Selection Manufacturer's specifications and Use Synthetic webbing lanyards are the style of choice due to their design characteristics.

- Ease of inspection
- Does not conduct electricity when dry
- Less likely to snag on protrusions
- Long lasting



- Limit length to 6 feet (1.8m) to reduce fall forces, free fall, required clearances, swing fall
- Do not attach two lanyards together for additional length (incompatible hardware)
- Never attach the snap hook of a lanyard directly into both ends of a sling (incompatible hardware)
- Never choke a lanyard around an anchor point unless it is specifically designed for that purpose.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and

\Safe Job Procedures To facilitate/provide proper instruction to workers.

Responsibility Worksite Inspection

Hazard Assessment

Worker Responsibility

- 1. Use Safe Work Practices and Safe Job Procedures.
- 2. Inspection, Maintenance and Storage.
- 3. Worksite Hazard Assessment
- 4. Fall Protection Plan
- 5. Report unsafe conditions.

Maintenance and Inspection:

- Inspected as required by the manufacturer before it is used on each shift
- Cuts, burns, loose or worn stitching, discoloration, stiff or non-pliable sections
- Kept free of substances and conditions that could contribute to the deterioration of the equipment.
- Oil, grease, chemicals, excess heat

Any lanyard that has been exposed to fall arrest forces must be removed from service and destroyed.

Safe Work Practice

Shock Absorbers

Purpose: To advise workers regarding the safe use of shock absorbers.

Application: As part of a personal fall arrest system.

Protective Manufacturer's Specifications

Mechanisms Safe Work Practices, Safe Job Procedures

Fall Protection Plan
Fall Protection training

Selection Manufacturer's specifications

and Use As part of a lanyard or lifeline, shock absorbers reduce the fall arrest forces on both the anchor point and the user.

- Designed to keep the forces of a fall low and constant
- Below 900 lbs. (4kN)
- Designed to reduce fall forces by tearing, stretching or ripping material specifically stored in the outer shell.



- Deploy to a maximum length of 4' (1.2m)
- Always factor in the deployed length of a shock absorber when calculating clearances.
- Continue to work as designed in wet or cold environments
- Never have 2 or more shock absorbers in the same personal fall arrest system
- Shock absorbing lanyards must always be connected with the shock absorber next to the body, never the anchor point, to allow for free and unhindered activation.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and Safe Job Procedures. To facilitate/provide proper instruction to workers.

Responsibility Worksite Inspection

Hazard Assessment

Worker 1. Use Safe Work Practices and Safe Job Procedures.

Responsibility 2. Inspection, Maintenance and Storage.

3. Worksite Hazard Assessment

4. Fall Protection Plan

5. Report unsafe conditions.

Maintenance and Inspection:

- Inspected as required by the manufacturer before it is used on each shift
- Kept free of substances and conditions that could contribute to the deterioration of the equipment.

Any shock absorber that has been exposed to fall arrest forces must be removed from service.



Safe Work Practice Manual Lifting

Purpose: To inform Workers regarding the hazards associated with manual lifting and

the safe manual lifting practices required to eliminate or reduce these hazards.

Application: All worksites.

Protective Mechanisms Safe Job Procedures

Selection and Use

Back injuries that occur while handling materials or lifting on the job are very common. Research shows that about one quarter of all WCB claims are for back

problems.

Most back injuries are sprains and strains. Lift with your legs, not your back. Bending at the knees with your back straight and your head up allows you to transfer more weight to your legs.

- Do not overexert yourself, take a break between stages of strenuous jobs.
- Get help when lifting or moving materials.
- Use equipment that will help you do the job efficiently.
- Do not get caught in a situation where you must rush or work alone.

Injuries that occur when lifting can be caused by:

- Pushing or pulling too hard.
- Slipping, tripping, stretching, or twisting.
- Attempting to lift beyond your strength.

Construction workers can spend one quarter or more of their day handling materials. Take the time to plan the best methods for moving items. Remember:

- Break or divide the material into smaller, lighter loads for easier transport.
- Where possible, eliminate the manual task by using equipment such as dollies, hoists, or forklifts.
- Store materials at or above hip height to reduce the need for bending.
- Minimize the distance needed to carry items.
- Ensure your path of travel is free of obstructions or slip and trip hazards presented by slippery or uneven terrain.
- Transfer the weight of the load to stronger parts of your body using handgrips, straps or belts.
- Reduce twisting of your body. Keep loads in front of you. Turn by moving your feet, not your body.
- Do not swing and throw heavy loads.
- Minimize bending to lift or shift a load, do not bend to the side when carrying material.

Always wear appropriate PPE when handling and moving materials. Gloves, coveralls, and safety



boots are standard gear. Check to see if the materials are hazardous and wear additional equipment if needed.

Taking part in a regular exercise routine to build up your muscle strength and improve flexibility will assist in preventing or rehabilitating a sore or injured back.

Supervisor Ensure workers are familiar with and use the Safe Work Practices and

Safe Job Procedures.

Responsibility Review these directions regularly at safety and tailgate meetings.

Conduct and record hazard assessments based on the conditions encountered and the work performed. Conduct frequent and formal worksite inspections and ensure identified deficiencies are rectified in a

timely manner.

Worker Read, understand and follow safe work practices and job procedures. **Responsibility** Report all unsafe conditions, near misses and incidents/accidents.

Conduct Worksite Hazard Assessment Checklists accurately identifying existing

and potential hazards and ensuring appropriate controls are implemented.



Loader Operation

Purpose: Moving materials around on site and in shop area.

Application:

Protective Manufacturer's specifications

Mechanisms PPE

Selection and Use

Manufacturer's specifications

Supervisor

Ensure workers are familiar with and use the Safe Work Practice.

Responsibility

Worksite Inspection

Hazard Assessment

Worker Responsibility

- 1. Be familiar with and use the Safe Work Practice.
- 2. Be familiar with and use the manufacturer's instructions.
- 3. Equipment maintenance.
- 4. Proper use of PPE.
- 5. Worksite Hazard Assessments.
- 6. Report unsafe conditions.

General

- Operator shall not permit any persons to practice with or ride on the loader, unless authorized by supervisor. Do not get off the loader while its moving. If defective in some way, do not use it. Damage should be properly repaired or replaced before use.
- When traveling with the loader, the bucket must always be at the lowest height as possible to help prevent tipping.
- When loader or any other machine is left unattended the bucket or forks must be lowered to the ground.

Safe Work Practice

Pneumatic Tools

Purpose: For Nailing and Stapling Materials



Application:

Protective Manufacturer's specifications

Mechanisms PPE

Selection Manufacturer's specifications and use

Supervisor Ensure workers are familiar with and use the Safe Work Practice.

Responsibility Worksite Inspection

Hazard Assessment

Worker 1. Be familiar with and use the Safe Work Practice.

Responsibility 2. Be familiar with and use the manufacturer's instructions.

3. Equipment maintenance.

4. Proper use of PPE.

5. Worksite Hazard Assessments.

6. Report unsafe conditions.

General

• Inspect the tools before connecting to the air supply, Ensure screws and caps are securely tightened. Check hoses for cuts or bulges and replace if defective.

- Pneumatic tools are used for nailing and stapling this tool must be held against the work surface before pulling the trigger.
- Safety features must not be disengaged or overridden.
- Operating triggers must never be held in the "on" position while moving between work positions.
- The air supply must be disconnected before adjustments or repairs are made to the tool.
- The manufactures specified are pressure tools, hoses and fittings must never be exceeded.
- Do not point the tool towards yourself or others, regardless of whether it is empty or not.
- Do not use compressed air to blow debris or clean dust from clothes.
- Do not lay hoses across walkways.



Propane

Application: authorized personnel and trained worker.

Protective

Manufacturer's specifications

Mechanisms

PPE

Selection

Manufacturer's specifications

and Use

Supervisor Responsibility

Worksite Inspection

Hazard Assessment

Worker

1. Be familiar with and use the Safe Work Practice.

Responsibility

2. Be familiar with and use the manufacturer's instructions.

Ensure workers are familiar with and use the Safe Work Practice.

- 3. Equipment maintenance.
- 4. Proper use of PPE.
- 5. Worksite Hazard Assessments.
- 6. Report unsafe conditions.

General

- Propane is heavier that air and is invisible; it is special concern when it is used on a job site or shop area.
- All insulations and use of this product on a site must comply with the Government Legislation set out for the safe use.
- Suppliers delivering the product or setting up equipment at a site must be part of the safe work practices.
- Nylon slings must be used in a "choker" fashion when loading or lifting propane tanks.
- Lifting lugs provided on the tanks are not to be used. Slings are to be wrapped around the shell of the tank.
- Tank valves and regulators are to be removed from the tank prior to any movement of the tank.
- Crane hooks shall be equipped with a safety latch.
- All trucks, cranes, or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate size and type of tanks being handled.
- Tanks are not to be heated to increase flow.
- When in use, propane bottles are to be secured in an up right position.
- Tanks are not to be hooked up and used without proper regulators.





Working Alone

Purpose: To inform and protect workers regarding the hazards associated with working alone.

Application: The working Alone requirements of the Code apply if either of the

Following conditions exists:

1. A worker is working by himself.

2. Assistance in the event of an injury, illness or emergency is not readily available.

Protective Safe Work Procedure

Mechanisms Effective off-site communication.

f a worker works alone at a work site where assistance is not readily available a decision cannot be made that makes a means of communication or contact unnecessary.

Selection A worker is not working alone if all of the following conditions are met and Use Awareness: the worker can get the attention of someone capable of providing help.

By maintaining visual contact.

Staying within the hearing range of others.

- Making frequent contact with other workers or persons throughout the work period. Willingness: people expected to provide help must be capable and willing to do so.
- There must be a reasonable expectation that the people being relied upon can and actually will provide help.
- Those persons will need access to a telephone, and specialized skills such as First Aid.

Timeliness: help will be provided in a reasonable period of time. What is reasonable depends on factors such as:

- The nature of the illness, injury, or emergency.
- The physical location of the work and workers.
- The type of work being performed.
- The level of risk.

If 2 or more workers of the same employer or 2 or more workers of different employers are working together, the working alone requirements of the Code do not apply.

Supervisor - To facilitate/provide proper instruction to workers regarding

Working Alone



Responsibility Procedures

- Monitor worker compliance and procedure effectiveness.
 - Worksite Inspection
 - Hazard Assessment

Where working alone conditions exist, a hazard assessment must be conducted to identify existing or potential hazards arising from the work. The level of risk associated with the work must be considered:

- Type of work
- Location
- Hazards

The hazard assessment must be in writing and communicated to all affected workers.

Supervisor, Hazard assessments are only required for each different set of working conditions. A single hazard

Responsibility assessment can cover the hazards generically rather than assessing each location individually.

- Where the above is not practicable, the assessment must indicate the work sites to which it applies and the date on which it was performed.
- The assessment may show that while a cell phone is effective, a contact system appropriate to the hazards may need to be established. A contact system could include:
- Regular visits by a Supervisor or designated person.
- Scheduling check-ins with other workers or designated persons.
- Reporting to an office or particular person upon completion of a task.
- Visual or audible contact with other persons who can offer assistance when needed.

The frequency and type of contact must be based on the hazard assessment.

• A worker equipped with a cell phone is considered to be working by himself if he is in an area where he cannot be seen or heard by persons capable of offering assistance. While it may be part of the solution, a cell phone is not relevant when assessing the situation against the working alone conditions.

The need to comply with the requirements can be eliminated if work schedules or procedures are organized to eliminate the need for workers to work by themselves. Applicators work alone from time to time. Hazard Assessment indicates this activity, when not at height, presents minimal risk.



- Applicators work alone at height from time to time. Hazard Assessment indicates that this activity presents additional potential risk.
- Applicators are required to have their cell phone in their immediate possession and activated at all times throughout the workday.
- Applicators are equipped and trained in the use of First Aid, WHMIS, PPE, Fall Protection, scaffold and ladder safety.
- Regular and formal documented safety inspections occur to ensure safety requirements are being met.
- Scheduled supervisory visits to each site several times a day are not practicable.

It is not practicable to assign 2 people to every worksite.

A scheduled series of call-ins is to be established, monitored and enforced.

Worker Understand and follow Safe Work Practice and Safe Job Procedure

For further information see the appropriate current Workplace Health & Safety Codes, and the applicable Safety Program Safe Job Procedures.



Hoisting and Lifting

Evaluating the Load

• Determine the weight of the object or load prior to a lift to ensure the lifting equipment can operate within its capabilities.

Balance the Load

• Estimate the center of gravity or point of balance. The lifting device should be positioned immediately above the estimated center of gravity.

Landing the Load

- Prepare a place to land the load.
- Lower the load gently and make sure it is stable before slackening the sling or chain.
- Select only alloy chain and slings and never exceed the working load limits.
- Make sure the hoist or crane is directly over the load.
- Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts.
- Never permit anyone to ride the lifting hook or load.
- Make sure all personnel stand clear from the load being lifted.
- Never work under a suspended load being lifted.
- Never leave a load suspended when the hoist or crane is unattended.
- Inspect all slings thoroughly at specified intervals and maintain them in good condition.
- Inspect each chain or sling for cuts, nicks, bent links, bent hooks, etc. before each use. If in doubt do not use it.
- Ensure that safety latches on hooks are in good working condition.
- Ensure that the signaler is properly identified and understands techniques of proper signaling.
- Make sure a tagline is used to control the load.

Operating Near Electrical Lines

- Any boomed equipment (cranes, backhoe, side boom) operating within the boom length of the minimum safe distance of any electrical line shall have a competent signal person
- When operating, no part of any lifting device or its load is permitted to approach any close to any power line than the distance specified unless the electrical authority has been notified and the line de-energized or insulated.



Housekeeping

A clean and organized work area helps prevent accidents and increase work efficiency. Each person is responsible for cleaning up the work-site after completing a job and at the end of the day or shift. Note the following housekeeping practices;

- Clean and return tools and equipment to their proper storage areas after use.
- Place trash in designat4ed containers and empty when full.
- Place rags that are saturated with flammable substances in covered metal containers. Dispose of such containers as soon as possible.
- Remove nails from all lumber before storage or disposal.
- Keep tools, equipment, and supplies neatly stored and covered as required.



Incidents/Accidents

Employees must report all incidents/accidents to their Supervisor immediately so that the situation can be analyzed and investigated to prevent reoccurrence.

Incidents/Accidents include:

- Lost time incident: An accident causing a disabling injury such that the employee is not able to work the next working day. This accident must be reported to the WCB.
- **Medical treatment:** An injury requiring professional treatment from a medical doctor but which would allow the employee to work the next working day.
- **First aid injury:** An injury, which can be adequately treated immediately on site and allows the employee to return to work.
- Lost workdays: The number of regularly scheduled workdays missed by employees because of lost time accidents.
- Incident of occupational illness: Any illness resulting from exposure at a work-site to a physical, chemical, or biological agent to the extent that the normal physiological mechanisms are affected and the health of the worker impaired.
- Near miss: An incident which does not result in an injury to the employee or damage to
 equipment and property but which came close to warrant investigation and the passing of
 precautions and recommendations to other workers.

Vehicle accidents
Damage to equipment, property, and material
Security
Spills, fires, explosions, and chemical exposures



Lockouts

Applicability

- Lockouts apply in circumstances where the unexpected energization, start-up or release of stored energy could result in injury.
- This inadvertent energization could be in the form of electrical or mechanical power, pneumatic force, or hydraulic pressure.

Responsibility

- These procedures are a shared and joint responsibility of both supervisory personnel and workers.
- The supervisor will ensure that all the necessary workers are instructed in the purpose, use and safety significance of tagging and locking-out and will enforce compliance with these procedures.
- The worker is responsible for knowing and complying with these procedures. If an individual is in doubt as to the applicability of these procedures they should seek assistance from their safety representative.

Preparation for Lockout

- Workers authorized to perform lockout must be certain as to which switch, valve or energy isolating devices apply to the equipment being locked-out. More than one energy source (electrical, mechanical, hydraulic or pneumatic) may be involved. Workers must clear any questionable identification of sources with their supervisors.
- Locks issued to a worker must be operable only by that worker's key and by a master key for emergency use only. Combination locks must not be used. Where several locks are issued to a worker for his/her sole use he/she may be mastered a single key.

Sequence of Lock-Out Procedure

Notify all affected personnel that a lockout is required and explain the reason for locking out.



Lockouts – cont'd

- If all equipment is operating, shut it down using normal stopping procedure (depress stop button, open toggle switch etc.)
- Operate the switch, valve, or other energy-isolating device so that the energy source(s) is disconnected or isolated from the equipment.
- Stored energy such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure etc. must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding, etc.
- Lock-out the energy-isolating device with the assigned individual lock.
- Tag the lock identifying the date of application and the individual applying the lock.
- Individuals applying any lock that will be left on at the end of their shift must enter their "name", "date", "location" and "equipment locked-out" in a "Locked-out Log Book".
- After ensuring that no personnel are exposed, operate the push button or other normal operating controls to ensure that the equipment does not operate.
- The equipment is now locked-out (with the placement of tag stating "maintenance in progress" or "This machinery or equipment can now be worked on safely".

Removal of Locks

- Locks are only to be removed by the person(s) who installed them. In an emergency, the senior supervisor on duty must make every effort to contact the individual who put the lock on and then must ensure that the machinery or equipment can be operated safely.
- Workers coming on shift must place their own locks on all control devices before the individuals going off their shifts remove their locks. Shift supervisors may lock out the control devices during shift changes to allow workers going off shift to remove their locks.



Lockouts - cont'd

Restoring Equipment Service

• When the job is complete and the equipment is ready for testing or normal service check the area to ensure that the equipment can be safely operated and all personnel are clear. Only then may the energy isolating devices be operated to restore energy to the equipment.

Contractors/Subcontractors

- Where a subcontractor is undertaking work for the principal contractor, the principal contractor has the prime responsibility for ensuring that their workers and all subcontractor personnel understand and comply with these Lock our and Tagging Procedures and with the OH&S/Workers' Compensation Board Regulations.
- Where the work of two contractors adjoins or overlaps and lock out is anticipated, a pre-job meeting must be held to discuss the specific responsibilities of both parties.
- This Lock out and Tagging Procedure is a minimum project requirement and does not relieve the contractor from complying with their corporate lock out procedures where they exceed these standards.



Mobile Equipment

- All drivers of vehicles and mobile equipment must possess the appropriate driver's license.
- Workers must not operate mobile equipment unless they have been adequately instructed in the safe use of this equipment and have demonstrated that they are competent to operate the equipment. This rule does not apply when a trainee is operating the equipment under the supervision of an authorized instructor.
- The mobile equipment operator is the only worker allowed to ride in the equipment unless seats or other safe facilities are available for use by other workers. No person may be on any part of powered mobile equipment that is not intended for operator or passenger transport while the equipment is in motion.
- Operators of mobile equipment or vehicles are responsible for the safe operation of the equipment. They must maintain full control of the equipment and must comply with the laws and rules regarding its operation.
- Do not operate the mobile equipment used for lifting or hoisting if the load exceeds the safe working load limit.
- Where the equipment operator's vision is obstructed and the motion is in reverse an audible warning device and area check are required. A spotter may also be required.
- All personnel, other than those individuals necessary for the task being performed, must stand well clear of loading, lifting, or hoisting operations.
- Do not leave suspended loads unattended.



Quick Cut Saws

Hand-held portable circular cut-off saws are commonly known as quick cut saws in constructions. They are widely used for cutting concrete, masonry products, sheet metal products (both steel and aluminum), and light steel sections such as angles and channels.

Hazards

- Quick cut saws are high-powered compared to similar tools. Hazards include high-speed blade rotation, blade exposure during operation, and exhaust from the internal combustion engine – the usual power source.
- The saws also create clouds of dust when dry cutting masonry and showers of hot sparks when cutting metal products, especially steel.
- Hazards can result in cuts, kickbacks, exposure to carbon monoxide fumes, exposure to dusts (silica from concrete & masonry products in particular), burns, flying particles in the eyes, and other injuries from flying material when work is not secured for cutting or when blades fly apart.
- These hazards can be controlled by:
- Training operators to use quick cut saws properly and wearing the required protective equipment.
- Keeping saws in good working condition equipped with the proper blades or abrasive disks and used with all guards in place.
- Securing the work to prevent it from shifting during cutting.

Training

- Operators should be instructed in the care, maintenance, and operation of quick cut saws.
- They should read the operating manual and review the major points. The operating manual should be available on the job not only for the instruction but ready for reference when something goes wrong with the saw. It may also be used for work outside the operator's experience.
- The time spent on instruction will reduce accidents and injuries as well as prolong the service life of the saw.



Ouick Cut Saws - cont'd

- As a minimum, the operator should be instructed in;
- The care of the saw,
- Installing disks and blades,
- Mixing fuel and fueling the saw,
- Starting the saw,
- Supporting and securing work to be cut,
- Proper cutting stance and grip,
- Proper cutting techniques for different materials,
- Respiratory protection against dust, and
- How to inspect and store abrasive disks.

Care

- Quick cut saws must be serviced and maintained in accordance with the manufacturer's instructions. Replacement parts should be those recommended by the manufacturer.
- Cracked, broken, or worn parts should be replaced before the saw is used again. Guards and air
 intakes should be cleaned regularly. Abrasive disks should be checked before installation and
 frequently during use. Correct excessive blade vibration before trying to make a cut.
- In confined areas, make sure that ventilation is adequate. Gasoline driven saws release carbon monoxide gas odorless, colorless, and highly toxic.

Starting

Most of the following procedures are for gasoline powered quick cut saws – the type moist commonly used in construction.

- Use caution when preparing oil/gasoline mixture and when fueling the saw. No smoking or ignition sources should be allowed in the area where fuel is mixed or tanks are filled.
- Fill the tank outdoors in a well-ventilated space at least 3 meters from the area where the saw will be sued. Spilled fuel should be wiped off the saw.
- Check the saw for leaks. Sometimes vibration makes gas lines leak.
- Carry the saw with the disk or blade removed and with the muffler away from you
- Start the saw in an area clear of people and obstacles. Under no circumstances should anyone be standing in front of the saw as it starts or while it is running.



- Put the saw on a hard smooth surface for starting. The guard should be properly set for the type of cut beforehand.
- Assume a solid well-balanced stance. Do not wrap the starter cord around your hand; this can cause injury.
- Set one hand on the rear handle, put one hand on the top handle to lift the blade off the surface and use the other hand to pull the starter cord.
- Avoid fueling the saw on or near form work. Gasoline spills area fire hazard. Use a funnel to avoid spills.
- Do not overfill the saw or run it without securing the fuel tank cap. Gasoline seeping from the tank can saturate your clothing and be ignited by sparks thrown off from metal cutting. Only use the cap supplied by the manufacturer.
- Once the saw is running release the throttle and make sure the engine drops to idle without the disk or blade moving.
- Run the engine at full throttle and let the disk or blade run freely to make sure it turns on the arbor without wobbling or vibrating.

Support

- One of the major hazards with a quick saw is its failure to support and secure the work to be cut. The saw is powerful enough to throw material around unless it is securely held and supported. Standing on material to hold it down is not a recommended practice.
- For repeated cuts of masonry or metal pieces a jig is ideal for accuracy and safety. The jig should be designed and built to hold material in place after measurement without further manual contact.



Quick Cut Saws - cont'd

Stance and Grip

- The quick saw is a heavy, powerful tool that must be held by hand.
- Operators need a secure stance with legs apart to provide balance and support.
- The saw should be held at a combustible, balanced location in front of the operator.
- Grip the saw firmly with one hand on each handle.
- Hold your forward arm straight to keep the saw from kicking back or climbing out of the cut.

Kickbacks and Pull-ins

- Kickbacks can happen extremely fast and with tremendous power. The disk or blade can start to climb out of the cut and can throw the saw up and back toward the operator in great force.
- For cutting, keep the throttle wide open. Ease the blade down onto the cut line. Do not drop or jam the blade down hard. Move the saw slowly back and forth in the cut.
- Hold the saw so that the disk or blade is at a right angle to the work and use only the cutting edge of the blade. Never use the side of the disk for cutting. A worn disk will almost certainly shatter and may cause sever injury.
- Do not force the saw to one side of the cut. This will bend the blade and cause it to bind andpossibly even break.
- Water-cooling is recommended for cutting masonry materials. This prolongs the disk life and reduces dust exposure.
- Keep pressure on the saw reasonably light. Although more pressure may be necessary for hard materials it can cause an abrasive disk to chip or warp.
- Do not carry the saw any distance with the engine running. Stop the engine and carry the saw withthe muffler away from you.

Safe Work Practices



Quick Cut Saws - cont'd

Kickbacks and Pull-ins – cont'd

- To avoid kickbacks, take the following steps:
- Secure and support the material at a comfortable position for cutting. Make sure that material will not move, shift, or pinch the blade during cutting.
- Keep steady balance and solid footing when making a cut.
- Use both hands to control the saw.
- Maintain a firm grip with thumb and fingers encircling the handles.
- Never let the upper quarter segment of the blade contact the material.
- Run the saw at full throttle.
- Do not cut above chest height.
- When re-entering a cut, do so without causing the blade to pinch.
- Pull-ins occur when the power part of the disk is stopped suddenly (i.e. by a cut closing up or binding). The saw pitches forward and can pull the operator off balance. To protect yourself against kickback and pull-in, maintain a well-balanced stance and a two-handed grip on the saw at all times when cutting.

Protective Clothing

- In addition to the standard equipment mandatory on construction sites, operators of quick cut saws should wear snug fitting clothing, hearing protection, eye protection, face protection, and heavy-duty leather gloves.
- Reference the respiratory equipment information to determine the adequate protection for the task.

Disks and Blades

- Disks and blades are available in three basic types:
- Abrasive disks
- Diamond tipped blades
- Carbide tipped blades
- Use only the disks compatible with your saw and rated for its maximum rpm. If you have any doubts consult the operating manual or a reputable supplier.

Safe Work Practices

Quick Cut Saws

Disk and Blades -

Abrasive Disks



Abrasive disks are a combination of abrasives and organic binders. Reinforced abrasive disks contain fabrics to prevent the disk from flying apart when damaged or cracked.

Abrasive Disks - Types and Uses

Type	Uses	Materials
G	*All around use *Most economical for cutting concrete and masonry	Concrete, stone, masonry products, cast iron, aluminum,
Concrete	*Water-cooling is recommended to increase disk life and reduce dust	copper, brass, cables, hard rubber, plastics
Metal	*Primarily for steel *Not suited for masonry products *Water-cooling is not recommended with metal abrasive disks	Steel, steel alloys, other hard metals such as Monel and iron

(Table #2)

Diamond Disks and Blades

Diamond disks are normally used with water-cooling. Recently, However, diamond blades are available for dry cutting, which may be necessary to avoid staining some masonry products. When dry cutting with a diamond blade, let the blade cool for 10 - 15 seconds every 40 - 60 seconds. Simply pulling the blade out of the cut can do this.

Diamond Disks and Blades – Types and Uses

Type	Uses	Materials	
Diamond Abrasive Disk	*Faster cuts than with other abrasive disks *Creates less dust *Water-cooling is absolutely necessary to prevent heat build-up that can make the disk disintegrate	Stone, all masonry and concrete products. *Not recommended for metals	
Dry-cut Diamond Blade	*Fast cuts, lots of dust and very expensive *Let blade cool for 10 – 15 seconds every 40 – 60 seconds as continuous cutting will damage the blade	Stone, all masonry and concrete products. *NOT recommended for metals	

(Table #3)

Safe Work Practices

Quick Cut Saws - cont'd

Disk and Blades - cont'd

Carbide-Tipped Blades

These blades must be used with care. If a carbide-tipped blade encounters material harder that what it is designed to cut the tips may fly off. A carbide-tipped blade used with a quick saw must be designed for that purpose. It must also be used only to cut the materials specified by the manufacturer.

Inspection/Installation

Inspect disks and blades before installing them. Note the following safety practices;



- Make sure that contact surfaces are flat, run true on the arbor, and are free of foreign materials.
- Check that flanges are the correct size and are not warped or sprung.
- Check the label to make sure that the disk or blade is approved for use on high-speed chop saws and has a rated rpm suitable to the saw being used. A periodic service check may be necessary to ensure that the rpm still meets the manufacturer's requirement.
- Inspect the disk or blade for damage. Abrasive disks tapped lightly with a piece of wood should ring true. If the sound is dull or flat the disk is damaged and should be discarded.
- Do not drop abrasive disks. Discard any disk that has been dropped.
- Use the proper brushing on the arbor so that the disk runs true on the shaft without wobbling or vibrating.
- Discard badly worn disks that are uneven or "out of round".



Protection Against Electrical Shock

Each year statistics indicate there are electricians who are flashed or burned, receive serious shocks, or are otherwise injured, sometimes fatally. Observance of the following safe practices can reduce these accidents considerably.

- Whenever possible, avoid working on live circuits. If you must work live insulate all opposite phases and grounds and isolate yourself from the phase you are working on.
- Never work alone. Ensure your partner is aware of your next move so that you do not both becomepart of the same circuit.
- Until you are sure that the circuit is dead assume it to be live and rated at full voltage. Do not takeanyone's word for it test it yourself.
- Do not work on any electrical apparatus with wet hands or clothing.
- Do not wear rings, watches, jewelry, or a metallic hard hat. Wear a hard hat with a minimum Class B rating.
- Wear safety boots with neoprene, crepe, or rubber soles. Worn boots provide no insulation.
- Use insulating blankets to cover all live components as well as grounds and enclosure metal. Use protective gloves as well.
- Test with a magnetic voltage tester.



Cleaning Solvents

Cleaning solvents are used in construction work to clean tools, equipment and within the shop for general cleaning. Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements. Safe practices include;

- Ensure all WHMIS requirements are met.
- Check toxic hazards of all solvents before use (M.S.D.S)
- When breathing hazards exist, used the appropriate respiratory protection.
- Use non-flammables solvents for general cleaning.
- Store flammables and solvents in special storage areas.
- Ensure that proper containers are used for transportation, storage and field use of solvents/flammables.
- Do not use solvents in areas where food may be contaminated.



Operation of Air Tools

Air tools are powered by compressed air supplied by rubber hoses. Supervisors are responsible to facilitate and /or provide proper instruction to their workers on protection requirements.

- Regularly inspect tools and hoses before use.
- Obtain underground utility locates for the work area.
- Use proper shoring or slope equipment when air back tools are used in a ditch.
- Get assistance before lifting or moving heavy objects.
- Practice good housekeeping.
- Keep loose fitting clothing away from rotating equipment.
- Bleed air before disconnecting hoses.
- Shut off equipment while re-fueling.
- Do not use an air tool for any purpose other than what it is intended for.

Safe work Practices

Power and Hand Tool Use

Power tools and hand tools are to be used and maintained in compliance with manufacturers guidelines. Supervisors are responsible to facilitate and/or provide proper instruction to their The safety information in this policy does not take precedence over applicable government regulations, with which all employees should be familiar.



workers on protection requirements and training. Review the project and prepare a list of tools as required.

- Electrical tools must have 3 wire (grounding) cord and plug, excluding double insulated tools.
- Grinder discs, buffers, and stones are to be used only for designed application and rated speed.
- Stationary grinders must have properly adjusted tool rests and stones to be properly dressed.
- Angle grinders to have original equipment manufacturer (O.E.M) guard.
- On/Off switches must be functional and positioned so operator has full access.
- Accessories can only be used on tools for which they are specifically designed.
- Saw blades must be designed for the product being cut and at the rated speed, O.E.M guards must be in place and functional.
- Chisels, punches, screwdrivers, etc. to have tips properly dressed.
- Chisels, punches, hammers, wrenches, etc. to have all burrs ground from the striking area.
- Cracked and/or splintered handles to be replaced.
- All tools must be cleaned after use and repairs made before being properly stored.
- Tools to be used for designed purpose only.
- Qualified personnel using O.E.M parts or equivalent must perform repairs to tools.



Worksite Hazard Assessment

Purpose: To inform Management and Workers regarding the requirement for Worksite Hazard Assessment and the Safe Work Practices/Safe Job Procedures used in their completion.

Application: All Worksites.

Protective WH&S Codes

Mechanisms Worksite Hazard Assessment Checklist Safe Job Procedure

Selection Commercial, Workshop, Office

and Use Worksite Hazard Assessment form - Supervisor

Worksite Hazard Assessment Checklist - Worker

Supervisor 1. Using the Worksite Hazard Assessment form, conduct and record an initial

hazard assessment

Responsibility of all worksites by type.

Office

Workshop

Generic hazards will be identified and rated as to potential and severity. Appropriate control measures will be determined.

Worksite Hazard Assessments will be retained on file and Safe Work Practices and Safe Job Procedures will be developed for each hazardous activity or condition.

Review these assessments annually or when substantial changes to work processes occur to ensure they remain appropriate and current.

Review Worksite Hazard Assessment Checklists during inspections or when returned by the worker.

Delegate items requiring corrective action and schedule for completion in a timely manner. Once corrective action has been implemented, the delegated person must sign off the item.

Review implemented controls during the next formal inspection or sooner if practical, to ensure they remain in place and appropriate.

Each residential or commercial worksite will have a Worksite Hazard Assessment Checklist completed prior to work beginning that must remain on-site and current with changing conditions. This Checklist must be handed in upon completion of the job, reviewed by Management, and filed for a minimum of 2 years.



Each office, shop and warehouse worksite must have a monthly inspection completed, reviewed by Management, and filed for a minimum of 2 years.

Supervisor Worksite Hazard Assessments will address:

Responsibility

Hazard Identification: Identify all existing and potential hazards.

Hazard Evaluation: Establish priorities based on the level of risk or severity of each identified hazard and when/how the hazard will impact work activity.

Hazard Control: Develop Safe Work Practices and Safe Job Procedures to eliminate or control the identified risks. Ensure all workers at the site have access to the Practices and Procedures, are aware of the hazards and associated control measures, their duties and responsibilities in regard to the identified hazards, and are capable of performing them.

Emergency Planning: Install and maintain a plan to deal with hazardous occurrences. Ensure all workers at the site are aware of the plan, their duties and responsibilities in regard to the plan, and are capable of performing them.

In determining appropriate control measures the following will be considered

- Elimination
- Substitution
- Administrative Controls
- Engineering Controls
- Personal Protective Equipment

Once a control method has been determined, it must be documented and implemented.

- Assign the person primarily responsible for implementation.
- Fix a date for implementation.
- Follow-up to confirm if implementation occurred and if it was effective.
- Results of follow-ups must be documented for purposes of due diligence.

Worker: Assist in Worksite Hazard Assessments as requested.

Complete Worksite Hazard Assessment Checklists for each job site. (Prior to starting the job)
Understand and follow Safe Work Practice and Safe Job Procedure



Safe Work Practice Worksite Safety Inspections

> To inform Management and Supervision regarding the requirement for Worksite Safety Inspections and the Safe Job Procedures used in their completion.

All worksites.

Safety Inspection Policy
Field Safety Inspection Report Form
Office Inspection Form
Shop Inspection Form
Tailgate Meeting Form

Formal inspections are structured events. They are conducted by an inspection team and use conducted on a regularly scheduled basis. Informal inspections are conducted by Supervisory Personnel when visiting the facility or job site as part of their supervisory duties.

Supervisor Conduct and record formal safety inspections of all worksites. Responsibility

Determine who is to conduct the inspection.

Unless there are specific reasons not to, inform site personnel of the scheduled inspection.

Ensure team members are familiar with hazard assessment, the required forms, and the Safe Work Practices and Safe Work Procedures applicable to the facility or worksite.

Obtain and review recent previous inspection reports for the individual, crew, or facility.

Obtain and review the necessary forms: In-house Safety Inspection Report, Safety Advisor Inspections, OH&S inspections and Hazard Assessment forms.

Depending on the site/facility being inspected, the In-house Safety Inspection form or Workshop Safety Inspection form will be used. If necessary, brief the team regarding inspection objectives, specific procedures required, site conditions and other relevant issues.

Ensure the Inspector/team is equipped with ALL necessary PPE.

Where practical, work at the site should proceed as normal. Involve site personnel, particularly the competent person. During the tour, take the time to observe the activities of all personnel, get off the "beaten path."

Where there is imminent danger stop work immediately until the condition is corrected.



Supervisor

Inspect the site Worksite Hazard Assessment Checklist and complete the In-house Safety Responsibility Inspection Report.

During the current inspection, ensure corrective actions implemented as the result of previous inspections are still in place and effective.

Record all unsafe acts/conditions at the bottom of the In-house Safety. Inspection Report form

On completion of the tour determine a corrective action for each unsafe act/condition previously identified. Where possible, implement corrective actions as part of the inspection tour.

Discuss inspection results with site personnel and involve them in determining corrective actions. Record this discussion as a Tailgate/Toolbox Safety Meeting on the Tailgate/Toolbox Meeting form.

Where practicable, assign a person to each corrective action and a date/time for completion.

File completed copies of all forms with the Safety Supervisor or Safety filing system.

Follow up to ensure corrective action is completed. Discuss results at tailgate/toolbox and safety meetings.

Retain completed forms for 2 years at Office in Calgary.

Informal Safety Inspection

Procedure

Ensure the inspector is equipped with ALL necessary PPE.

Work at the site should proceed as normal. Involve site personnel, particularly the competent person. During the tour observe site conditions and the activities of all personnel.

Record all unsafe acts and conditions using the Worksite Hazard Assessment Checklist, Office Inspection, or Workshop Inspection forms.

Take immediate corrective action where there is imminent danger.

Where possible, implement corrective actions as part of the informal inspection.

Discuss inspection results with site personnel and involve them in determining corrective actions. Record this discussion as a Tailgate/Toolbox Safety Meeting on the Tailgate/Toolbox Meeting form.

Where practicable, assign a person to each corrective action and a date/time for completion.

File completed copies of all forms with the Safety Supervisor.

Follow up to ensure corrective action is completed. Discuss results at tailgate/toolbox and safety The safety information in this policy does not take precedence over applicable government regulations, with which all employees should be familiar.



	RATI	ON	 -

meetings.

Retain completed forms for 2 years.

Worker Assist in Worksite Safety Inspections as requested.



Safe Work Practice
Power Cords

To inform and protect workers regarding the hazards associated with working with power cords.

AWG type / 120 volt extension cords.

Safe Work Practices/Safe Job Procedures Manufacturer's specifications

Power Supply Requirements

• To avoid electrical or fire hazards, or damage to your power cord/tool, always use a separate circuit for your power tools. If the tool is wired for 120V ensure it is connected to a 120V circuit breaker of sufficient amperage – 15 amps minimum.

Extension Cord Requirements

- Any extension cord used for power tools must be grounded, either 3 wire with 2 flat prongs and 1 round ground prong, or the new 2 prong internal ground type.
- Always use an extension cord that is heavy enough to carry the current the tool will draw. An undersized cord will drop line voltage resulting in loss of power and overheating. If in doubt, use the next heavier gauge cord.
- Be sure your extension cord is properly wired and in good condition. Replace the cord immediately if it is worn, cut or damaged in any way. Protect your cords from sharp objects, excessive heat and damp or wet areas.
- Ensure the switch is turned off prior to connecting your power tool to the extension cord.
 - Selection and Use of Grounding Requirements Power cords
- In the event of a malfunction, grounding provides a path of least resistance for electric current and reduces the risk of electric shock. Your power tool is equipped with a cord that has equipment grounding conductor and a grounding plug. The plug must be plugged into a matching receptacle that is properly installed and grounded.
- Do not modify the plug provided. If it will not fit the outlet, have a proper outlet installed by an electrician.
- Improper connection of the grounding conductor can result in electric shock. The wire with the green insulation is the equipment-grounding conductor. If repair or replacement of the cord is necessary, do not connect the grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if you are not sure the power tool is properly grounded.



Air Compressors

To inform workers regarding issues associated with the use of air compressors.

120v, 15 amp 1.5/3 hp electric air compressors

Manufacturer's specifications

Mechanisms PPE

Manufacturer's specifications

Supervisor Ensure workers are familiar with and use the Safe Work Practice.

Responsibility Worksite Inspection

Hazard Assessment

Worker Responsibility 1. Be familiar with and use the Safe Work Practice.

2. Be familiar with and use the manufacturer's instructions.

- 3. Equipment maintenance.
- 4. Proper use of PPE.
- 5. Worksite Hazard Assessments.
- 6. Report unsafe conditions.
- Do not plug in the compressor until you have read and understood the entire instruction manual. Learn the compressor's applications, limitations, and possible hazards.
- Defective tools can cause serious injuries. Before use inspect the compressor to determine that it will operate properly and perform its intended function. Check for moving parts, binding of moving parts, breakage of parts or mounting, or other conditions that may affect its operation. If defective in some way, do not use it. Damage should be properly repaired or replaced before use.
- The compressor should be operated on a dedicated 15 Amp (minimum) circuit. All extension cords used must be 12 gauge with a maximum length of 25 ft. Power cords should be free of any moving parts, twisting and/or crimping while in use and while in storage.
- Always use more air hose before using more extension cords.
- When in use all guards and covers should be correctly installed. If any guard or cover has been damaged or removed, do not operate the equipment until the equipment has been properly repaired.



- Items such as the compressor pump and the outlet tube are normally hot during and after operation and cause serious burns if touched. The equipment should be allowed time to cool before any maintenance is attempted.
- The compressor should always be used in a stable position. Never use the compressor on a rooftop or elevated position that could allow the unit to fall or tip over. Use additional air hose for elevated jobs.

Worker

Responsibility

- Always wear safety goggles with side shields when using the compressor. Turn off the compressor and drain the tank before performing any type of maintenance or disassembly of the hoses or fittings.
- Never point any nozzle, sprayer or fitted tool toward any part of the body or at other people or animals.
- Avoid using the compressor in confined areas. Always have adequate space (12 inches) on all sides of the compressor. Keep visitors and animals out of the area of operation. The compressor does not provide breathable air for anyone or any auxiliary breathing device.
 Spray material in an area away from the compressor to prevent intake air from damaging the air filter.
- Never use the air compressor in rain or wet conditions. Any electrical repairs should be
 performed by authorized personnel and should comply with all electrical codes. The
 compressor should have a proper grounding plug, correct voltage, and adequate fuse
 protection.
- Never operate the compressor near combustible materials, gasoline or solvent vapors. If spraying flammable materials, locate the compressor at least 20 ft. away from the spray area. Never operate indoors or in a confined area.
- Drain the air tank daily or after each use. If the tank develops a leak, replace the air compressor. Never use the unit after a leak has been found or try to make any modifications to the tank. Never modify factory settings, which control the tank pressure or any other function.

Application: 4 stroke, 50 - 60 Hz, 120/240V, AC rated output 3800 - 4500W, DC output 8 amp

Manufacturer's specifications PPE

Manufacturer's specifications



Supervisor Ensure workers are familiar with and use the Safe Work Practice.

Responsibility Worksite Inspection, Hazard Assessment

Worker 1. Be familiar with operators manual.

Responsibility 2. Equipment maintenance.

3. Worksite Hazard Assessments.

4. Use PPE as required.5. Report unsafe conditions.

Electrical faults or overloading can cause sparking and fires. Four stroke engines require gasoline that is highly flammable and explosive.

Do not permit anyone to operate the generator without proper instructions.

Exhaust gas contains poisonous carbon monoxide. Never run the generator in an enclosed area. Be sure to provide adequate ventilation or vent the exhaust directly outside.

- Do not modify or use the generator for purposes other than which it is intended.
- Place the generator at least 1m away from buildings or other equipment during operation.
- Do not operate the generator with wet hands or in the rain or snow.
- Limit extension cable length as long cables lower usable power due to wire resistance.
- Keep the generator clear of other electric cables, wires or commercial power supply lines.
- Keep away from rotating parts while the generator is running.

The exhaust system is hot during operation and after the engine stops. Note the warnings on the unit and do not touch the exhaust system, or refuel while it is hot.

- To stop the engine in an emergency, turn the engine switch OFF.
- Follow manufacturer's specifications, do a pre-operation inspection before starting.
- Check engine oil and fuel levels.
- Check the air cleaner
- Ensure the AC circuit protector is OFF and nothing is connected to the DC terminals.



Workers Refueling Responsibility Refuel in a well-ventilated area with the engine stopped. Ensure the exhaust system is cool and o not allow smoking, flames or sparks within 7.5 meters of where refueling occurs or where gasoline is stored.

- Do not overfill the fuel tank. There should be no fuel in the filler neck.
- After refueling, ensure the tank cap is securely closed.
- Avoid fuel spills, spilled fuel or fuel vapor may ignite. If fuel is spilled, ensure the area is dry before starting the engine. Avoid contact with skin or breathing of vapor.
- Operate the generator on a level surface to avoid fuel spills. When transporting the generator turn the fuel valve off and keep the generator level to prevent fuel spillage.
- Do not use gasoline or low flash pint solvents for cleaning. They are flammable and explosive

AC Operation

- Ensure the generator is set in the correct AC frequency range (50 or 60 Hz.)
- Ground the generator to prevent shock from faulty appliances. Connect a length of heavy wire (AWG 6) between the generator's ground terminal and an external ground source.
- Limit operation requiring maximum power to 30 minutes. For continuous operation, do not exceed the rated power output of the generator (e.g. 4500 watts). The total wattage of appliances connected must be considered.
- Most appliance motors require more than their rated wattage to start up.
- Substantial overloading will shut off the circuit protector. Marginal overloading may not shut off the circuit protector but it will shorten the service life of the generator.
- Be sure that all appliances are in good working order before connecting them to the generator. If an appliance begins to run abnormally, becomes sluggish, or stops suddenly, turn off the circuit protector and the generator engine switch immediately. Disconnect the appliance and examine it for signs of malfunction. Ensure you are familiar with the location of the circuit protector switch.
- Do not exceed the current limit for any one receptacle.
- Do not connect generators in parallel.
- Do not connect the generator to a household circuit. This could cause damage to the generator or to electrical appliances in the house (fire).
- A qualified electrician must make connections to a building's electrical system for standby power. Improper connection can allow current from the generator to back feed into the utility lines. This may injure utility company workers or others who contact the lines during a power The safety information in this policy does not take precedence over applicable government regulations, with which all employees should be familiar.



outage. When power is restored the generator may explode, burn, or cause fires in the building's electrical system.

Workers DC Operation Responsibility

- The DC terminals may be used for charging 12V automotive type batteries only.
- To prevent the possibility of creating a spark near the battery, connect booster cables to the battery first, then to the generator. Disconnect the cables at the generator first.
- Before connecting booster cables to a battery that is installed in a vehicle, disconnect the vehicle's grounded battery cable. Reconnect the grounded cable after the booster cables are removed. This will prevent a short circuit and sparks if accidental contact is made between a battery terminal and the vehicle's frame or body.
- Do not attempt to start an automobile engine with the generator still connected to the battery. The generator may be damaged. Always connect the positive battery terminal to the positive charging cord. Do not reverse the cables or serious damage to the generator and /or battery may occur.
- The battery gives off explosive gases, keep sparks, flames and cigarettes away. Provide adequate ventilation when charging. The battery contains sulphuric acid. Contact with skin or eyes may cause severe burns.
- Wear protective clothing and a face shield. If acid gets on your skin, flush with water. If it gets in your eyes, flush with water for at least 15 minutes and call a physician. If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician.

Safe Work Practice
Table Saws

Purpose: To inform and protect workers regarding the hazards associated with working with

table saws.

Application: 115V, single phase 10" Electric Table Saw

Protective Manufacturer's specifications

Mechanisms PPE

Safe Work Practice

Supervisor Ensure workers are familiar with and use the Safe Work Practice.

Responsibility Worksite Inspection

Hazard Assessment



Worker 1. Use Manufacturers Specifications,

Responsibility 2. Equipment maintenance.

3. Proper use of PPE.

4. Worksite Hazard Assessments.5. Report unsafe conditions.

Selection Electrical and Use A separate electrical circuit, consisting of #12 A.W.G. wire, and protected by a 20 Amp fuse

should be used for the saw. Use only three wire extension cords with 3-prong grounding type plugs and 3 pole receptacles which accept the tool's plug. For distances up to 100 ft. use #12 wire. For distances up o 150 ft. use 312 wire.

• A three-pronged plug should always be plugged into a three pole electrical receptacle. Never remove the third prong.



Set Up

- Do not plug in the saw until you have read and understood the instruction manual. Learn the tool's applications, limitations and hazards. Do not use the tool for other than its intended purpose. Use only accessories designed for the machine.
- Always use in a well-ventilated area. Remove sawdust frequently. Clean out the interior of the saw to prevent a fire hazard. Never cut metals or materials, which may make hazardous dust. Be sure adequate lighting is available.
- Safety goggles and hearing protection (Class A, Grade 4 earmuffs) are required to operate power saws. Do not wear loose clothing, gloves, bracelets or necklaces.
- Before use inspect the saw to ensure it will operate properly and perform its intended function. Check and binding of moving parts, breakage of parts or mounting, or any condition that may affect operation.
- Do not use a dull, bent or cracked cutting tool.
- If a tool is defective in some way, do not use it. Damage should be properly repaired or replaced before use.
- Make sure the switch is on the "Off" position before plugging in the cord. Be sure that key and adjusting wrenches have been removed before turning the power on.

Selection and Set Up – Table Saw Use Always disconnect the tool before servicing or changing accessories such as blades, bits or cutters.

- If the saw is to be used without the supplied stand, ensure it is securely fastened to a supporting surface. Provide a hole in the stand or bench to facilitate the removal of sawdust.
- If there is any tendency for the tool to tip over, slide or walk on the supporting surface, the stand or bench must be secured to the floor.
- Ensure extension wings are flush with the front edge of the table and level with the table surface. A sturdy outrigger support must be used if a table extension over 24" is used.
- Provide adequate support to the rear and the sides of the saw table for long or wide work pieces.
- Never use another person as a substitute for a table extension, or as an additional support for a work piece that is longer or wider than the basic table saw, or to help feed, support or pull the work piece.
- To avoid kickbacks and slips into the saw blade, make sure the fence is parallel to the saw blade.

Operation

- Make sure all foreign objects; tools and scraps are out of the way before beginning to saw.
- The blade should be raised at 1/8" to 1/4" above the top surface of the material being cut. For hollow ground blades the blade should be raised to the maximum to provide chip clearance.
- Always use the saw blade guard, splitter and anti-kickback pawls for every operation possible, including through sawing (whenever the blade comes through the top of the work piece).



- Always hold work firmly against the miter gauge or rip fence. Never perform any cut using only your hands to support or guide the work piece. Freehand cutting is the major cause of kickback and finger/hand amputations.
- As much as possible, keep your face and body to one side of the saw blade, out of line with a possible kickback or throwback. Never put your fingers or hands in the path of the saw blade or other cutting tool.
- Avoid awkward operations and hand positions where a slip could cause your hand to move into the saw blade.
- Never reach in back of the cutting tool with either hand to hold down or support the work piece, to remove scraps, or for any other reason.
- Do not overreach. Always keep good footing and balance.
- Push the work piece against the rotation of the saw blade. Never feed material into the cutting tool from the rear of the table saw.
- Before freeing any jammed material turn the switch off, unplug the saw and wait for all moving parts to stop. Check the blade, spreader and fence for proper before starting thesaw again.
- To avoid kickbacks keep the blade sharp, the rip fence parallel to the blade and the splitter, anti-kickback pawls and guards in place and functioning. Do not release work before it has passed all the way past the saw blade.
- Never leave the saw running unattended. Do not leave until it comes to a complete stop.

Cross Cutting - Table Saw

Never use the rip fence as a cut-off gauge when cross cutting. Cross cutting requires the use of the miter gauge to position and guide the work.

- Ensure the work piece does not engage the teeth of the blade before turning on the saw.
- With the work against the miter gauge advance the work and gauge toward the blade. The gauge may be used in either table slot, however most operators prefer the left groove for average work.
- When bevel cutting, use the groove that does not cause interference of your hand or miter gauge with the blade guard.
- Start the cut slowly and hold the work firmly against the miter gauge and the table.
- The feed in cross cutting continues until the work is cut in two and both the miter gauge and work is pulled back to the starting point.
- After the work piece fully clears the saw blade, turn off the table saw. Before pulling the work back



give it a little sideways shift to move it slightly away from the saw blade.

- Never pick up any short length of free work from the table while the saw is running. Never touch a cut-off piece unless it is at least 1 foot long. One of the rules in running a saw is that you never hang onto or touch a free piece of work.
- For added safety and convenience the miter gauge can be fitted with an auxiliary wood-facing that should be at least 1 inch higher than the maximum depth of cut and should extend 12 inches or more on either side of the blade.

Ripping

- Ripping is cutting lengthwise through a board. The rip fence positions and guides the work. One edge of the work rides against the rip fence while the flat side of the board rests on the table.
- Since the work is pushed along the fence, it must have a straight edge and make solid contact with the table. Do not rip work that is twisted, warped or does not have a straight edge.
- The saw guard must be used. The guard has anti-kickback fingers and a splitter to prevent the saw kerf (channel cut by the blade) from closing and binding the table.
- Never pull the work piece through. Start and finish the cut from the front of the table saw. Always push the work piece all the way past the saw blade.
- Start the motor and advance the work with both hands, holding it down and against the fence. Push it along the fence and into the saw blade. The work can then be fed through the saw blade with one or two hands.
- To avoid kickbacks and slips into the saw blade, always push forward on the section of the work piece between the saw blade and the fence. Never push forward on the piece being cut off.
- Never stand in the line of the saw cut when ripping.
- After the work is beyond the saw blade and anti-kickback fingers, the hand is removed from the work. When this is done the work will either stay on the table, tilt up slightly and be caught by the rear end of the guard, or slide off the table onto the floor.
- Alternately, the feed can continue to the end of the table, after which the work is lifted and brought back along the outside edge of the fence. The waste stock remains on the table and is not touched with the hands until the saw is stopped.

Ripping – Table Saw

• Use a push stick whenever the fence is 3 inches or less from the saw blade. A push stick can easily be made from scrap material.



- When ripping 2 inches or narrower, make an auxiliary guide and fasten it to the rip fence, and use a push stick.
- Never through saw rip cuts less than ½" wide.
- When cutting thin material such as paneling, be aware the material may catch between the bottom of the rip fence and the table surface.

Temporary Heating (Space Heaters)

To inform and protect workers regarding the hazards of using indirect fired space heaters.

Frost Fighter Model OHV 350-II and Model OHV 500 and similar indirect fired, diesel/kerosene fueled space heaters.

Manufacturer's Operator's Manual WH&S Codes CSA Standard B139

As per manufacturer's specifications.

Supervisor To ensure workers understand and use the Safe Work Practice and Operators Manual.

Responsibility Hazard Assessment

Worksite Inspection

Worker 1. Follow the manufacturer's specifications and Safe Job Procedures during operation and use.

Responsibility 2. Inspect equipment before each use.

- 3. Follow safe storage, handling and maintenance procedures.
- Always use a 3 wire (grounded) electrical plug. Extension cords must be 12 A.W.G minimum. Where extension cords longer than 50 feet are required use 10 A.W.G. minimum.
- Ensure you are plugged in to a 115-volt power supply with a 15-amp fuse.
- Ensure the switch is in the "Off" position before plugging in the electrical supply cord.
- When firing the unit in an enclosed area ensure 3 sq. ft. minimum is provided at the intake to allow the free entry of enough air for proper operation. Do not restrict either the air intake or exhaust outlets or the unit will cycle on the high limit switch (run hot).
- Check the high limit switch every heating session to ensure the burner shuts down when the temperature exceeds 290 degrees F. This is done by restricting airflow through the unit. After



tests are complete remove the restrictions, as both 12" ducts must be wide open for proper operation.

- Always use a chimney (2 feet high minimum) to disperse exhaust upward away from the area around the unit.
- Do not operate the unit in poorly ventilated areas without a flue (chimney) pipe vented outside the workspace.
 - 1. The pipe must end with a vertical section at least 2 feet long. Horizontal runs should have a rise ratio of 1:10 away from the heater.
 - 2. Where down drafts are expected a vent cap on the chimney should be used.
 - 3. Do not operate the unit in close proximity to combustible surfaces or materials.
 - 4. Do not fill tank when the unit is operating. Do not use gasoline, crankcase oil or heavier than #2 furnace oil.
 - 5. Do not store the unit for long periods with oil in the tank.
 - 6. Worker Start Up Space Heaters
 - 7. Responsibility
 - 8. Ensure the switch is in the "Off" position and then connect to the power source. Move the switch to the "Manual" position, or for thermostat operation, to the "Therm" position.
 - 9. If the heater fails to start right away, press the manual reset button on the burner relay and try again. If this fails:
 - 10. Ensure fuel level is adequate, 3 gallons minimum.
 - 11. Check the fuel filter and suction tubing.
 - 12. Check fuses.

Shut Down

• To stop the heater, flip the switch to the "Off" position. Firing will stop but the fan will keep running until the unit has cooled down. Do not shut off by disconnecting the power supply, this will prevent the fan from cooling the heat exchanger as required.

Maintenance

- A number of conditions can occur that prevent the unit from operating properly. Beyond those checks already mentioned do not tamper further with the unit. Have a qualified technician make any repairs or adjustments.
- Burner will not start, or starts up then locks out.
- Delayed ignition.
- Smokey fire.
- Main fan will not come on; unit shuts down on high limit.
- Unit on, but cycles on high limit.



- The fan fails to stop when the heat exchanger has cooled.
- Combustion chamber turns red.
- When the unit is reset a number of times without ignition, oil will accumulate in the combustion chamber. Tip up the burner end of the unit to drain excess oil out of the secondary chamber before attempting to re-start the heater.



Propane Cylinders

Purpose: To inform and protect workers regarding the hazards of storing and handling

propane cylinders.

Application: Portable propane cylinders.

Protective Safe Work Procedure

Mechanisms Workplace Health & Safety Codes

Selection As per Safe Work Procedure and Use Cylinder Re-qualification

- All propane cylinders must be inspected and re-qualified by a qualified technician every 10 years. Cylinders are date stamped on the protective handle/flange around the valve indicating the cylinder expiry date.
- Your cylinder must also have a TDG (Transportation of Dangerous Goods) decal identifying the contents as a flammable gas.

To ensure workers understand and use Safe Work Practices.

Responsibility Hazard Assessment

Worksite Inspection

Worker

1. Follow the manufacturer's specifications when operating propane fueled

equipment.

2. Inspect equipment before each use.

Responsibility

- 3. Follow safe container storage, handling and maintenance procedures.
- 4. Follow safe container refilling procedures.

Handling Propane Cylinders Properly

- Never use, store, or transport containers in the passenger compartment of your vehicle.
- Never store a container inside a building, including your garage. Containers should be stored outdoors and off the ground on a non-combustible base.
- When not in use, always replace the outlet cap.
- Portable propane tanks must be used and transported in an upright, secured position. This allows the safety release valve to remain in the container's vapor space at all times. When transporting a container, the outlet cap must be in place.
- When a tank is filled to its proper liquid level it will be about 80% full. The remaining 20% contains the vapor that is used by your appliance. Because liquid propane expands greatly when temperatures rise, the vapor space also provides room for the liquid propane to expand. .
- Damaged or out of date tanks must be returned to the propane supplier for disposal or requalification.



• The exterior of your tank should be protected with light colored, heat reflective paint to reduce pressure increases as temperatures rise and to prevent corrosion and rusting.

Worker Reconnecting Cylinders Responsibility

- Make sure all appliance valves are shut off, then reconnect the cylinder to the hose.
- *Turn the valve on and listen for gas flowing through the regulator.*
- If you hear gas flowing, immediately shut off the cylinder valve and check that all appliance valves are turned off and there are no open lines or leaks.
- Check all cylinder connections for leaks. Use a mixture of 50% liquid soap and 50% water. Brush on to any connections or valves. Repair all leaks before lighting your appliances.
- Re-light your appliances following the manufacturer's instructions.

If a Leak Occurs

- Propane vapor is heavier than air. If a leak occurs, vapor will settle in low lying areas or along the floor.
- The presence of propane odor indicates that vapor is likely to be present and a potentially dangerous situation may exist.
- Extinguish all open flames and immediately leave the area.
- Do not touch any electrical switches or appliances.
- Go directly to your tank and turn off the valve.
- Your tank must be positioned at least 20 feet (6 meters) from any open flame or other ignition source.

Tank Refilling

- Only qualified technicians may refill a container.
- New containers must be purged of oxygen to prevent odors fade and excessive tank pressures.
- Fill valves must be replaced every 10 years. It is against the law to refill a tank with an out of date valve.

Smell

- When produced, propane is a colorless and odorless gas. A smell is added so, in the event of a leak, you can detect the escaping gas by its strong, distinctive odors (like rotten eggs or boiling cabbage).
- Under certain circumstances, propane may lose this smell. Also, not everyone has a sense of smell and physical conditions such as competing odors, common colds, allergies and smoking may lessen a person's ability to detect odors.
- Read, understand and follow the manufacturer's manual for your propane-fueled equipment.

Appliance Use

- Properly adjusted appliances are very important. Improper flame adjustment (which you can detect by a yellow flame at the burner tip) is inefficient and can produce dangerous amounts of carbon monoxide.
- Ensure adequate ventilation when using propane-fueled equipment in enclosed areas.

Regulators



- Cylinders equipped with a POL (put on left) fitting require an "O" ring. Check the "O" ring every time you connect the cylinder. Replace if it is out of round, torn or cracked.
- Pressure regulators supply constant pressure to your appliance. Check your appliance manual to ensure you are using the correct regulator (high or low pressure) for your appliance.
- Never attempt to repair a regulator; you will not be able to reassemble it correctly.

For further information see the appropriate current Workplace Health & Safety Codes, and the applicable Safety Program Safe Job Procedures.



Safe Work Practice Man lift

To inform and protect workers regarding the hazards of operating and working from boom supported aerial platforms.

JLG Telescopic boom lift Model 600A

Safe Job Procedure
Manufacturer's specifications
PPE
Man lift Training
Man lift Certification/maintenance/ inspection schedules

As per Safe Work Practice Manufacturer's specifications

Supervisor To ensure workers understand and use the Safe Work Practice.

Responsibility Provide and document operator training.

Selection of equipment

Ensure equipment inspections and certifications are complete and documented.

Ensure required repairs are completed in a satisfactory manner.

Worksite Inspection Hazard Assessment

- Elevating Platforms and Aerial Devices will be inspected and maintained according to the manufacturer's specifications. Only competent persons will perform inspections and maintenance.
- Records of inspection and maintenance will be kept in Cado Industries offices and on the machine.
- Equipment will be provided with warning devices, protective structures, and other safety equipment as required by CSA Standards and WH&S Code.
- A permanent, visible, and legible plate must be located on the platform listing the following:
- Make, model, serial number.
- Manufacturer's name and address.
- The rated working load.
- The maximum platform height and reach.
- Special warnings or restrictions necessary for safe operation including the use of outriders or stabilizers.
- The operating instructions and a notice indicating the need to read the operating manual before use.

Worker 1. Read, understand, and follow the manufacturer's operator manual and training procedures,
Responsibility and all warning signs on the machine.

and an warming signs on the machine.

- 2. Use all available protective safety devices.
- 3. Prior to operation, inspect the machine and report all deficiencies.



4. Plan the work and ensure the work area is acceptable to safe machine

operation.

5. Follow all recommended starting and operating procedures.

6. Follow all recommended shut down and maintenance procedures.

Operator a worker under t Requirements: Man lifts will only be operated by competent personnel trained in their use, or by

the direct supervision of a trained and competent worker.

• The operator must perform a visual circle inspection of the equipment before start-up, and perform and record a monthly inspection as described in Preventative Maintenance.

- The operator must remove the equipment from service when repairs are required that affect its safe operation, and document and report such problems in a way that ensures they are addressed in a timely manner.
- Operators are responsible for ensuring that the equipment is operated safely.
- Operators must use all protective and safety devices provided.
- Operators must maintain the controls area and platform free of material that may interfere with operation of the equipment or footing and free movement on the work platform.
- The operator must not move or operate the equipment in any manner that puts another worker at risk.
- The operator must ensure that the machine is prevented from unintentional movement by engaging any movement limiting safety devices and placing the transmission in the park position, or by chocking the wheels.
- Never exceed the rated workload. Include the weight of the operator and all tools and equipment on the platform.
- Before raising the platform, disperse the load evenly and ensure nothing will interfere with the controls.
- Never alter, remove or substitute any item, which will reduce the overall weight or base stability of your machine.
- When the work area is or may become crowed or congested, communication must occur between the
 man lift operator and other workers/equipment operators to determine the duration of work,
 positioning of the man lift, barricades, reschedule of work, notification of plans/hazards to other
 workers.
- When sharing work areas with other machinery and workers or pedestrian or vehicle traffic of any kind, cones, warning flags, barricades or other high visibility warning devices should be positioned to guard your work area and alert others to your presence and position. Consideration must be given to the use of flag persons in high traffic areas.



• New workers and equipment operators entering the area must be oriented to the current man lift operating plan.

Operational Requirements – Starting and testing

• See Man lift Safe Job Procedure

Worker Operational Requirements – During Operation. – Man lift Responsibilities

- While elevated, personnel on the platform must use fall protection connected to the recommended anchor location. (See Fall Protection Plan)
- Never belt off to an adjacent structure when working from an aerial platform.
- If there is more than one person on the platform only the designated operator should operate the controls.
- Operate the controls smoothly. Avoid sudden stops, starts or changes in direction. Never attempt to work the controls except from the operator's control station.
- Know which direction is forward/reverse, left/right in relation to your aerial platform.
- Should malfunction occur, shut off the engine and seek qualified assistance to correct the situation. Do not operate the machine until the condition has been corrected.
- If the platform cannot be lowered, request rescue. Do not attempt to jump clear or slide down the boom. Never use the boom to gain access to or leave a platform. Enter and exit the platform from the ground only.
- Never attach wire, cable or similar items to the platform. Keep ropes, electrical cords and hoses coiled and stowed away when not in use.
- Secure all tools, equipment or material placed on the platform. Keep the platform floor clear of debris and loose objects, which might cause you to slip.
- When the platform is in the working position do not allow any object to interfere with the operating controls.
- Never use ladders, planks, steps or other devices to provide additional reach or gain greater height. Do
 not lean over or sit or climb on the platform railing. Always keep both feet on the platform floor at all
 times.
- Do not operate equipment where it is possible for a rollover due to slope or uneven terrain. Approach and traverse all curb ramps or inclines straight on, keeping the machine stable at all times.



- Keep your attention in the direction of travel. Check clearance above, below, and on all sides.
- Use a designated signaler when your view is obstructed.
- Never allow ground personnel near your machine and never permit anyone to stand or pass under a raised platform. Never move or position any part of a machine over anyone.
- Never drive an aerial platform up to someone standing in front of a fixed object.
- Do not use drive to maneuver in close to an obstacle. Place your machine and then use the swing and boom functions to get in close. Never drive the base or platform into a stationary object.
- When driving the machine or positioning the platform, keep all parts of your body inside the platform railings.

Worker Operational Requirements During Operation Man Lift

Responsibilities

- Do not remain on a moving platform where doing so puts you in danger. If there is no danger, you may remain on the platform when moving a short distance to reposition the machine.
- Whenever possible, travel only in the full down stowed position for maximum stability.
- If the platform or any part of the machine tangles with an adjacent structure do not attempt to free it by operating the platform controls. Never attempt to free a machine by lifting the wheels off the ground with the boom.
- Never allow anyone to service or operate a machine from the lower control station while personnel are
 on the platform, except in an emergency. Never override any hydraulic, mechanical, or electrical safety
 device.
- Never attempt to mount or dismount a moving machine.
- Never use the machine to push or pull another object.
- If the aerial platform becomes disabled, attach warning tags to the upper and lower control stations. If the equipment should not be started, attach tag-out tags to indicate the no-start condition.

Shut Down

Park your machine in a designated area or out of traffic on level ground. Place controls in neutral. Idle
engine for gradual cooling. Shut off engine/electrical power. Engage parking brake and take necessary
steps to prevent unauthorized use. The work platform must be in the fully stowed position during
transport or when left unattended.

Towing/Hauling

Follow all manufacturers' specifications when pushing or towing your machine.



If your machine is to be hauled, ensure truck and ramp inclines/capacities are adequate.

Never raise, swing, or rotate the boom or platform when a machine is loaded for transporting. Refer to the manufacturer's manual when preparing the machine for transport. Make sure all tie downs and blocks are in place.

When transporting the lift on a truck or trailer, know the overall height to avoid contacting overhead obstructions.

Fueling

The vehicle must be equipped with an operable fire extinguisher suitable to the fuel source.

Lower the aerial platform the stowed position and turn off all power before fueling.

The vehicle must not be refueled within 7.5m of an ignition source. No worker is allowed to smoke within 7.5m of the machine when it is being re-fueled.

Be sure to use the correct type and grade of fuel. Ground the fuel funnel or nozzle against the filter neck to prevent sparks. Be sure to replace the fuel tank cap.

Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately.

Liquid Petroleum Gas (LPG)

- Close the fuel valve on the tank when parking the aerial platform more than momentarily. If the platform is to be left overnight or longer, it must be parked outside or the LPG tank removed and stored outside. Do not store LPG tanks near heat or open flame.
- Only trained and authorized personnel are permitted to operate filling equipment. Fill LPG tanks outdoors. Stay at least 15 m from buildings, motor vehicles, electrical equipment or other ignition sources. Stay at least 5m from LPG storage tanks.
- Always wear gloves when refilling or changing tanks to prevent freeze burns to the skin.
- Do not use a damaged LPG tank. Damaged LPG tanks must be removed from service. Frost on the valves or fittings indicates a leak. A strong odor of LPG fuel can indicate a leak.
- Batteries
- Only authorized qualified personnel will perform maintenance. Charge batteries only in a well ventilated area. When working with batteries always wear a face shield to avoid acid in the eyes. Wear rubber gloves and protective clothing to keep acid off skin.

Tires/Wheels

• Check your tires and wheels once a day. Check tires for correct pressure, cuts or bulges, nails or spikes, uneven or excessive wear, missing valve caps. Check wheels for damaged rims, missing or loose wheel nuts, bolts or bearing caps, obvious.



Have cuts/punctures repaired by authorized personnel before adding air.

Safe Limits of Approach Distances from Overhead Power Lines for Persons and Equipment

Operating voltage of overhead power line safe limit of approach distance for persons between phase conductors and equipment

*0-750 V insulated or polyethylene covered conductors .3 meters 750 bare uninsulated 1.0 meter

*Above .75 kV insulated conductors

75 kV - 40 kV	3.0 meters
69kV, 72 kV	3.5 meters
138kV, 144kV	4.0 meters
230 kV, 260 kV	5.0 meters
500kV	7.0 meters

*Conductors must be insulated or covered throughout their entire length Know exactly how much clearance you have around power lines and apparatus. Do not approach closer than specified distances with any part of the machine or your body. Allow for platform sway, rock or sag and power line swaying. Contact with energized power lines can cause death or serious injury to persons in the platform or on the ground in contact with or near the machine. Beware of strong and /or gusty wind conditions.

For further information see the appropriate current Workplace Health & Safety Codes, and the applicable Safety Program Safe Job Procedures.

Section Five -Safe Job Procedures

SAFE JOB PROCEDURES

Definition

A job Procedure is a written, specific step-by-step description of how to complete a job safely and efficiently from start to finish.

In carrying out their tasks at work, what workers do not know can hurt them. In the realm of Job Procedures, one way to increase knowledge of hazards is to conduct a Job Hazard Analysis (JHA) on individual jobs or tasks. A JHA is a procedure, which provides for the



integration of accepted safety and health principles and practices into a particular operation. In a JHA, each basic step of the job is examined to identify potential hazards and to determine the safest way to do a job. The end result is called a Safe Job Procedure.

JHAs should always be team efforts. By involving others in the process, you reduce the possibility of overlooking an individual job step or a potential hazard. You also increase the likelihood of identifying the most appropriate measures for eliminating or controlling hazards.

An effective JHA team should include:

- The supervisor;
- The worker most familiar with the job is done and its related hazards;
- Other workers who perform the job; and,
- Experts or specialists such as maintenance personnel, occupational hygienists, ergonomics, or design engineers.

By involving as many knowledgeable and experienced people as possible, you ensure the JHA will be accurate and complete.

Ken Kan (Chief Compliance Officer)

Procedure	Reviewed	By Whom	
Lift Safety	Nov 2/14	Anne Moher	
Bobcats Operations	Nov 2/14	Anne Moher	
Emergency Response - Fires	Nov 2/14	Anne Moher	
Emergency Response – First Aid	Nov 2/14	Anne Moher	
Emergency Response – Medical	Nov 2/14	Anne Moher	
Aid			
Emergency Response –	Nov 2/14	Anne Moher	
Occupational Fatality			
Emergency Response – Vehicle	Nov 2/14	Anne Moher	
Accident			



Flagging Nov 2/14 Anne Moher Fueling Safely Nov 2/14 Anne Moher Use of Step Ladder Nov 2/14 Anne Moher Boom Truck Nov 2/14 Anne Moher Chop Saws Nov 2/14 Anne Moher Cold Weather Nov 2/14 Anne Moher Combustion Engine Nov 2/14 Anne Moher Concrete Grinding Nov 2/14 Anne Moher Concrete Sealant Nov 2/14 Anne Moher Confined Space Nov 2/14 Anne Moher	
Use of Step Ladder Nov 2/14 Nov 2/14 Anne Moher Chop Saws Nov 2/14 Anne Moher Cold Weather Combustion Engine Nov 2/14 Nov 2/14 Anne Moher Concrete Grinding Nov 2/14 Anne Moher Concrete Sealant Nov 2/14 Anne Moher Concrete Sealant Nov 2/14 Anne Moher Confined Space Nov 2/14 Anne Moher	
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Concrete Sealant Nov 2/14 Anne Moher Confined Space Nov 2/14 Anne Moher	
Confined Space Nov 2/14 Anne Moher	
Erection of Sky Deck Nov 2/14 Anne Moher	
Fall Protection Nov 2/14 Anne Moher	
Forklift Nov 2/14 Anne Moher	
Formworks & False Works Nov 2/14 Anne Moher	
Hoarding & Heating Nov 2/14 Anne Moher	
Hoisting & Rigging Nov 2/14 Anne Moher	
Hot Work Nov 2/14 Anne Moher	
Low Voltage Nov 2/14 Anne Moher	
Operation of Mobile Nov 2/14 Anne Moher	
Equipment	
Noise Regulations Nov 2/14 Anne Moher	
Power line/Underground Nov 2/14 Anne Moher	
Propane /Natural Gas Nov 2/14 Anne Moher	
Scaffold Nov 2/14 Anne Moher	
Scissor Lifts Nov 2/14 Anne Moher	
Setting Columns Nov 2/14 Anne Moher	
Setting Perimeter Columns Nov 2/14 Anne Moher	
Skid Steer Nov 2/14 Anne Moher	
Stripping Overhead Nov 2/14 Anne Moher	
Stripping Perimeter Columns Nov 2/14 Anne Moher	
Stripping Sky Deck Nov 2/14 Anne Moher	
Table Saws Nov 2/14 Anne Moher	
Trenching and Excavating Nov 2/14 Anne Moher	
Wall Forming Nov 2/14 Anne Moher	



How to Lift Safely Safe Job Procedure

Before lifting, take a moment to think about what you are about to do. Examine the object forsharp corners, slippery spots or other potential hazards. Know your limit and do not try to exceed it. Ask for help if needed, or if possible, divide the load to make it lighter. Know where you are going to set the item down and make sure it and your path are free of obstructions. Then follow these steps.

If you must turn while carrying the load, turn using your feet-not your torso.

To place the object below the level of your waist, follow the same procedures in reverse order. Remember; keep your back as vertical as possible and bend at the knees.



1. Stand close to the load with your feet spread apart about shoulder width, with one foot slightly in front of the other for balance.

2. Squat down bending at the knees (not your waist). Tuck your chin while keeping your back as vertical as possible.





3. Get a firm grasp of the object before beginning the lift.

4. Begin slowly lifting with your LEGS by straightening them. Never twist your body during this step.





5. Once the lift is complete, keep the object as close to the body as possible. As the load's center of gravity moves away from the body, there is a dramatic increase in stress to the lumbar region of the back.

Conclusion

Using proper lifting techniques can help prevent downtime due to avoidable back injuries. With a little practice, precautionary methods such as these can become good daily habits that could help prevent back injuries-both on and off the job.

Remember, no approach will completely eliminate back injuries. However, a substantial portion can be prevented by incorporating effective administrative controls and engineering controls.



Bobcat Operation Safe Job Procedure

Related Information	Personal Protective Equipment
Safe Work Practice-Bobcat Operation	Basic PPE
Equipment Manual	

Appropriate Steps:

1) Prior to Start-Up

- Inspect the work area for hidden holes, drop-offs or obstacles that could be dangerous.
- Check the clearance of overhead power and telephone lines, check location of underground cables, water and gas lines.
- Perform a walk-around inspection of the machine; fill out the pre-operation inspection form.
- Use handrail and steps to mount machine, ensuring arms of bobcat are lowered or restrained. Never use the control levers to pull yourself on or off of the machine.
- Fasten seat belt and adjust seat for comfortable position.

2) Start-Up and Operation

- Ensure controls are in neutral or park and park brake is set before starting,
- Warn others in the area that you are starting up, and start engine from the operator's seat only.
- Run through a check of all functions and controls, complete the pre-operation checklist. If the levers are sticking, or the response is unsatisfactory, indicate this on the form, do not operate the machine, and report the problem to your supervisor immediately.

3) Parking and Shutting Down

- Park on stable, level ground if possible. If you must a park on a slope, park at a right angle to the slope and block the wheels.
- Place controls in neutral or park position.
- Set the parking brake.
- Always lower the bucket to the ground.
- Remove the key to prevent unauthorized use.
- Ensure the cab of the machine is cleaned out.
- Complete a walk around inspection, checking the machine for any visible damage.
 Complete the bottom of the checklist, and hand in the form and the key to your supervisor.



Emergency Response - Fires Safe Job Procedure

If there are injuries also see Emergency Response – first aid safe job procedure.

Step	Action	Hazards
1) Alert other workers in area	Sound alarm	Smoke Flames
workers in area		Decreased visibility
2) Evacuate	Evacuate area if needed.	Smoke
		Flames
		Decreased visibility
3) Extinguish fire	Extinguish fire if able to with available	Smoke
	extinguishers.	Flames
		Decreased visibility
4) Added assistance	If unable to extinguish fire with available	
needed to put out fire	equipment and personnel immediately	
	notify 911.	
	Give location, type of fire, fire status,	
	related hazards, and where someone will	
	meet them.	
	Get the fire put out.	
5) Documentation.	Fill out an Accident / Incident Investigation	
	report. Get every one who was there to fill	
	out a Witness Statement Form. Deliver	
	copies to the office within 24 hours.	
6) Incident	The safety supervisor will investigate, or	
Investigation	organize a team to investigate the incident	
	if required.	
7) Incident follow-	Safety supervisor will ensure all	
up.	documentation is completed and all parties	
	have been notified.	



Emergency Response – First Aid Safe Job Procedure

First Aid incidents include any one-time treatment and subsequent observation of minor scratches, cuts, abrasions, bruises, burns, splinters, etc. these conditions do not require medical care even though a physician or other medical professional may administer treatment.

Also see Emergency Situations Safe Job Procedures.

Step	Action	Hazards
1) Incident occurs.	Remain Calm. This may happen on company property, a work site, or on a road.	
2) Administer first aid.	The injured person receives immediate first aid treatment by themselves or by others.	hazard causing injury Bodily Fluids
3) Supervisor notification of incident.	The superintendent must immediately report the incident to their supervisor.	
4) Partner notification of incident.	If a partner was injured, try to notify their office as soon as possible but no later than one hour after the incident.	
5) Documentation.	If one of our staff was injured, fill out a First Aid Record Sheet, and send to office. This record MUST be kept in the office for 3 years after the injury.	
6) Documentation.	Depending on severity fill out an Accident/Incident Investigation report. Send a copy to the office.	



Emergency Response – Medical Aid Safe Job Procedure

Medical Aid is any treatment, other than first aid, that is administered by a medical profession under the standing orders of a doctor.

Also see Emergency Situations Safe Job Procedures.

Step	Action	Hazards
1) Incident occurs.	Remain Calm. This may happen on	
	company property, a work site, or on a	
	road.	
2) Administer first	The injured person receives immediate first	Initial hazard causing
aid.	aid treatment by themselves or by others.	injury
		Bodily Fluids
3) Transport the	Transport the injured person using the	Other traffic
injured person to	appropriate mode of transportation, or call	Road conditions
medical care.	for an ambulance which ever is appropriate.	Weather
4) Supervisor	The superintendent must immediately	
notification of	report the incident to their supervisor.	
incident.		
5) Partner	If a partner was injured, try to notify their	
notification of	office as soon as possible but no later than	
incident.	one hour after the incident.	
6) Documentation.	Fill out an Accident/Incident Investigation	
	report. Fax a copy to the office within 24	
	hours.	
7) Documentation.	If one of our staff was injured, fill out a	
	First Aid Record Sheet, and send to office.	
	This record MUST be kept in the office for	
	3 years after the injury.	
8) Documentation.	If one of our staff was injured, get doctor to	
	fill out Physician's Form, Modified work	
	Program form. Let doctor know there will	
	be no "lost time". Take copy to office	
	within 24 hours.	



Emergency Response - Occupational Fatality Safe Job Procedure

An occupational fatality is any work-related injury or illness that results in death of an employee, regardless of the length of time between injury and death or the length of the illness.

Step	Action	Hazards
1) Incident occurs.	Remain Calm. This may happen on	
	company property, a work site, or on a	
2) 11 11 11 11	road.	T 1.1 11 1 1
2) Administer first	The injured person receives immediate	Initial hazard causing
aid.	first aid treatment by themselves or by	injury Dodiler Elvida
2) 0 1 1	others.	Bodily Fluids
3) Suspend work.	All activities will stop. DO NOT disturb	
	the scene of the accident. This will allow	
	you to concentrate on dealing with the	
1) Transport the	incident investigation.	Other traffic
4) Transport the	Transport the injured person using the	Road conditions
injured person to medical care.	appropriate mode of transportation, or call for an ambulance which ever is	Weather
illedical care.	appropriate.	w eather
5) Supervisor &	The superintendent must immediately	
OH&S notification of	report the incident to their supervisor.	
incident.	Have supervisor notify WH&S if	
mordent.	possible.	
6) Partner	If a partner was injured, try to notify their	
notification of	office as soon as possible but no later than	
incident.	one hour after the incident.	
7) Police Notification	Notify the appropriate police detachment	
	of the incident immediately.	
8) Family	Inform the proper family member of the	
Notification.	incident. This is to be done by the office	
	or police.	
9) Documentation.	Fill out an Accident / Incident	
	Investigation report. Get every one who	
	was there to fill out a Witness Statement	
	Form. Return copies to the office within	
	24 hours.	
10) Incident	The safety supervisor will organize a team	
Investigation	to investigate the incident. Do not disturb	
	the accident scene - WH&S will	
44) 7 14 24	investigate.	
11) Incident follow-	Safety supervisor will ensure all	
up.	documentation is completed and all	



parties have been notified.	



Emergency Response - Vehicle Accident Safe Job Procedure

Also see Emergency Situations Safe Job Procedures.

If there are injuries also see Emergency Response – first aid safe job procedure.

Step	Action	Hazards
1) Incident occurs.	Remain Calm. This may happen on	Other traffic
	company property, a work site, or on a	Road conditions
	road.	Weather
2) Administer first	The injured person receives immediate	Initial hazard causing
aid.	first aid treatment by themselves or by	injury
	others.	Bodily Fluids
		Other traffic
		Weather
3) Transport the	Transport the injured person using the	Other traffic
injured person to	appropriate mode of transportation, or call	Road conditions
medical care.	for an ambulance which ever is	Weather
	appropriate.	
4) Supervisor	The superintendent must immediately	
notification of	report the incident to their supervisor.	
incident.		
5) Documentation.	Fill out a Vehicle Accident report. Get all	
	witnesses to fill out a Witness Statement	
	form. Return a copy to the office within	
	24 hours.	
6) Documentation.	Fill out a First Aid Record Sheet, and	
	send to office. This record MUST be kept	
	in the office for 3 years after the injury.	
7) Documentation.	Get doctor to fill out Physician's Form,	
	Modified work Program form. Let doctor	
	know there will be no "lost time". Take	
0) 7 14 04	copy to office within 24 hours.	
8) Incident follow-	Safety supervisor will ensure all	
up.	documentation is completed and all	
	parties have been notified.	

Emergency Situations Safe Job Procedure

Senior person on site takes control of situation becoming Scene Commander. Scene Commander must keep a log of the sequence of events and who was notified, including times. A copy of this log must be forwarded to next Scene Commander when a more senior



employee comes on site. Preserve evidence where possible when death or serious injury has occurred.

1. Protect yourself from risk. - Do scene assessment. - Shut down all equipment if possible.

Evacuate site if required. - DO NOT attempt rescue yet. - Protect yourself first.

- 2. Secure area to prevent further injury to personnel and protect property from damage.
- 3. Administer first-aid if safe to do so. Move casualty only when in danger of further injury. Notify

Supervisor

Emergency Personnel

Client

Office

Supervisor will notify as needed:

WH&S

WCB

Notify scene commander of hazards and need to rescue.

Attempt rescue if safe to do so.

Can rescue be done safely? What hazards are there, i.e.?

Possibility of explosion

Possibility of building collapse

Need specialized personal protective equipment?

Do required paper work.

• The safety information in these procedures does not take precedence over OH&S, or other relevant regulations. All employees should be familiar with the OH&S legislation.



Flagging a Patio Door Safe Job Procedure

Application: To protect workers from incidents and injuries associated with falls from patio doors. Flagging shall be installed on patio doors when the deck has not yet been installed, or if the installed deck does not have guardrails in place.

Appropriate Steps

- 1. Once the patio door is installed, the supervisor will designate a competent worker to install Red Danger Flagging.
- 2. The designated worker will take some Painter's Tape and Red Danger Flagging to the work area.
- 3. The Danger flagging will be attached to the window of the *sliding door only*, taped directly to the glass with Painter's tape (other types of tape will leave residue on the glass).
- 4. Use two large pieces of Danger flagging to create a large X on the glass.
- 5. Take another 2 to 3 foot piece of Danger flagging and tie it to the upper part of the handle on the sliding door. (a person opening the door will feel the ribbon in their hand)
- 6. Supervision on site may find it necessary to install guardrails across either the inside or the outside of the window as they feel necessary. However, because these guardrails may need to be removed by other trades to enable them to perform their work in the area, this *does not* replace the need for Red Danger Flagging, it may be used only *in combination* with the flagging.
- 7. Supervision on site may also find it necessary to install bumpers to prevent opening of the sliding door. This *does not* replace the need for installing Red Danger Flagging; it may be used only *in combination* with the flagging.

The picture below illustrates the proper way to install Danger Flagging.



Fueling Vehicles Safe Job Procedure

Appropriate Steps

1. Once you pull up to the pumps, turn off the vehicle and ensure there is no ignition source that could ignite fumes (cigarettes, lighters). Do not operate a cell phone while filling the vehicle.



- 2. Remove the vehicles filler cap.
- 3. Remove the nozzle from the pump and insert into the vehicle, and activate the pump.
- 4. Squeeze the handle to allow the fuel to enter the spout and ensure that the nozzle remains in contact with the filler spout to avoid static electric charges.
- 5. Do not overfill the tank, once the pump automatically shuts off release the handle, remove the nozzle from the filler spout, and replace in the pump nozzle holder.
- 6. Replace the vehicle filler cap.

Use of Step Ladder Safe Job Procedure

Appropriate Steps

- 1) Select proper length of step ladder (work platform) for the height you have to reach
 - a) Ensure ladder is in proper functioning condition. When opening the spreaders, check for loose parts, screws, wobbly steps, missing or torn plastic/rubber covers.
- 2) Check stability of surface you are working on, ensure surface is smooth and level.
- 3) Open step ladder spreaders their full width and lock in place
 - a) Ensure spreaders are fully extended
 - b) Do not use a step ladder leaning against a wall



- 4) Climb ladder and proceed with work
 - a) Climb ladder using both hands on side rails with your body centered on the steps
 - b) Climb only on the step side of the ladder

Use caution when you are working on the ladder

BOOM TRUCK

General

Safe operation of Boom Trucks are dependent on the operator, the mechanical condition of the unit, and the assurance that the truck is not being used to lift loads in excess of the maximum rated capacity.

All operating regulations, manufacturer recommendations, and Safe Work Practices must be observed.

Equipment Check

- Do a visual check of the entire until looking for any cracks, deformity (damage), pools of leaking fluids, or outrigger creep.
- Check that tires are properly inflated
- Check engine oil, radiator coolant and hydraulic reservoir levels
- Check brake lights flashers turn signal headlights, horn and windshield wipers for proper operation
- Extend outriggers and operate the boom through tow complete cycles to check the operation of the controls and hydraulic cylinders
- Check the load line cable in accordance with the manufacturer's requirements and lubricate where called for.

Equipment Familiarization

The operator should be thoroughly familiar with the location and operation of controls correct operating procedure, and the maximum lifting capacities and the safety precautions applicable to the unit before operating. Set out emergency procedures to be followed in case of equipment failure or accident review the last entries in the equipment logbook to ensure you are familiar with those entries.

Positioning

Always seek the best possible work site when parking the truck-mounted crane. An ideal job site parking location would be firm lever and dry ground or pavement. Avoid uneven rocky



or muddy terrain step grades of location with unnecessary overhead obstructions such as structures and power lines. Maximum loads shown on the capacity chart are based on a level condition of the machine/unit. Lift capacities are greatly reduced if the machine is to level. Where the unit must be operated on a slope, use outrigger ads or Timbers to level the truck. If the truck must be positioned in an area that is not level, work from the rear of the truck. If the truck must be used across the incline always work with the boom on the uphill side of the truck. Set the truck parking brake securely before using the crane. Operation

The following list of operational tips is to be reviewed prior to use of the unit

- Ensure that for stability, outriggers are down and on firm ground before using the lifting unit.
- Be sure that all workers stand clear of the outriggers as they are being lowered
- Prior to lifting loads ensure that you make straight pulls, ensure the boom and load lines form a straight line. Side pulses can damage the boom and even tip the unit over
- Do not allow personnel to ride on hook or loads
- Do not move loads over people
- Do not lift a load until all personnel are clear
- Do not allow hook or load block to pull tight against boom tip when lowering or extending boom. This can cause the loan line to break
- Load lines must be properly attached to the winch drum and at least two wraps must remain on the drum at all times
- Do not modify the machine or add attachments unless they are manufacturer approved keep the load close to the ground whenever possible
- Do not operate the crane during electrical storms or when high wined conditions exist
- Do not perform any maintenance work on the unit unless it is immobilized or blocked up in place
- Do not attempt service or repair while the crane is operating
- Do not disconnect hydraulic operating components when there is pressure in them
- Maintain at least a ten foot safety area between the crane tip and any obstruction or power lines
- Ensure that maintenance and lubrication is done according to manufacturers specification never reposition or move the unit leave the boom in a raises position.

Completion of Work

- Return the boom to the road travel position
- Make sure that the load line hook is tied down so that it can not swing freely
- Retract the outriggers
- Return to engine throttle to the idle position, depress the clutch and disengage the power take off



- Release the hand brake on the vehicle
- Remove and stow the wheel chocks release the paring brake before moving the unit
- Bring the units logbook up to date by making the daily entry.



CHOP SAW / CUT OFF SAW

General

Chop saws and cut off saws use an abrasive wheel that turns at a very high rpm to cut metalconcrete or asphalt.

Equipment Required Cut off saw/ Chop Saw PPE:

- 1. Steel toed boots
- 2. Safety Glasses
- 3. Face shield
- 4. Hearing protection
- 5. work gloves

Procedure

- 1. Refer to MSDS for information on all specific abrasive wheel being sued
- 2. Set saw on floor or secure surface
- 3. Make sure all guards are in place and working properly
- 4. Inspect the wheel for chips or cracks and change the blade if any are found
- 5. Check area for proper ventilation
- 6. Connect saw to properly ground 110 volt power source
- 7. Make sure overhanging portion of the work piece is properly supported and level to the base of the machine
- 8. Keep the body positioned to either side of the work piece, but not in line with the wheel
- 9. Let the wheel run up to speed before engaging work piece (2-3 seconds)
- 10. Ease the blade into the work piece- do not force it or over load the motor
- 11. When the material is cut through, disengage the trigger and bring the blade back to the upright position. DO not let go of the handle and let the blade spring back by itself
- 12. keep the work area neat and tidy- watch out for tripping hazards
- 13. never use the side of the wheel as a grinder

COLD WEATHER WORK

General



Many workers may be exposed to cold temperatures while working outdoors during the winter. In a cold environ, body heat must be conserved to maintain the core temperature at normal levels and to ensure an adequate blood flow to the brain and extremities. Feelings of cold and discomfort should not be ignored, since these may early warning signals. The effects of cold are such that problems can occur before the worker is aware of them, and furthermore, over- exposure to cold may affect judgement. People should not work alone; the "buddy" system enables them to observe each other for early signs of frostbite or hypothermia (loss of body heat). Even temperatures above freezing can cause problems especially if the person is wet and exposed to cold for a long period of time. Workers can become fatigued earlier due to the need to produce more body heat and due to the bulk or weight of extra clothing that is worn in cold environments.

Definitions

Frostbite:

Frostbite is the actual formation of ice crystals (freezing) in exposed body parts. Pain in the extremities may be the first sign of danger. Ice forms in the tissue and destroys it. Frostbite usually affects the nose, fingers, or toes. The affected part becomes pal and numb.

Hypothermia

Hypothermia is the overcooling of the body dude to excessive loss of body heat, which may lead to death.

Precautions

- Alcohol intake should be avoided with exposed to cold environments. Alcohol
 produces a deceptive feeling of warmth and can affect circulation, particularly to the
 extremities.
- Workers with health conditions that affect normal body temperatures regulations or cause circulation problems i.e.) Reynaud's disease or diabetes should avoid working in the cold.
- If loose of bulky clothing is worn, special care should be taken when working around moving equipment or machinery to prevent clothing from becoming entrapped.
- Mobile equipment operation must have suitable cold weather clothing in the cab of the machine in case of breakdown or other upset conditions.

Cold Injury

- Frost bite and hypothermia are the two major health hazards resulting from cold exposure
- Frostbite occurs when:



- Extremities such as hands, feet, ears, nose etc. are exposed (either unprotected or withimproper protection) to cold for extended periods of time
- Touching a very cold metal such as cab door handles, metal fences etc.
- Blood supply to extremities is obstructed by tight clothing or tightly laced boots
- Contact with gasoline cleaning fluids left outdoors can cause instant frost bite these liquids don't freeze even when temperature falls far below the freezing point and can freeze the body tissue on contact.

If frostbite is suspected, do the following:

- Move the victim to a war place. Apply warmth (do not massage) to the affected parts
- Blow on affected fingers. IF the nose is frostbitten, apply warm hands. IF the hands are affected put them in lukewarm NOT hot water.
- Remove tight clothes and jewelry. Use body warmth to warm the affected parts
- Wrap the frostbitten area in safety material and elevate the affected area. Frostbite is serious if the skin starts to harden and turns blotchy blue.
- Obtain medical help as soon as possible
- Frostbitten skin is highly susceptible to bacterial infection. Loosely cover the affected area with a sterile dressing and take precautions against bacterial infection
- Do not rub the frostbitten area.
- Do no pull the hand away if it should accidently become attached to cold metal pour warm water or any other fluid to separate it.
- Do not break any blisters that form as a result of frostbite
- Do not

Hypothermia

- An early sign of hypothermia is excessive shivering, blue lips and fingertips, slurred speech, and poor coordination. Shivering becomes more sever as body cooling continues and the inner body temperature falls below normal body temperature.
- More profound hypothermia impairs mental functioning, resulting in confusion, disorientation, unconsciousness and poor decision-making. The desire to seek protection from cold is lost resulting in repaid loss of body heat, which could be fatal.
- Hypothermia slows down the heart rate. It may be difficult to feel the pulse rate of the victim
- In extreme cases severe hypothermia can closely mimic death. Victims of such cases much are provided with medical help as if they were known to be alive.
- Hypothermia may occur if a person is submerged in cold water well above the freezing point
- People with diabetes, injuries, kidney problems, epilepsy and arthritis are at higher risk of hypothermia in comparison to healthy people

Hypothermia can be fatal and needs IMMEDIATE medical attention



Do the following while waiting for the first aid giver and medical help to arrive:

- Give dry clothes to a person removed from cold water. If no dry clothes are available, cover the person with material such as a plastic sheet or raincoat.
- Help or carry the victim to a warm shelter as soon as the signs of hypothermia are noticed. Such signs are excessive shivering, blue lips, finger tips, slurred speech and poor coordination
- Use a blank and body heat to heat up the victim
- Consult a certified first aid person on the proper way to deal with hypothermia
- Do not use alcohol as a warming agent. Alcohol may seem to provide warmth, but in reality it interferes with the ability to retain heat, resulting in a dangerous fall in body temperature
- Do not submerge a hypothermia victim in hot water or a hot shower as a means of re warming. This may result in "re warming shock" which could be fatal.
- Do not allow a hypothermia victim to exert himself/herself. Physical exertion such as walking, climbing, lifting etc. may cause heart failure and/or death. A mild hypothermia victim will slowly re warm and return to normal health.

Prevention

When possible steps should be taken to protect workers from wind as the cooling powers of wind results in a much lower equivalent temperature that the actual temperature where there is not wind.

COMBUSTION ENGINES INDOORS

Procedure

When working with petroleum (gasoline, diesel, propane) Powered Equipment (bobcat, concrete saw, quick cut saw etc.) in indoor environments there is always a risk of elevated COlevers. A risk assessment should be conducted to determine if there is a potential for the buildup of CO. IF there is a risk the following procedures must be followed.

- 1. If possible use local exhaust ventilation systems to remove the exhaust to the outside.
- 2. Ensure that there is adequate ventilation. Use dilution ventilation (force fresh air in to the work area) this will reduce the build up of CO.
- 3. Use continuous CO monitoring instrument to ensure that workers are not exposed to elevated levels
- 4. When and if the CO monitor indicated elevated levels the area should be evacuated until levels return to normal.



Carbon Monoxide Resource Information

Carbon Monoxide (Co) is a product of incomplete combustion; it is a toxic, odorless, invisible gas. When the symptoms are mild the victim may no have linked them to CO poisoning.

The systems associated with CO poisoning:

- Headache
- Nausea

More severe poisoning symptoms include:

- The previously mentioned symptoms becoming more severe
- Progression to mental confusion
- Finally coma and death

When inhaled it progressively blocks more and more of the bloods oxygen carrying capability. Co produces its effects by interfering with the ability of the blood to carry oxygen to the issues more importantly to the brain. Normally oxygen is transferred from the lungs to the blood where it combines with the hemoglobin to form oxygenated red blood cells. CO is also transferred from the lungs to the blood where it forms Carboxyhemoglobin (COHb) or a CO enriched blood cell. The attraction and the combination of hemoglobin with CO is approximately 200 times greater than for oxygen so that the CO replaces oxygen from blood and prevents further uptake of oxygen by the blood. As long as the CO continues to Even a fairly low concentration of CO in air can produce high levels of CO2 in your blood and asphyxiate the exposed worker by cutting off the vital supply of oxygen to the tissues.

Fortunately the effects of CO poisoning are not generally considered chronic. CO levels in blood tend to drop as soon as the worker is removed to fresh air and removed from further CO exposure. More extreme levels of CO poisoning require a higher concentration of reparable oxygen to rid the body of Carbon Monoxide.

First Aid Measures:

In the event of CO poisoning the following procedures should be followed:

- 1. Remove victim from contaminated air into fresh air.
- 2. Keep victim warm and at rest. Activity may worsen the effects of CO by increasing the demand for oxygen.
- 3. Take victim to hospital. The victim will receive enriched oxygen to accelerate the removal of CO from the blood
- 4. When the victim is not breathing start artificial respiration, if there is no pulse start CPR and have someone call for medical assistance 911!!



CONCRETE GRINDING

General

Concrete grinding required that all workers involved in the operation have the proper respirator equipment and that they have been fit tested and trained in the proper use and maintenance for the respirator being used.

Procedure

- The respirator equipment shall meet NIOSH and or MSHA standards. Workers shall
 also wear proper eye protection such as goggles or safety glasses hearing protection
 and gloves.
- The workers grinding concrete shall be responsible to properly maintain all personal protective equipment such as goggles or safety glasses hearing protection gloves and respirators required to complete the work.
- The workers required to wear respirators shall be clean shaven in accordance with WCB and or OPH &S regulations and codes
- The workers are responsible to ensure that prior to commencing any concrete grinding the area shall be roped off and or barricaded off to prevent other unprotected workers from entering the work during grinding operations.
- Any other worker who must work within the area barricaded off shall wear the same respiratory equipment being worn by the worker grinding concrete
- Concrete grinding within enclosed areas:
 - When grinding concrete within enclosed areas such as stair shafts the interior or an enclosed building etc. one of the following procedures shall be executed.

Alternate A:



- a) The work area shall be roped off as described above and signs posted warning others workers of the hazard and type of personal protective equipment required to work within the area affected
- b) The worker grinding concrete shall wear a half mask type respirator to meet WHMIS requirements
- c) Only grinders equipped with the localized exhausts of vacuum system shall be used. Alternate B:
 - a) The work area shall be roped off and signs posted prohibiting workers not involved in the grinding operation from entering the work area
 - b) Exhaust fans shall be installed to exhaust dust particles from the work area. The fans shall be located in a way to ensure that the dust exhaust does not enter other work areas becoming a hazard to other workers.
 - c) The workers grinding concrete shall wear an airline or air house type respirator as specified by OH&S regulations. The worker shall ensure that the generator and or air pump providing the fresh air source is located away from the contaminated area.

Standard type concrete grinders may be used under these conditions.

CONCRETE SEAL APPLICATION

General

This procedure will apply to all employees or sub contractors carrying out or assisting in the above noted type of work on any of our project.

The supervisor is charged with the direct responsibility for ensuring that this policy is known to and complete with and by the employees and person subcontracted.

Supervisory staff at the site completes hazard assessment and review it with employees. Advise all supervisors for other trades and the prime contractor and their workers prior to the beginning of their workday that sealer will be used.

Procedure:

- 1. Review the Material Safety Data Sheet (MSDS)
- 2. Ensure the area to be sprayed is well ventilated. Turn off any heaters to other heat sources. No smoking during the transferring of the products to the sprayer or during application of this product.
- 3. Temporarily seal any ceiling opening with cloth rags or other material to prevent vapors from engrossing into other main floor areas.
- 4. Provide sufficiently sized exhaust fans capable of providing adequate air exchanges in the area during the application and curing period of the sealer
- 5. Review the proper personal protection equipment to be used i.e.) safety goggleshand protection and respirator



- 6. Open containers using proper personal protection equipment
- 7. Vapor pressure must be checked on MSDS prior to pressurizing spraying equipment
- 8. if possible, application of this product should be applied after peak hours at the site with substantial time for the vapors' to dissipate
- 9. No worker shall work alone during the application of concrete sealer
- 10. Proper signage shall be installed to notify workers that sealer is being applied

Alternate A

Roller application using paint roller and tray may be substituted for spraying. Engineering control may be looked at to replace with substitution of product.

CONFINED SPACE ENTRY

General

Entry into and working in a confined space poses health and safety problems. Concerns in a confined space are the presence or possible build up of a hazardous atmosphere within the confined space. This could also take the form of an explosive/toxic atmosphere or lack of oxygen. Work intended to be done within the confined space must be carefully defined ad planning done ahead of the actual entry tacking place order that tall possible hazards are identified and preventive action taken to accomplish this, a hazard assessment is to be carried out by the Supervisor to determine specific job needs.

Definitions:

- 1. Confined space- any enclosed or partially enclosed space having restricted access and egress which is subject to the development of an oxygen deficient, flammable or toxic atmosphere and does not have an easy means of escape from or rescue of a worker entering it.
- 2. Flammable atmosphere- an atmosphere which contains more than the: lower explosive limit" (LEL) of flammable gas or vapor.
- 3. IDIH Immediately dangerous to life and health atmospheres which include oxygen lei
- 4. LEI- lower explosive limit means the LBL of flammability of gas vapor or dust or any combination of these at ambient temperatures.
- 5. Oxygen Deficient Atmosphere- an atmosphere where the oxygen contents is less than 19.5 oxygen by volume.
- 6. Particulate contaminates- dusts fibers or mists suspended in the air which may be inhaled by a person.



7. Toxic Atmosphere- an atmosphere that contains greater than the THRESHOLD LIMIT VALUE (TLV) of gas, vapors or particulate according to the values established by government regulations.

Gases:

One of the major hazards to be found in a confined space is the presences of dangerous gases. These can be one or more of there general types:

- 1. Gases that displace oxygen
- 2. Poisonous gases
- 3. Explosive gases

All of these gases are IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH) **WARNING:** Chemical cartridge respirators are not to be used in oxygen deficient or explosive atmospheres.

Testing:

Prior to any entering being made, qualified personnel shall use portable instruments for sampling of airborne contaminates in the confined space to do a thorough test for the atmosphere.

Where it is necessary to enter the confined space to conduct any testing, self – contained or air supplied breathing apparatus must be worn.

Isolation:

The supervisor must arrange for the confined space to be checked to ensure that all blinding blanking or other effective methods are used to prevent contaminates form-entering the confined space. The system of double valuing may used where permissible and the bleed off is to be located between the valves and be capable of ensuring has pressure canon build up. Both bleed-off valves in the closed portion this may require a further permit system review to identify entry points.

Where purging is necessary to prevent the development of hazardous atmosphere is the confined space, then water, steam, fresh clean air or inert gas may be used. When this is completed, then a further test shall be done to ascertain the atmospheric contend prior to entry.

Before entry, all power-driven internal equipment (such as agitators) and powered sources shall be de energized and locked out to ensure they cannot be operated.

Ensure adequate lighting and that powered sources are intrinsically safe



Ventilation:

Where possible clean- out doors or any other openings shall be positively locked open and the confined space thoroughly ventilated by a positive method of mechanical ventilation to introduce large quantities of fresh air.

Ensure that the air introduced into the confined space is on in any way accidentally contaminated with harmful substance before it enters the confined space. Immediate area to be ribboned off to prevent workers and vehicles coming onto the area (approximate 20" X 20")

Continuous ventilation with mechanical ventilation equipment shall be done to provide secondary protection in the event the work in progress produces contamination hear or toxic fumes.

Procedure:

The following steps shall be used each and every time a confined space is entered by a worker. Where a client has specific confined entry procedures for specific operations they shall be followed. For specific confined entry procedures for specific operations they shall be followed. For Specific type of confined spaces or confided spaces requiring emergency vacation teams, written procedures and hazardous assessments will be conducted for each individual job.

- 1. A risk assessment must be completed before entering or working in a confined entry space. Ensure a written work permit is prepared to include all the considerations contained in this procedure.
- 2. Before entering the confined space, atmospheric testing with a calibrate instrument must be conducted by trained and qualified person to assess the levels of oxygen explosive and poisonous gases.
- 3. If any hazardous gases or lack of oxygen is indicated, the confined space must be ventilated. The confined space must be re-tested and if all hazardous gases have been dispersed and oxygen levels are between 18% & 21% the worker may enter.
- 4. If the gases cannot be dispersed the worker may only enter if they have written procedures including emergency rescue and are equipped with an approved air supplied breathing apparatus or SCBA and another worker is standing by with emergency rescue equipment. That may be deployed if rescue proves necessary.
- 5. Before entering places warning signs and barricades around opening
- 6. Specific rescue procedures shall be put in place reviewed by all people taking part in the confined space entry.
- 7. Communication shall be maintained at all times with workers inside the confined space.
- 8. all workers entering the confined space (other than class I) shall be provided with a full body harness with the back and shoulder "D Rings" with lifeline attached



- 9. There shall be a standby person at the confined spec entrance equipped with respiratory protection at all times and the emergency equipment in place of cable of affecting a rescue.
- 10. Entry without respiratory equipment may proceed providing the atmosphere has been tested for contaminates clean air is being continually introduced and the atmosphere in the confined space is monitored tested for contaminate throughout the job when workers are in the confined space
- 11. When a job is stopped for any reason and worker have to re enter after work break then testing shall be done again before entry or re entry and work permits are still in place.
- 12. Where for any reason an ignition source is to be introduced in into the confined space a combustible gas test for the atmosphere in the confined space shall be done immediately and monitored frequently throughout the job
- 13. Again prior to entry review this written procedure to ensure workers are aware of their responsibilities and the appropriate work permits have been issued
- 14. Only explosive proof lights may be used in a confined space
- 15. Workers must wear hard hats at all times.

IF YOU CAN'T ASSESS THE RISKS, IF YOU CAN'T TEST THE AIR, IF YOU DON'T HAVE RESCUE EQUIPMENT AN A CONTINUOUS GAS MONITOR:

DO NOT ENTER

Entry

Following the review of this procedure and any other additional site specific requirements, entry into the confined space can now proceed.

Job Completion

At the end of a job a thorough check shall be made by the supervisor to ensure that no tools, equipment or possibly workers have been left behind. Double check and ensure that all personnel are accounted for before leaving the confined space.

Return to work permit to the responsible supervisor for finalization and to ensure that any locks etc. belonging to the crew are removed

Confined Space Entry



PPE required: Steel toed boots, hard hats, glasses, gloves, harness ,respirator (if required, dust masks, hearing protection.

Steps:

- Test atmosphere of the area before entering to ensure that it is safe for working in
- Ensure proper ventilation of the area before and during the entire time that work will be done in the area.
- Ensure that all equipment and machinery in the area is completely immobilized so as not to be a hazard in any way to any worker.
- The area around the confined space will be visibly marked to show all people on the site where the confined space work is being done. Workers not involved with the confined space shall be informed to the work being done, and will be directed to perform jobs away from the area
- The supervisor is to fill out the Confined Space Entry log for each shift that work is being done in the confined space
- Ladder access egress into the confined space area will be provided and the area around the ladders shall be kept clear of materials
- Employees working in the confined space are responsible for wearing all reasonable personal protective equipment. A proper harness must be worn, with safety lines attached in the manner recommended.
- Adequate lighting must be in place that allows identification and avoidance (where possible) of the hazards at all times throughout the job
- The standby worker must be at the area before work commences and shall maintain contact either visual or verbal with the workers in the confined space for the entire duration of the shift or permit (Radio contact if possible)
- A qualified and experiences worker trained in all aspects of the confined space entry shall be present to supervise the worker in the confined space be responsible for all work and rescue procedures at all times.
- The standby worker must be at the area before work commences and shall maintain contact either visual or verbal with the workers in the confined space for the entire duration of the shift or permit. (Radio contact if possible)
- The atmosphere in the area will be tested regularly throughout the shift to ensure the contaminant level does not exceed safe working conditions. In the even levels do not exceed safe working conditions the worker will be evacuated from the area and the space will be ventilated until levels return to normal.
- NO matches, lighters or any other items capable of producing a spark or flame are allowed in a confined space.. Non-approved radios flashlights or lanterns shall be used in or within 25 feet of a confined space containing potentially flammable vapors or gases. (Smoking will not be allowed in the confined space)
- AS soon as workers dismantle the equipment it will be immediately removed from the confined space



•	All procedures will be discussed with all workers involved prior to the entry A rescue plan must be developed and in place prior to starting the job.



Confined Space Entry Check Off

Preplanning the entry into a confined space work area is a must in order to prevent accidents incidents. It is mandatory that the following items be discussed prior to entry into a confined space:

2.	Has the space been isolated from any source of contamination(all lines leading to from are blind/blanketed) What is the physical layout of the space to be entered?	o 01
	3. Has the space been purged and ventilated sufficiently	
	4. Has the detection equipment been calibrated and checked for prop operation _	
	5. Has all electrical equipment associated with the confined space been properly locked and tagged?	
	6. Is the person who will test the space competent?	
	7. Is the tester aware of all the potential hazards that may be encountered?	
	8. Is the tester aware of the WHOLE volume of the space must be tested?	
	9. Has the "Buddy System" been discussed and planned?	_
	10. Has the rescue plan been developed and implemented?	
	11. Has an alarm system been established?	
	12. Is the rescue equipment and other safety equipment at the entry site?	
	13. Are personnel effectively trained in rescue procedures?	_
	14. Is a communication system for the person inside to contact the "Buddy System" outside been established?	_
	15. Are personnel trained in resuscitation methods?	
	16. Is first aid equipment at the site?	
	16. Is a means of transportation available to remove an injured party to hospital?	



18. If "hot" work is to be carried out in the confined space, is continuous ventilation and monitoring available?	n —
19.Has the potential hazards of scale been discussed and a sample analyzed?	



ERECTION OF SKY DECK

Procedure:

- 1) Conduct pre job safety instructions meeting with crew
- 2) Determines starting point usually one stringer length away from the wall.
- 3) Use a chalk line or stringer line to establish a straight line for props to follow. (when sky deck is running parallel to walls or beam line install a plywood filter)
- 4) Set drop head to up position insure wedge is completely locked into place.
- 5) Install drop head into prop and hold props plumb vertical and connect MRK
- 6) Connect four props together making a rectangle (when locking MRKS to prop ensure props are plumb)
- 7) Use a stepladder to install stringer lines. Hook string line into side of drop head (when erection on uneven ground, use the laser level to shoot underside of string to ensure proper erection)
- 8) Install sky deck panels on top of stringers
- 9) Finish stringers from this section working towards the wall
- 10) Hook stringers into drop head and push up stinger with the props and prop head
- 11) Elevate stinger then install panels . secure panels to wall with tie wire to rebar.
- 12) Start working away from the walls hooking stringers into prop heads and pushing up with prop and drop head.
- 13) Elevate stinger and install Sky Deck
- 14) Continue this procedure from approximately 6 or 7 stringer lengths then install MRKS (in one direction only) to stabilize deck.
- 15) Continue Erection
- 16) Clip Stringers Immediately



FALL PROTECTION MUST BE USED AT ALL TIMES.

Procedures of removal

- 1) Dismantle scaffold to code.
- 2) Remove the plywood and 4X6 planks working from the far end to the entrance.
- 3) Removing the plates and nuts then the coil rods then the whalers.

FALL PROTECTION (DETAILED)

General

The term "Fall Protection" related to both the use of safety harnesses attached to a lifeline or guardrails for the purposes of the our Safety Program. All workers are obligated to use fall protection.

- 1. When working at a height of 3 meters (10 feet) or more in height
- 2. Where a fall from a lesser height involves an unusual risk of injury i.e. Risk of falling onto operating machinery or into a tank of chemical.
- 3. When working on a deck/floor edge or near a floor opening which present a combined falling hazard in excess of 3 meters (10 feet)

The authority having jurisdiction over safety legislation may allow the use of specific safe work procedures as a means of fall protection where an unusual risk of injury exists (note: in all cases where fall protection is required the safety regulations put in place by the authority having jurisdiction shall be consulted and adhered to.

Guardrails

When guardrails are used they are to be installed consisting of top rails intermediate rail and toe board .The top shall raise be a maximum of 107 c. (42 inches high)

- 1. The intermediate rail is to be positioned mid way between the top of the toe board and the top of the rail. The top of the toe board shall be a minimum of 140 mm (5.5 inches) above the working platform.
- 2. Vertical supports for handrails shall be spaces no more than .44 meters (8 feet) apart unless otherwise specified by the safety authority having jurisdiction.



3. Where a guardrail has to be removed to accommodate work, the workers involved in that work shall wear and use alternate fall protection and when the work is complete the guardrail shall be replaced.

Harness/Safety Belt

The term "safety harness" for the purposes of this procedure, refers to a full body harness with the "d" ring located on the harness.

Where a safety harness is used, the lanyard used shall be attached either to a vertical lifeline or fixed anchor point. The lanyard shall be of the kind equipped with a shock absorber attached to a line grab and can allow a maximum free fall of 2 meters (6ft or other specified by the safety authority having jurisdiction.

A full body harness shall meet CSA stands CAN/CSA Z259.10-M90 Full Body Harness



Inspection/Maintenance

Competent persons shall do all inspections and maintenance both daily, prior to the commencement of the work and prior to being accepted back into stores for potential reissue.

Inspection and maintenance applies to safety harness, safety belts, lanyards lifelines and connecting hardware. When workers use fall protection equipment they are to be instructed in the proper storage and maintenance of this equipment when not in use.

- 1. Lifelines and webbing material shall not be just rolled in a ball and set aside but stored in such a manner as to allow the air to freely circulate around them to prohibit mildew or rotting.
- 2. Lifelines are to be kept free from substances such as chemicals and grit, which will contribute to their deterioration.
- 3. All metal parts are to be given a visual inspection for distortion, crack, abrasions or any other type of deterioration. Damage that cold affect the safe to the equipment.

When a piece of this equipment has been subjected to stress from a worker falling or found to be damaged/cut in any way then equipment is to be removed from service until the manufacturer or professional engineer has re certified it as being safe to be put back into service.

Floor, Roof and Shaft Openings:

When a worker is commenced in or around a floor roof or shaft opening ether a properly guar railed work platform shall be supplied with safe access and egress or personal fall protection equipment shall be worn and correctly be used by each worker and attached to either a fixed anchor or safety line.

Properly guarded refers to being guarded by a perimeter or guardrail as described in the guardrail section for this procedure or temporary covering, secured in place capable of support a minimum of 2.4 Kilo Newton's per square meter of the weight to any load intended to be imposed upon it .The temporary covering shall be clearly marked indicating the hazard and that the covering is not to be removed.

Site Specific Fall Protection Plan

It is the policy of Rare Energy Corp. to ensure that all employees who work at heights greater then 3 meters (10 Feet) be protected from the hazard of falling as required by Safety Legislation, this site specific fall protection pal will be put into place after the appropriate Fall Hazard Assessment has been done.



The intent of the work plan is to:

- 1. Assist the site supervisor and workers to identify the fall hazards in the work areas before work in those commences.
- 2. When those fall hazard have identified assist in the selection of the appropriate system for the work to be done and ensure that it is the most efficient for our purposes and does not expose the workers to risk of falling.
- 3. To identify an emergency response plan for the rescue of potentially falling workers.

It is necessary when the fall protection plan has been developed, that all supervisors and workers are instructed as to its existence and the requirements set out that have to be followed and enforced by supervision.

All persons employed by Rare Energy Corp. including manger, supervisor, workers or workers of Rare Energy Corp. subcontractors who violate any company safety Policy or procedure is subject to disciplinary action.



SITE SPECIFIC FALL PROTECTION PLAN

Date Prepared:				
Prepared By:				
Jobs/Site Name No	_		Signa	ature
Control Zone to Be Used: Safety Monitor:	Yes or No Yes or No		Warning Signs/Tapes Lifelines to be Used	Yes or No Yes or No
Safety Monitor/Name:			Date:	
Pre-Job Safety Meeting Held	1:			
Name of Persons Attending I	Meeting (Trainin	<u>ıg</u>)		
1		5		
2		6		
3		7		
4		8		
Hazard Assessment Location of Assessment:				
Description of Task :				
Fall Hazard(s) :				
Fall Protection System to be	Used:			
Diagram (Attach where need	ded)			
Emergency Plan:				



FALL PROTECTION (GENERAL)

General

There are many areas on construction sites that required the use of fall protection. These may include (but not limited to) scissor lifts, scaffolds and around opening and holes in floors and/or roofs. Fall protection is required at work heights as outlined in OH&S regulations.

Procedure:

- 1. Inspect harness and lanyards daily for wear and tear of straps and buckle. Take harness and or lanyard out of service if any damage is found. Workers using fall protection must be trained in its use.
- 2. A minimum of a 5-point CSA safety harness complete with CSA approved lanyard must be used. Safety harness must fit snug and properly fastened.
- 3. Length of lanyard shall meet OH&S codes
- 4. Lifelines shall meet OH&S codes
- 5. During the reaction or dismantling of a scaffold, the worker on top is allowed to work without an attached lanyard, when there is nothing the lanyard can be tied off to.
- 6. Workers on a sloped roof will be protected by fall restrain of all arresting system
- 7. Workers on a flat roof shall be protected from falling if the work is within 3 meters of the edge. Work at a distance greater than 2 meters from the edge required a warning system to indicating the 2 meter edge
- 8. Opening and holes through roof or floors will have a guardrail a toe boards or any cover that is marked and strong enough to carry a load, but will not be considered a solid surface.
- 9. Safety harnesses shock absorbing lanyard and lifelines exposed to a fall must be removed from service and all components destroyed.
- 10. All fall arresting/restraint protection equipment must be inspected every six months and by the user before each use.





FORKLIFTS

- Only competent qualified workers will operate forklifts at any time
- Forklifts are to be inspected before each use to ensure that they are in safe operating condition, if found to be defective they are to be removed from service immediately.
- Ensure manufacturers specifications are followed while fueling forklifts
- Check all engine fluid levels ensuring that they are appropriately filled up and if found to be lacking top off to the appropriate levels.
- Always ensure that forklifts are maintained in accordance with manufactures specifications and all appropriate manufactures safety procedures are followed.
- Ensure that all workers working in the area of operations are aware of the forklift and that they maintain a safe distance from forklift operations.
- Workers are to keep eye contact with the forklift operator while walking by forklifts. If workers are working close to the forklift operations they are to wear traffic vests at all times.
- If operating in a tight area a qualified spotter it to work with the forklift operator to provide direction and ensure that the forklift does not come into contact with anything.
- Ensure that all loads are appropriate for the forklifts capacity and are neatly stacked and secured to the forklift to prevent tipping.
- Ensure all operators are familiar with emergency shutdown procedure.



FORMWORK AND FALSEWORK

General

All formwork and false work design and construction shall comply with OH&S regulations and codes.

Procedure:

- 1. Formwork shall be designed and constructed in accordance with applicable standards and in compliance with Provincial Safety Regulations.
- 2. Plans and specifications for formwork shall contain details of:
- a. Loads both vertical and horizontal for which the formwork has been designed
- b. Load bearing capacity required for the material upon which the sill are to be placed and where applicable details of procedures to be followed to develop this required capacity.
- c. Provision where necessary for the acceptance of additional loads resulting from the temporary storage of materials or equipment
- d. Size type grade, location and connection of all components
- e. Minimum dimensions of sills and pad materials
- f. Any proprietary item including fittings to permit accurate field identifications
- g. Information necessary to enable the structure to be accurately constructed to meet the design requirements without recourse to verbal clarification.
- h. Construction tolerances for accurate placement of the various components with particular regard to:
 - I. Eccentricity of loading
 - ii. Variation from plumb of vertical load carrying members
 - iii. Bracing and bracing attachment points
 - iv. Position for post on mudsills

Formwork and false work drawings and supplementary instructions must be available on the project site during erection and use of the formwork and false work

Where required by OH&S formwork and false work drawings shall be sealed by a professional engineer registered in the province of the project site.

Re- shoring plans where used should be submitted permanent structure designer for approval.

Where structural components are connected together, the connection shall be designed and detailed to prevent accidental displacement and /or the rotation of the components.

Fabrication and Erection

- 1. The job supervisor shall be competent in form erection and shall understand the building requirements
- 2. Crews shall be instructed in the proper safe work practices and procedures and where appropriate PPE at all items.



- 3. Formwork and False work must be constructed of the material and in the manner specified by the plans. A professional engineer must authorize deviations from the original plans in writing.
- 4. Manufacture formwork components must be used and maintained in the manner specified by the manufacturer
- 5. Foundation load0bearing capacity must be protected from potential deterioration resulting from weather or other causes.
- 6. Guardrails that meet OH&S requirements must be installed in areas described under guardrails.
- 7. Should workers identify any unstable formwork i.e.) fly forms, cantilevered beam soffitforms they shall immediately report this condition to their immediate supervisor.

<u>Inspection Requirements:</u>

- 1. Immediately prior to a pour the formwork ad false work for the pour must be inspected. Where required by provincial regulations a professional engineer who will then certify in writing that the specifications have been met will do this inspection. The certificate shall outline the following;
 - a. Indicate the specific are inspected
 - b. Certify the formwork is substantially in accordance with the latest approved drawings and specifications
 - c. Certify that any specific re shoring is in place
- 2. Copies of signed inspection shall be kept t the worksite
- 3. Inspect all formwork prior to pouring concrete
- 4. Post certificate of inspection at the jobsite.

Concrete Placement:

- 1. Workers underneath formwork during a pour must only be under those areas where concrete has been placed.
- 2. Protruding reinforcing rod ends must be guarded to prevent ripping and impact hazards
- 3. Pouring once concrete or placing of other loads must stop when any weakness, under settlement or distortion of the formwork occurs, and shall restart only after formwork has been repaired r strengthened in a manner specified by a professional engineer
- 4. No loads other than those specified must be placed on uncured concrete structures

Dismantling Formwork

1. Dismantling of formwork must follow the directions and the plans and specifications.







HOARDING AND TEMPORARY HEAT

General

The following procedure is to be used for set up and heating of temporary hoarding.

Procedure:

- 1. Scaffolding shall be erected as per OH&S regulations and codes
- 2. All tarps shall be installed securely to scaffold
- 3. Temporary heaters shall be installed outside of hoarding with plywood enclosure leading into hoarding, Maintain approximately one foot of clearance between plywood and barrel of heater.
- 4. Ensure that the front area of heater is clear of all combustible materials, check this daily.
- 5. Ensure that other trades maintain clean areas around heaters.
- 6. Fresh air intakes on heater must be free of all obstructions and kept clean
- 7. When setting up heaters maintain as much space as possible between heaters and
- 8. When using 100 pound bottles put bottles outside of building if possible
- 9. 100 pound propane bottles must be secured to existing structure or toe each other so they cannot be knocked over.
- 10. Every heater 1 million BTU or larger much have a 20 pound type ABC chemical fire extinguisher readily available
- 11. When setting up vaporizers build 3 sided enclosures. This will help maintain the proper working of the vaporizer by protecting the pilot light from blowing out.
- 12. Heaters are to be checked at the beginning, end and periodically through out the workday.



HOISTING AND RIGGING

Procedure

- 1) Conduct pre job safety instruction meeting with crew
- 2) Inspect the area where load will be lifted ensuring that either barricades block all access points or spotters are present preventing access to the area
- 3) Ensure only competent qualified workers operate cranes, forklifts and genie lifts at anytime.
- 4) Load is to be neatly stacked prior to lifting preferably on a pallet and pre banded.
- 5) Prior to securing the load all rigging equipment is to be inspected to ensure that it is in safe operating condition. If found to be defective rigging equipment is to be removed from service immediately.
- 6) Load is to be secured to the lifting devices by following all appropriate rigging safe work practices while ensuring that the load is kept level with the weight evenly distributed.
- 7) At no time is anyone to be directly below the load. Prior to lifting the load workers are to ensure that all personnel have been cleared of the area
- 8) Operator of the lifting device is to remain in control of the load at all times. At no time is an operator to leave the lifting devices while a load is suspended
- 9) Ensure that the load is rested in area where workers can safely reach it without over extending themselves and dropping materials.
- 10) When unloading from a work area over ten feet with guardrails removed workers are to utilize fall restraint equipment that is tied off to a secure anchor point.
- 11) While unloading workers are to ensure that they can handle the weight without risk of dripping materials and are to unload while ensuring that the weight of the load is kept evenly distributed at all times.



HOT WORK PERMITS

General

This procedure outlines the requirements for the issuance of a hot work permit prior to undertaking of any cutting, welding, soldering any work requiring open flame within a facility under the management of our company or when requested by a Prime Contractor that is managing the safety program on a project is working on. Do not conduct hot work in areas housing hazardous processes involving flammable liquids, gases & dusts that cannot be shut off

Permits:

A hot work permit may be required in advance of any work requiring heat or open flame. Depending on the Prime Contractor requirements. Hot work procedures may include welding, torch cutting, grinding, brazing, flame soldering, thawing pipes with torches, heating and hoarding and other work where there is potential for fire. If you are required by the Prime Contractor to fill out a hot work permit you must do so prior to commencing any hot work on a project.

The supervisor is responsible for ensuring that hot work permits and all site-specific hot work procedures is known and complied with by employees and persons working for our company..

Supervisory staff at the sit must complete a hazard assessment and review and advise all workers prior to the beginning of their workday that a permit is required.

Issuing Permit Procedure:

If required by the prime contractor a permit will be issued for hot work and the following steps must be taken:

- 1. Permits must be issued prior to performing a hot work procedure.
- 2. NO work shall commence until the proper permits are issued
- 3. Permits may be issued daily to cover inside work and will generally be issued for longer outside work.
- 4. The permits must be retained by our throughout the duration of the working hours and must be readily available for inspection by any safety representative of a Prime Contractor representative.
- 5. Permits must be displayed in the work location and be available to workers



- 6. Only a Prime Contractor representative can grant a permit extension. Verbal permission to continue work by unauthorized personnel shall be upheld as a breach of the Health and Safety Regulations
- 7. Both the Prime Contractor representative an supervisor must sign the permit
- 8. Precaution for fire prevention in areas where hot work is being done shall include isolating hot work activities remove or control hazards in the vicinity and possible provide a fire watch.
- 9. Fire watch/ Hot work area monitoring if required may include some or all times below;
 - a. Fire watch will be provided during and for a pre determined time after work including coffee or lunch breaks
 - b. Fire watch is supplied with suitable extinguishers
 - c. Fire watch workers are trained in use for their equipment and know the procedure for sounding alarm notifying occupants in case of fire. Prime Contractor personnel to notify the fire department
 - d. Fire watch may be required for adjoining areas above and below.
 - e. Hot work area may be required to be checked 4 hours after the job is completed
 - f. If fire should occur the fire watch should attempt to extinguish fire



LOW VOLTAGE PROCEDURE

General

Electrical shock from low voltage does not necessarily result in death but can lead to serious accidents and in some cases death.

Rare Energy Corp. employees are expected to work in strict compliance with all current national, provincial and regional legislation and codes having jurisdiction.

In all cases recognized good safe work practices and this procedure are considered a minimum standard for our employees. Work shall be carried out on de energizing circuits and equipment. Where work is necessitated on an energized circuit, keep in mind that guarding against electric arc burn is not a simple task even at low voltages.

Job Planning:

NO matter what the size of the job or the voltages involved all jobs require pre-planning. The pre planning can vary in complexity based on what job is to be done and the circuits involved. In most cases, the electrician doing the work has a very good idea of the right way to proceed as voltages are nearly always marked and depending on the need the supply service is restricted.

Primary Rules

- Think ahead and pre plan
- Recognize the type of system to be worked on
- Use the correct tools and equipment
- De energize
- Lock out where possible or put warning tag
- Verify that you have de energized by testing
- The worker in charge must ensure that there is only on source feeding the equipment
- Protect yourself against re energizing of the system by other persons
- Ensure the work area has adequate lighting
- Make sure that you are not wearing any conductive articles of clothing or jewelry i.e.) watches bracelets necklace
- Use proper personal protective and other equipment is insulated tool handles, wood step ladders, eye protection hand protection.
- Ensure that the temporary power supply cords you use are in good condition and have proper grounding.

REMEMBER LOW VOLTAGE DOES NOT MEAN LOW HAZARD



OPERATION OF MOBILE EQUIPMENT

Scope:

These guidelines are provided to assist supervisor and workers to inspect, operate and maintain mobile equipment and apply to all non-stationary equipment, including light motor vehicles.

General:

- Operation, inspection, repair and maintenance must be carried out according to Manufacture Instructions, Company Policy and applicable regulations
- All equipment is to be equipped with a horn or other audible warning device and a separate back-up alarm or other acceptable warning device.
- Equipment cabs, floors and decks are to be kept free of any materials, objects or tools which may create a tripping hazard interfere with controls or pose a hazard to the operator in an accident.
- No unauthorized person is allowed on any part of running equipment nor is any person to board or leave equipment that is in motion
- All mobile equipment designed and used for lighting, hoisting or similar operation must have the safe working load attached, legible and clearly visible to the operator.
- Windshields, other windows and mirrors must be kept clean and provide clear vision
- Equipment with defective brakes must be immediately parked and the supervisor must be notified
- All mobile equipment must utilize starting systems that prevent start up while wheels or tracks are engaged
- All equipment must have lights front and rear, sufficient to illuminate the path of travel in all conditions
- The use of air or fluid pressure to maintain application of parking brake system is prohibited.

THE SAFE WORKING LOAD MUST NOT BE EXCEEDED



Operation of Mobile Equipment

Rare Energy Corp. will employ or sub-contract only competent mobile equipment operators. Rare Energy Corp. will confirm that the operators receive adequate instructions, posse's valid certification where required and work in compliance with Rare Energy Corp. policies and applicable regulations.

Equipment must be operated within the Manufactures specifications and limitations, taking into consideration weather and site conditions.

- Only authorized and qualified workers are to operate mobile equipment
- Operation of equipment without authority may result in termination
- Operator will be directly responsible for the safe operation of their assigned equipment.
- All operators are to inspect areas around and adjacent to their assigned equipment prior to starting up, to ensure that no worker or the public is endangered.
- Before starting equipment a walk around inspection must be completed. All oil and coolant levels fuel brakes lights mirrors horn and back up alarms fire extinguisher and seat belts are to be checked.
- All equipment must be operated in such a manner that it does not endanger other –
 i.e./ looking back when reversing, using extreme caution when working near
 personnel or other equipment.
- Defective equipment must be parked and the supervisor must be notified.
- An operator who has reasonable cause to believe the equipment or load is hazardous is to STOP and SECURE the equipment and load and report the condition to the supervisor immediately.
- When refueling equipment, the engine must be stopped, all smoking materials extinguished and any known sources of ignition eliminated
- No one is to remain in the equipment can while loads are passing overhead unless suitable protection is provided
- Equipment blades buckets or forks are to be lowered to the ground and machines secured against movement any time they are left unattended
- On steep grades where brakes may both be sufficient for control equipment must be snubbed or otherwise assisted.
- Equipment is to be positioned so that no swinging part is closer than 600 mm (2 ft) to any obstruction
- No passengers are allowed to ride on equipment when mounting or dismounting and use the three point contact method. They must never jump off a machine.
- Equipment must be operated with headlights on at all times
- No passengers are allowed to ride on equipment not equipped to carry additional personnel.
- Operators must not leave a suspended load unattended at any time
- Elevated equipment parts, including dumb boxes must be securely blocked before allowing workers beneath them



- During winch or tow cable use, all employees on the ground will stay out if the whip area of the winch or tow cable
- All necessary PPE must be worn while operating equipment
- Whenever the vision is obstructed including during the backing up of equipment the use of a competent signal person is required
- All personnel working on the ground around Mobil equipment must wear Hivisibility apparel
- DO NOT ride in loader buckets
- Operators must use the provided seat belts any time that equipment is in motion this include loading of offloading from low beds or trailers.

Forklift Loads

- Loads are to be assembled, secured against shifting and handles so that no part of the loads can fall off and create a hazard to workers during transportation
- A unitized load must not project more than one half its height above the forklift carriage or backrest
- A load consisting of loose objects must not project above to for carriage
- Work platforms mounted on a forklift must be; constructed according to design prepared by a professional Engineer and load rated, attached to the fork carriage, provided with standard guardrails and toe bards.



NOISE REGULATIONS

Procedure:

- 1. Workers are not to be exposed to noise levels above 85 dVA Lex daily exposure or 135 dBA Lex peak sound levels.
- 2. When noise in the workplace exceeds the exposure limits the following must be addressed in writing:
 - Noise measurement
 - Education and training
 - Engineered noise control
 - Hearing protection
 - Posting of noise hazard area signs
 - Hearing tests
 - Annual program review
- 3. A noise dosimeter must be set with criterion level of 85 dBA. The measurement results must be recorded and made readily available for reference.
- 4. Where practical the following methods may be used to control noise:
 - Substitution with less noisy equipment
 - Modification of the process or equipment
 - Enclosure of noise source
 - Acoustical design and treatment of the work area





POWERLINE AND UNDERGROUND HAZARDS

General

Power lines are closely regulated by legislation. Occupational Health and Safety Regulations and codes require you stay clear of Power lines. Do not go to close with people, equipment or material

The limits are outlined in the regulations. Depending on the voltage of the power lines, you need to establish a safe working distance, you need to establish a safe working distance and make sure everyone follows those guidelines.

Procedure:

- 1. Do a hazard assessment. What equipment will you be using? If constructions a building, will it be too close to the Power lines? Are the materials and building components being sued awkward and at risk due to power lines.
- 2. Notify the power company for disconnection or relocation of the line if needed or have the line isolated or de energized.
- 3. UNDER NO CIRCUMSTANCES SHALL WORKERS (OTHER THAN QUALIFIED PROPERLY INSTRUCTED WORKERS WORKING IN AN EMERGENCY SITUATION) WORK, MATERIALS BE STACKED, SCAFFOLDS BE ERECTED, OR TOOLS AND EQUIPMENT BE OPERATED IN PROXIMITY TO POWERLINES WITHIN THE LIMITS OF APPROACH SPECIFIED IN THE FOLLOWING TABLE UNLESS WORKERS ARE PROTECTED IN ACCORDANCE WITH WCB AND OR OH&S REGULATIONS.

Voltage	Minimum Distance		
V to75KV	10 Feet		
Over 75 KV	15 Feet		
Over 250 KV to 550 KV	20 Feet		

Sufficient distance shall be added to the specified distance to prevent unplanned of accidental movements bringing the worker, tools, equipment or material within the specified distance. The specified distance used, applies to all parts of the equipment including booms, hoisting cables and any part of the load being raises. Distances shall be increased to provide for any change in boom angle, swing of the hoisting cable and the load while it is being raised, lowered or moved laterally, to ensure that safe distance is maintained at all times. Operators shall give consideration to the probability of hazard from switching surges, altitude, humidity, line configuration etc.



- 4. When power lines are encountered within a work, alert your supervisor. The supervisor will ascertain the voltage and minimum distance required and will have all necessary documentation filled out when required.
- 5. When job circumstances require that work be done closer than the limits of approach stated above the following procedure must be followed prior to commencing work.
- 6. An assurance in writing must be obtained from and signed by the person(s) controlling the electrical system. The assurance must stat that during the work period the electrical conductors will be de- energized or effectively guarded against contact, or displaces/ enroute from the work area. The assurance must be available for inspection on the project site.
- 7. Use trained signaler
- 8. Keep an eye out over head at all times
- 9. Look out for uneven ground that may cause your vehicle to bounce or weave
- 10. Never ride or climb on equipment of a load when near a power line
- 11. Do not ground your equipment around a power line
- 12. Remember, electricity is invisible do not take chances
- 13. If a power line meets your vehicle stay in the vehicle until helparrives.
- 14. If you strike a power line call the power company right away. Report the details of the incident. The company will inspect and repair the line. You also need to report the incident to the head office.



PROPANE/NATURAL GAS HEATERS

Procedure

- 1. All temporary heaters must be located on a stable surface
- 2. Propane cylinders under 300 lbs., May be used indoors during temporary construction
- 3. A 1st stage regulator is requires at the propane tank end to reduce the high pounds down to the low pounds for the heater. Regulators shall be provided with the propane tank.
- 4. Temporary heaters must be at least 6 feet away from the fuel cylinders
- 5. Hose length shall be a minimum of 10 feet (3m) and a maximum of 50 feet (15m)
- 6. Fire Extinguishers must be located within 30 feet (10m) of a heating unit.
- 7. All LP cylinders shall be stored outside in a well ventilated area.
- 8. Connecting and reconnecting of moved propane tanks must be done by a worker trained and competent to do so.
- 9. The maximum number of LP cylinders per heater is three if a manifold system issued
- 10. All LP cylinders must rest on a stable base or be secured when in use or storage
- 11. Carbon monoxide poisoning is a potential hazard of temporary heating. The most obvious symptom of CO poisoning is headaches. If you suspect high levels of CO notify your foreman.
- 12. When using a gas heater inside of a building the regulator must be vented to the outside (garden hose or black hose)
- 13. Tape inlets of the gas line and regulator if heating unit is not in use for a period.
- 14. If heating unit becomes unplugged and will not start. PUSH the stop button then PUSH the start button. This should reset the unit and allow it to start.



SCAFFOLDS

General

No scaffold shall be erected, dismantled and or altered except under the direction of a competence Supervisor

Hazard Assessment

A pre job Safety Instruction meeting shall be conducted *prior* to erection of any scaffold. The following items must be considered:

- A worksite survey to identify unstable soil conditions, ditches, debris, overhead electrical service, unguarded openings, adjoining equipment or any other situation that may affect work.
- Inspection by Rare Energy Corp. and or rental equipment for damage or defects
- Special design procedure, manufacturer recommendation or engineering specification
- Fall protection provisions
- Suitable warning devices when scaffold placement erection and or dismantling encroach on or above roadways other work areas or otherwise may present a danger to other employees.

Fall Protection

Fall protection shall be used as per Rare Energy Corp. Fall protection ProcedureScaffold

Planking:

Planks to be used in scaffold construction shall be selected using one of three following alternatives:

- 1. Use of double 51 mm x 242mm (2 inch x 10 inch) dressed planks, grades no.2 or better from any of the species group; Douglas Fir- Larch; Hem-Fir Spruce- Pine-Fire or Coast Sitka Spruce. Precautions must be taken where scaffold planking overlaps for continuous runs as the 3 inch height differential may create a possible tripping hazard if not done properly.
- 2. Use of single thickness of sawn plank (either rough or dressed) having actual dimensions of 48mmx235mm (1 7/8 inch thick by 9 1/4 inch wide, graded grades no.2 or better from any of the species group; Douglas Fir- Larch; Hem-Fir Spruce- Pine-Fire or Coast Sitka Spruce. For additional protection, the employer should ensure that the better planks
- 3. With few or small knots and shallower sloped of grain are used.
- 4. Use of manufactured laminated wood or combination wood and metal planks designed for use of scaffolding planks.



Scaffold Erection Guidelines

- Scaffold bases must be set on an adequate sill or pad to prevent slipping or sliding or setting
- Any part of a building or structure used to support a scaffold must be of sufficient strength to handle the maximum loading to be applied.
- Adjusting screw, not blocking is to be used to allow for uneven grade
- All scaffolds are to be plumbed, levelled and tied as the erection proceeds
- All cross horizontal diagonal or other required bracing it to be places as erection proceeds
- Continuous (running) scaffold is to be tied to and adequate supporting structure, minimum every 4.6m (15 feet) vertically and 6.1 (20 feet) horizontally or additionally as required provide stability of all anticipated loads.
- Circular irregular, partially or fully enclosed scaffolds and or any scaffold subject to wind or overturn loading requires specific precautions to provide adequate tie in
- Free standing scaffold towers must be restrained from tipping when the vertical height exceed 3 times the minimum base dimension
- Wind loading must be taken into consideration for any enclosed or hoarded scaffold
- A safe means of access must be provided to all scaffold work platforms, climbing the end frames is not acceptable
- Guardrails and mid-rails or other means of fall protection shall be provided at all work platforms
- Toe boards will be places at all work platforms
- Diagonal braces are not handrails.

Dismantling

- All scaffold scheduled for dismantling must be inspected to ensure it has not been altered in any way, which may render it unsafe. Re construction may be required prior to dismantling
- Scaffold components shall be removed in order and fashion that ensures the structural integrity of the remaining structure
- Scaffold tie-ins are only to be removed as the scaffolding above is removed.
- All components shall be inspected for damage as dismantling proceeds. Any faulty equipment shall be marked and set aside
- All levels shall be kept clear of excess equipment so the designed capacity will not be exceeded. Dismantled components shall be lowered in an orderly fashion and stockpiled neatly out of the work area

For specific regulation and guidelines on all scaffold types, consult the applicable occupational health and safety regulations



Scaffold Tagging Guidelines

The following tagging system must be used on all scaffolds except for freestanding or rolling scaffolds.

One of three tags must be always present at all accesses to a scaffold

- 1. Red Tag- Indicated the scaffold is either under erection, being dismantled, or otherwise unsafe for general employee access. Only competent Rare Energy Corp. employees will access a red tagged scaffold/
- 2. Green Tag Indicated the scaffold is safe for all employees using only normal required PPE. All handrails, toe boards and decks are complete.
- 3. Yellow Tag- Indicates the scaffold has been modified and additional personal protective equipment must be used. Special instructions will be noted on the yellow tag.

Each scaffold shall be dated and signed by the Supervisor who inspected the scaffold.



SCISSOR LIFTS AND BOOMS

General

Scissor lift, boom and giraffe operators must follow all applicable Vehicles and Mobil equipment safety rules. In addition the following rules apply specifically to their operation:

Procedure:

- 1. Equipment must be used and maintained in accordance with applicable OH&S codes.
- 2. Guardrails and safety chains must be in place
- 3. Toe boards must be in place
- 4. Safety belts and lifelines must be in place and used as required by OH&S codes and by site-specific rules.
- 5. IF a unit is fitted with outriggers it must be equipped with notices indicating the circumstances under which the outriggers must be used
- 6. Carrier vehicles of elevated work platforms must be immobilized against in advertent motion before workers occupy the platform
- 7. Scissor lifts must be guarded where there is a possibility of workers inadvertently meeting any hazardous moving parts of the lifting mechanism
- 8. All vehicle mounted giraffes or self propelled boom supported elevated work platforms must be subject to non destructive testing every 24 months.
- 9. Every elevating work platform must be provided with an emergency stop button on the platform and an emergency lowering control
- 10. Ever elevating work platform must be fitted with a warning system for forward reverse up and down motions
- 11. All self propelled elevating work platforms (except truck mounted platforms) must be fitted with tilt angle indicators or warning devices as described in the OH&S codes.



SETTING UP COLUMNS

General

Always maintain good housekeeping practices paying special attention to cleaning up the work area maintaining control over rubbish pulling nails and safely piling and stacking materials.

Procedure

- Conduct a pre job safety instruction meeting with crew
- Ensure that the riggers on ground level keep people from walking in the work area while columns are being lifted
- Ensure that all loose materials are removed from columns and wedge bolts are secured before hooking up and lifting columns
- Use Lurffer to lift columns into place.
- Lower columns about 1" above slab and move into position
- Secure quick column hardware on lower end of the column
- Lower column down to the slab
- Using a stepladder cut loose the crane, finish bracing, and secure quick column hardware. If within ten feet of an unprotected slab edge workers must be tied off to a secure anchor point
- Ensure hooks do not catch on the column as they are pulled away
- Clean up storage area so it is ready for columns to return.



SETTING UP PERIMETER COLUMNS

General

Always maintain good housekeeping practices, paying special attention to cleaning up the work area maintaining control over rubbish pulling nails and safely piling and stacking materials.

Procedure

- 1. Give one days notice to site superintendent if column forms are to be flown overhead
- 2. Conduct pre job safety instruction meetings with crew
- 3. Ensure riggers on the ground level keep people from entering the work area while columns are being lifted
- 4. Ensure that all loose materials are removed from the column and wedge bolts are secured before hooking up and lifting to the upper floor
- 5. Lower column one foot above slab on interior side of column steel
- 6. Rap column around steel making sure quick column hardware is on the inside of slap and closed.
- 7. Secure quick column hard are on the lower end of the column
- 8. Lower column to slab and attach base of column to slab
- 9. Using a stepladder attach braces and anchors to the slab
- 10. Cut crane loose and finish quick column hardware.



SKID STEER

- 1. Only competent and qualified personnel are to operate or work with the Skid Steer at anytime. Untrained personnel are not to operate the Skid Steer at anytime.
- 2. This skid Steer it to be operated in accordance with manufacture specifications and OH&S regulations at all times.
- 3. At no time are any manufactured safety components or guards to be removed from the Skid Steer.
- 4. All operators must be familiar with the entire emergency shutdown components of the Skid Steer.
- 5. At the beginning of each work day Skid Steer operators are to walk around the Skid Steer and ensure that it is in safe operating condition. Operators must complete and sign the daily maintenance checklist prior to start up. This will include checking and topping up fluid levels and tire pressure.
- 6. The operator must ensure that the area where the skid steer will be operated is clear of debris and safe to travel through Ensure there is no debris that could be kicked up and flung by the Skid Steer.
- 7. When unloading or loading trucks only one helper or truck driver is to work directly with the Skid Steer operator at any time. If a helper is being used the truck operator must remain in the cab of the truck or clear of the work area. If the truck driver is acting as a helper he must follow all procedures associated with being a helper.
- 8. The operator must ensure that he is aware of whom the helper is always and the location of the helper. The operator must immediately stop and turn off the Skid Steer if the he looses sight or contact with the helper and not restart until contact has been re established.
- 9. All workers working with the Skid Steer or around any other heavy equipment must always wear high visibility traffic vests.
- 10. Helpers must be always within eye contact with the skid steer operator.
- 11. At no time is anyone to be on the other side of a truck when a load is being loaded or unloaded. The load could tip and fall on workers.
- 12. Once the load has been secured to the Skid Steer helpers are to clear the area where the load is being raised by a minimal of 20 feet.
- 13. Once the load has either been removed from the truck and lowered or raised and put on the truck the operator will use the red stop button in the cab to shut machine down the helper will return, secure load and make adjustments as required.
- 14. Once the load is ready to be moved to storage the helper must stand back a safe distance? The operator will re start the Skid steer and drive the load to the area with the helper following at a safe distance. When loads are being brought from storage to trucks this same process is to be used.
- 15. Once the Skid Steer reaches the destination the operator is to use the red button to shut down the helper will then move into the area and place the dunage in the



- required position. The helper will then step back to a safe distance, the operator will the restart the machine and place the load on the dunage, whenever possible in the shop permanent dunage should be used.
- 16. Operators must ensure the Skid steer does not lift more than 1700 pounds at any time in accordance with the manufactures specifications.
- 17. If at any time the back tires on the skid steer start to lift the operator is to immediately stop the lift and adjust the load to a lower weight.
- 18. at no time is and operator to position a load by tilting the forks. Loads are to be lowered to the ground and re positioned on the forks.
- 19. Operators are to always ensure that forks are the correct width for the load that is being moved.
- 20. Operators are to travel with fully suspended loads and are never to leave the cab while a load is suspended. Ensure all loads are safely on the ground and secure prior to leaving the cab.
- 21. The safety door must always remain on the Skid steer. These doors ensure that if the operator opens the door to leave the cab or to speak to someone the Skid Steer automatically stops.
- 22All materials are to be places on dunage or pallets so helpers do not have to move materials.
- 23At no time are any workers besides the operator to ride the Skid Steer including on forks or in buckets.
- 24All employees are to keep a safe distance while Skid Steer is removing snow.
- 25. Skid steer is not be used to dump garbage buckets. Use the forklift.
- 26. No loose tools are to be brought into the Skid steer.



STRIPPING OVERHEAD FALSE WORK

General

Always maintain good housekeeping practices, paying special attention to cleaning up the work area. Maintaining control over rubbish, pulling nails, and safely piling and stacking materials.

Procedures:

- 1. Conduct pre job safety instruction meeting with crew
- 2. Use "Danger" tape to flag off area to be stripped. Warning signs as appropriate.
- 3. Always climb scaffolding using safe methods. Do not carry tools by hand while climbing on scaffolds.
- 4. If underside of false work is greater than 15' span planks in the scaffolds to ensure a secure footing.
- 5. Lower u heads to workable level.
- 6. Remove plywood formwork
- 7. Hail away plywood during operation to safe area. Pull nails and stack.
- 8. Remove formwork joists. Haul to safe area and stack neatly on dunage.
- 9. Remove formwork beams. Half to safe area and sack neatly on dunage.
- 10. Band all joists and beams for removal
- 11. Do not permit entry by others into area.
- 12. Ensure all hangers are removed.



STRIPPING PERIMETER COLUMNS

Procedure

- 1. Give one days notice to site superintendent if columns are to be flown overhead
- 2. Conduct a pre job safety instruction meeting with crew.
- 3. Ensure that riggers on the ground level keep people from walking in the work area while columns are being lifted and landed
- 4. Ensure that only latch wedges are knocked out and slide blots are releases. No other wedge bolts are to be removed.
- 5. Ensure all loose materials are removed from columns before lifting
- 6. If columns are not to be removed at this point they must be tied off to the steel with enough slack to break the column free from the concrete
- 7. Using a stepladder hook up chains in the column
- 8. Ensure that all rebar wire has been cut free from the top of the column and then break the column free from the concrete.
- 9. Once concrete is broken free tighten chains and lift column off the slab
- 10. Open column and remove it from the concrete
- 11. Fly column to the storage area.





STRIPPING SKY DECK

Procedure:

- 1. Conduct pre job safety instruction meeting with crew
- 2. Determine starting point which is usually on the beam side or areas with plywood fillers.
- 3. Lower the stingers nearest the plywood filler by striking the wedge on the drop head
- 4. The stinger must be removed before sky deck panels can be removed.
- 5. Install a temporary T post wedged lightly to the underside of the first three sky deck panels.
- 6. Lower one prop 50 to +75 mm and remove from stringer. Only one prop is lowered at this time.
- 7. Remove stringer from 2nd prop
- 8. Use a baker scaffold to reach sky deck panels
- 9. Strike the wedges to loosen on the 2 props opposite the side that the stringer has been removed.
- 10. The first 3 panels will be loose and ready to remove
- 11. Carefully loosen T post. Panels may wing down if prop is removed.
- 12. Remove 1 panel at time replace prop immediately
- 13. Repeat this procedure down the 2 stringer lines until the end of the stripping area has been reached.
- 14. Now a large area of drop heads can be lowered. It is not necessary to remove stingers sky deck panels can easily be removed by moving them slightly sideways then down.
- 15. After panels have been removed stingers can also be lowered to the ground
- 16. DO NOT RELEASE DROPS



TABLE SAWS

Procedure:

- 1. Make sure power controls are in off position and unplug the electric cord before changing saw blades.
- 2. Make sure, saw and motor frame are properly grounded.
- 3. Ensure area around saw is debris free.
- 4. Have a pusher stick handy and easy to reach
- 5. Adjust the height on and angle of blade and fence. Keep blade 3mm above material
- 6. If the material is more than 4 feet long get help of use a work table positioned tight to the table saw.
- 7. Put on eye goggles and hard hats
- 8. Turn on saw
- 9. Set material to be cut onto table and move cautiously tight to fence and to saw blade
- 10. Keep your body out of line with the material being sawn
- 11. Move material slowly and firmly into blade.
- 12. Only the person feeding the material should put hand pressure on the material
- 13. When the material is near the blade use the push stick to complete the cut
- 14. Shut off saw and remove cut material or vice versa
- 15. Use a brush or stick to remove scrap or sawdust from the table saw.

TRENCHING AND EXCAVATIONS



General

Our Company recognizes that excavations and trenches require extra precautions, as there are numerous potential hazards.

Trenching accidents are mainly cause by cave ins but there are other risks to the workers some of these risks are:

- Material falling into the trench
- Handling and placing of material
- Falls as workers climbing in and out
- Falling over equipment or excavation material
- Falling into the trench
- Exposure to toxic, irritating, or flammable gases.

Excavation Concerns:

- 1. No one can predict accurately if an excavation is safe to enter without a proper support structure being provided
- 2. A worker does not have to be completely buried in soil to be seriously injured or killed.
- 3. Excavation I or near back filled or previously excavated ground are dangerous since the soil is loose and does not support itself.
- 4. Water will increase the possibility of a cave in.
- 5. Clay can be extremely treacherous if dried by the sun. Large chunks of material can break off a trench wall
- 6. Frozen ground is not an alternative to proper shooing.
- 7. An excavating should be considered a confined space and appropriate evaluations and controls should be undertaken prior to allowing a worker to enter a potentially hazardous atmosphere
- 8. Shoring must be adequate to overcome additional pressures from piles excavating material adjourning structures, vehicular traffic and nearby equipment.

Definitions:

Excavations- a man made cavity or depression in the earth's surface formed by earth removal, and includes a trench deep foundation tunnel, shaft or open excavation

Trench- an excavation having a depth which exceeds its width measured at the bottom Shoring- a construction procedure used specifically to maintain the stability of the walls and ceiling of an excavation and includes a trench cage.



Sheathing- a continuous row of work or steel sheets in close contact to provide a tight wall to resist the pressures of the walls of an excavation

Uprights_ the vertical members of shoring that are placed up against and directly resist pressure from a wall of a trench

Whaler- a shoring member that is placed against and directly resists pressure from sheathing or uprights

Strut- a horizontal cross member of a shoring system that directly resists pressure from a wale or upright.

Prior to Excavating:

- 1. Obtain clearance from the public utilities
- 2. Obtain engineering approvals: where workers are required to enter an excavation;
 - That a straight cut trench exceeding 15 feet in depth or five feet in width
 - That requires a shoring support structure designed due to the nature of the excavation or soil conditions.
 - That requires trench cage to be used as shoring support structure
 - That is shaft of tunnel
 - That is a deep foundation excavation
 - Where the excavation may affect the structural integrity of an adjacent building foundation utility pole or other structure.
- 3. Plan for dangerous conditions. A hazard assessment must be undertaken to determine the risk associated with workers entering an excavation. Possible hazards include:
 - Explosive and toxic atmospheres
 - Lack of oxygen
 - Restricted access and egress
 - Flooding
 - Utility contact (gas, electrical etc)
 - Human factors (phobias physical conditions)
- 4. Train workers
- 5. Appoint an experienced supervisor.



General Shoring Requirements:

- 1. Personal Protective Equipment (PPE): All workers doing excavation is always required. The observers must wear approved safety footwear and hard hats. Additional PPE may be required (hearing protection hand protection)
- 2. "Observer" to be on the Job: An observer is always required. The observer is responsible to remain on the surface and keep the workers informed of unsafe conditions.
- 3. Provisions for Access and Egress: A suitable means of access and egress must be provided. Ladders must extend 3 feet above the excavation and the ladder must be located within 10 feet of the worker.
- 4. Location of Excavated Materials and Equipment: All excavated materials must be piled in a manner so that the material cannot roll back into the excavation. The material must never be closer than 3 feet from the edge of the excavation and should be placed as far away as possible. Tools equipment and heavy machinery shall be placed or used where they may fall into or affect the structural stability of the walls of the excavation.
- 5. Public Protection and Traffic Control: All excavations where the public has access, shall have barriers and signage to protect the public from falls, falling material and excavating equipment. Proper covers or fencing must be provided to prevent the public from access during off hours.
- 6. First Aid: First and emergency supplies must be always kept at the excavation project. One worker per shift shall be trained First Aider with a CPR Certification.
- 7. Engineering Information: Engineering design specifications for shoring support structures are to be made available at the excavation site.

Trench Excavations:

Soil Categories:

- 1. Stiff and firm soils- soils with substantial cohesion no water table present.
- 2. Soils likely to crack or crumble soils that can be excavated by hand tools, show signs of cracking after excavating and posses a low to medium moisture content.
- 3. A soft and loose sol soils easily excavated by hand with little or no cohesion.

Vee-Type (sloped) Excavations:

Instead of a shoring support, a safe method is to slope the walls of the excavation a grade of 1:1 (45 degrees) or flatter. The 45 degree slope is required no matter what type of soil conditions.

A combination of 1:1 slope and vertical face may be used as long as the vertical face notes not exceed 3 feet and the overall depth is no greater than 15 feet.





Type of shoring material:

Most of the wood used in trenches is full dimension polar planks and timbers. Spruce lumber is acceptable as shoring material provided it meets the shoring table requirements. The lumber must be constriction grade NO.2 or better. Plywood used as sheathing must be minimum of ³/₄ inch

Steel trench jacks may be used as struts, if they are equivalent in strength to the wood struts specified in the shoring tables. The longer dimension of the trench jack "foot" must be located perpendicular to the grain of the wood on the upright.

Shoring of trench excavations:

When installing shoring within a trench, proper procedures must be followed.

Installing Shoring:

- 1. When shoring is in progress, the bucket of the excavation machine must be placed in the trench directly in front of the shoring being installed. The bucket will serve as additional protection if care-in occurs.
- 2. A proper ladder must be provided in a trench or open excavation. The ladder must extend 3 feet above ground level and be within ten feet of a worker position.
- 3. The top of the first strut must be 18 inches below the surface
- 4. the second strut must be place according to the engineering requirements
- 5. The installation of the first and second strut to support the uprights tables the excavation walls.
- 6. When plywood is used, the struts/jacks must never be installed directly on the plywood. where plywood is used the jacks must be placed on the uprights that support the plywood
- 7. Once the worker has a minimum of 2 struts place on each set of uprights, the worker can proceed to install the bottom strut. There must never be less than 2 struts on each set of shoring
- 8. This procedure must be followed with each set of shoring.

Removal of Shoring:

- 1. When removing shoring the revere procedure is used. The struts are removed from the bottom to the top. There must never be less than 2 sets of uprights in place and the workers must always remain within the shoring.
- 2. If there is undue pressure felt when removing a strut it means the soil has moved and the trench must be back lifted up to the bottom of the strut/jack before it is removed



- and so on to the top. Do not try to remove a strut with undue pressure, as it may cause a collapse
- 3. It is preferable to have a worker who installed the struts to remove them.

Open Excavations:

Excavations that are not considered to be trenches, caissons, shafts or tunnels may be classified as open excavations. A basement of foundation excavation for building or structure is an open excavation.

If the excavation exceeds eight feet in depth the walls of the excavation must be cut back or a shoring support structure designed and installed.

A professional engineer must design a shoring support structure for an open excavation. An open excavation may become a trench as the project proceeds. In this case the same requirements for trench apply and must be followed, by shoring or cut back.



WALL FORMING

Steps:

- 1. Layout your wall grid lines on footing.
- 2. Fasten bottom plate with powder activate tool and fasteners
- 3. Layout for snap tie spacing on a sheet of form plywood drill holes- to save time you can stick 3-4 sheets of plywood together and then drill using the top sheet for a template
- 4. Stand up plywood form vertically
- 5. Nail on bottom corner first to bottom place, then level sheet; start when level, nail other bottom corner
- 6. Install the rest of your forms and temporarily brace to keep them standing
- 7. Install snap ties and cam locks
- 8. Install 2x4 whalers field cut whalers to fit joint at the centre of cam lock
- 9. All whaler joints should be at least two tie space apart
- 10. Install spider clamps and 2x4 strong back approximately 8' long every fourth row of snap ties.

Procedure:

- 1. Drive 2x4 pegs into solid ground for bracing
- 2. Nail 2x4 brace to form first using 3 ½ 'double headed nails.
- 3. Plumb corner of forms then nail brace to peg
- 4. Using your string line at each corner you can straighten the wall by moving the form to match the line and nail your braces.
- 5. Lock your corners with 2x4 kickers on alternate corners
- 6. Install small nails into each cam lock to prevent the form loosening
- 7. Shoot your finished concrete elevation using the builders level in
- 8. Install block outs if necessary
- 9. Clean the top of footing from all debris
- 10. Install reinforcing bars as per drawings and to proper elevation
- 11. Close up forms using steps start a 4 to 9 13 and 14
- 12. Check your elevations
- 13. Check your forms for square
- 14. Pour concrete.

Note: If wall is supported on piles, refer to grade beam formwork for sleeper and kicker procedures.



Section Six - Company Safety Rules

Policy

All employees and sub contractors are required to know and comply with all Rare Energy Corp. safety rules. Failure to do so may result in corrective measures, up to and including termination

Enforcement

Employees who fail to comply with government regulations of Rare Energy Corp. safety program will be subject to disciplinary action.

the following will be grounds for dismissal:

- Failure to comply with any aspects of the Health and Safety Program where noncompliance has the potential for serious or fatal injury to the offender or to anyone else.
- Fighting
- Possession of, or consumption of alcohol or illegal drugs
- Theft or vandalism
- Damaging, disabling or interfering with safety, fire fighting or first aid equipment For less serious infractions (not immediately dangerous to life). the following steps will be taken:
 - First offence- verbal warning
 - Second offence -written notice to employee
 - Third offence- dismissal.

General Safety Rules

- All accidents, near misses, injuries, property damages and unsafe conditions are to be reported to a supervisor
- All damages to tools, equipment, and/or properties are to be reported for corrective action to be taken.
- Work areas are to be kept clean from debris and tripping hazards.
- Operate all vehicles and mobile equipment in accordance with site rules and highway regulations.
- Do not store materials in a location where they may be a danger to others.
- Do not lean against guardrails or handrails
- Do not tamper with fire extinguishers, emergency facilities, or safety equipment
- Follow all hoisting and rigging safety practises and procedures
- Follow all safety requirements of the job site, including Rare Energy Corp. safety policies and OH&S Regulations.

Ken Kan (Chief Compliance Officer)



Section Seven Personal Protective Equipment (PPE's)

Standard Policy

- Local Safety Regulations shall govern minimum standards of personal protective equipment "PPE" for work locations
- All employees and sub contractors are required to wear the appropriate PPE when and where required as dictated by workplace hazards, company policies and/or site specific rules
- Supervisor and sub contactor must see that employees have obtained, and use the required PPE for each job and work site
- Employees are responsible to obtain, care for and maintain their PPE. Workers are required to immediately correct or report any problems, damages or loss of this equipment
- Employees are not permitted to use any PPE that is not approved by applicable safety standards association (ie: CSA, ANSI)
- All PPE must meet those of the Local authority having jurisdiction, as well as those established by the client and site specific requirements

Basic PPE Requirements

Corporate Health & Safety Program

All employees must report for work with their own approved footwear and appropriate clothing. Clothing will consist of a minimal of pants and short sleeves. No undershirts/tank tops or shorts will be allowed at anytime on any of Rare Energy Corp. projects. Loose clothing. Jewellery and long hair that may get stuck in machinery and cause injury to workers must be removed during work or in the case of hair be properly secured.

Head protection:

Hard hats must be always worn on all worksites. Exceptions may be allowed nearing theend of projects **only** by safety consultant

Eve Protection

Safety glasses, goggles, face shields, and/or side shields, must be worn at work location where the risk for face and eye injury exists. Safety glasses in those instances must be always worn by the worker.

Foot Protection

Only approved safety footwear must be always worn on worksites. Exceptions may be allowed nearing the end of projects **only** by the safety consultant.

Hi-Visibility Vests

Must be worn when walking or working on the ground in the proximity of mobile equipment or vehicular traffic.



Hearing Protection

Must be worn where noise levels exceed the safe limit

Hand Protection

Approved hand protection, appropriate for the hazard must be worn.

No exceptions! ALL management, employees, sub contractors, Clients and visitors must wear appropriate PPE's when on any of the work sites and must meet these above requirements without exception.

Special Personal Protective Equipment

In addition to basic PPE, additional specialized PPE may be required to provide the appropriate protection to the employee. Refer to applicable safety regulations for additional information on PPE requirements

Specialized PPE will be selected based on the following policy, Safe Job Procedures, Safe Work Practises, site hazard assessments and Alberta OH&S codes. Prior to use of any specialized PPE a hazard assessment must be conducted and if required a site specific job procedure

Fall Protection

Fall protection must be used whenever an employee is exposed to a fall hazard greater than 10 feet (3m), and other fall protection is available in the work area

Only full body harnesses with shock absorbing lanyards will be used for personal fall arrest

Only workers who have been trained in the safe use of fall protection equipment will work with fall protection equipment. **Supervisors** are responsible to ensure workers have been trained. Written fall protection plans must meet the requirements of Alberta OH&S code part 9 must be in place

Respiratory

Reparatory protection shall be selected based on the contaminate and concentration to which the employee will be exposed.

No exceptions! All management, employees, sub contactors, clients and visitors will comply with the requirements stated above without exception.

Communication Of PPE Requirements

Basic personal protective equipment requirements will be communicated to all Rare Energy Corp. employees during the new hire orientation

Specialized and basic PPE requirements and site specific PPE requirements will be communicated to sub contractor foreman by the project superintendent during the site sub trade orientation.



Both specialized and basic PPE requirements will be reviewed on site with both of Rare Energy Corp. employees and sub contractor employees by the employee's supervisor during the site specific orientation

Enforcement of PPE Requirements

For minor violation of Rare Energy Corp. PPE policies, and good industry practices, the following actions will be undertaken:

First Occurrence: Verbal Warning

Second Occurrence: Written Warning will be given to employee or in the case of a sub contractor the employees supervisor

Third Occurrence: Will result in termination of employment or termination of contract or removal from the project.

Blatant disregard for any safety practises or procedures that seriously jeopardize the safety of the worker or anyone around will be subject to immediate termination and removed from the project.

PPE Training

Prior to the use of any Personal Protective Equipment (PPE) by any Rare Energy Corp. employees, supervisors will ensure that they have been trained and are competent in its safe use.

Sub contractors are required to ensure that their employees have been trained to a level satisfactory by Alberta OH&S in the use of PPE. In some cases such as fall protection Sub contractors will be asked to submit proof of PPE training

PPE Maintenance

Properly maintained PPE will provide the protection to our employees for which it was designed. Every Employee is responsible for properly selecting and maintaining his or her own PPE.

Workers will inspect their PPE before each use and are responsible to immediately report any defective PPE so it can be removed from service and replaced.

Rare Energy Corp. office will establish and document a regular fall protection and respiratory inspection system

Any article of PPE, which does not meet Alberta OH&S codes and industry standards, will not be used on any Rare Energy Corp. sites. When inspection of PPE reveals damagedor sub standard equipment the equipment will be removed from service for repair or replacement. Any component of a fall protect system, which has been loaded (experienced a fall from any height) will be permanently removed from service.

Ken Kan (Chief Compliance Officer)





Section Eight Maintenance Program

Standard Policy

All tools, equipment and vehicles will be maintained in a condition that will maximize the safety of all personnel. To accomplish this, a maintenance program will be maintained that includes the following components.

- 1. Adherence to applicable regulations standards and manufacturers specifications.
- 2. Service by appropriately qualified maintenance personnel
- 3. Scheduling and documentation of all maintenance work

Responsibility

All employees are responsible for the application of the program in their area of responsibility.

Application

This policy applies to the following:

- 1. Company tools, equipment and vehicles
- 2. Personal Protective Equipment

Maintenance Schedules and Inventory

- Management will inventory and determine the equipment requiring scheduled maintenance, and will implement documented program to adhere to the maintenance schedule.
- Maintenance records for equipment will be maintained by management and will be made available for review during annual COR audits.
- All employees affected are required to be familiar with maintenance schedules relevant to equipment being used.

Employees are responsible to maintain or have maintained all maintenance on any piece of company equipment.

Defective Tools or Equipment

All tools or equipment that are deemed defective by an employee must be immediately repaired, or if not practicable, tagged "Out of service" and sent in for repairs or discarded.

Tools and equipment are not to be modified beyond the manufactures specifications. Safety guards are NOT to be removed, hindered or rendered ineffective

Ken Kan (Chief Compliance Officer)



Section Nine Training And Communication

Employee safety Orientations

- 1. All new employees are required to attend company new hire safety orientations, and must complete a checklist confirming attendance and their understanding company rules and policies. Orientations must include but not limited to the following
 - Rare Energy Corp. safety policies and goals
 - Management, supervisors, employee responsibilities
 - Right to refuse unsafe work
 - Discipline policy and procedures
 - Hazard assessment and control
 - Safe job procedures
 - Personal Protective Equipment policy and requirements
 - Accident/ near miss reporting
 - Tool box safety meetings
 - Training
 - Reporting unsafe practises and conditions

Note: Any new employee orientations must be completed on or prior to the first day of work

- 2. Project Superintendents or the site safety coordinator will conduct a site specific orientation with all new and transferred Rare Energy Corp. employees. Site specific orientations must include but not be limited to the following:
 - Site emergency response plan
 - Site first aid Trained personnel and equipment
 - Site specific rules and job procedures
 - Site hazard assessment
 - Specialized PPE requirements

Upon completion of the orientation employees will sign the site orientation sheet confirming they have completed the site orientation

Sub Contractors Safety Orientations

Project superintendents or the site safety coordinator will conduct a site specific orientation with all sub contractors supervisors and will complete the sub contractor safety agreement form with the sub contractor supervisor prior to the sub contractor starting work on site. Sub contractor safety orientation must include but not be limited to the following:

- PPE requirements
- First aid equipment
- First aid personnel



- W.H.I.M.S training
- M.S.D.S requirements
- Safety inspections
- Accident notification procedure and reporting requirements
- Safety meetings and requirements
- Site safety rules
- Consequences of non compliance in regards to Rare Energy Corp.'s safety program
- Exchange of telephone numbers

Sub contractor supervisors will be responsible to orientate all their new employees to the projects and Rare Energy Corp. safety program. Supervisors must send each new employee to the project superintendent of the site safety coordinator to sign the site orientation sheet confirming their understanding of site specific safety responsibilities and toreceive and orientation sticker

Ken Kan (Chief Compliance Officer)



Tool Box Meetings

- 1. Both Rare Energy Corp. Supervisors and Sub-Contractors Supervisors are responsible for conducting a weekly toolbox safety meetings with their crews.
- 2. Minutes of these meetings are to be recorded and forwarded to our office for review, these minutes should identify:
 - Those in attendance
 - Topics covered
 - Issues raised and action required, if any
 - 3. All employees will be given a chance to bring up any concerns they may have during the safety meetings. All concerns need to be noted and addressed as soon as possible.

Two -way communication must exist during these safety meetings and employees should even be encouraged to conduct regular safety meetings.

4. The Safety manager will be responsible to review and sign off all safety meetings minutes forms.

General Company Safety Meetings

The company will conduct periodic general safety meetings that all employees are expected to attend. Thee meetings will focus on company safety issues, including incidents, inspections and new hazards encountered in the workplace.

Job Specific Training

- 1. No employees will knowingly be permitted to perform a job task for which they are not properly qualified, experienced or trained. Job specific training will encouraged and/or provide to ensure employees are competent with a solid back ground of safe work habits on which to build their experience. The supervisor, who instructs employees in a safe work practices and monitors their performance, normally conducts Job Specific Training.
- 2) The following general safety training will be provided for employees:
- A) Hazard Assessment and control (As needed)
- B) WHMIS (Workplace Hazardous Materials Information System)
- C) General and Site-Specific Employee Safety Orientations
- D) First Aid (Select Employees)
- E) Fire Extinguisher Training.
- F) Job Procedures and Process Operations
- G) ACSA Leadership for safety of Excellence (Supervisors)



H) Apprenticeship Training
I) Others are recommended by the Safety Department (Safety Consultant), Project Managers, or Supervisors, they must be approved by senior management.
J) All employees must complete the orientation, quiz prior to starting work.
Ken Kan (Chief Compliance Officer)



Section Ten Inspections

Safety Inspection Policy

It is a policy of Rare Energy Corp. to maintain a program of safety inspection. The objective of this program is to control hazards in the workplace. All company facilities and job sites shall be included in the inspection program. a management representative will conduct formal, written inspections at random job sites monthly.

Superintendents or site supervisors when possible will participate in site inspections and are responsible to ensure identified issues are corrected promptly. The construction manager, general superintendent and the project manager will review all written inspections. The construction manager will sign off on all inspection reports

A member of the safety committee will conduct in conjunction with workers on site random monthly site inspection. During these inspections the inspectors will complete Rare Energy Corp. safety inspection check list and will print their names on the forms. Supervisors will conduct informal visual inspections on a continual basis or the need arises.

Safety Inspection Requirements

Safety inspections will be conducted by management or safety officer(s) at a minimum of once every two weeks of all company worksites and facilities. Safety inspections will be conducted by doing a walk around visual examination of company facilities and job sites. The inspector will take note of any substandard conditions encountered. A substandard condition exists if any work process:

- Poses a risk of physical injury
- Poses a risk to workers health and well being
- Fails to meet regulatory or Rare Energy Corp. standards
- Fails to meet manufacture\s specifications

When substandard conditions are found the inspector must delegate corrective action.

If the inspector finds a situation that presents a significant hazard or imminent danger situations, steps must be immediately taken by the inspector to isolate the hazard and initiate corrective action. Safety inspections should be used as a constructive tool during the discussions at safety meetings.

Mandatory Consultant Inspections & Orientations Meetings

Rare Energy Corp. health and safety consultant will regularly inspect Rare Energy Corp. projects on a ongoing basis. However during the following times on Rare Energy Corp. projects, the project superintendent must contact the health and safety consultant to



either conduct an inspection or to do a conducted orientation meeting with sub trades on the project:

- Start up
- Pre engineered steel start up
- High scaffolding erection (above two tiers)
- Major excavations

Ken Kan (Chief Compliance Officer)



Section Eleven Investigations

The following types of incidents shall be investigated and reported using the investigation forms:

- All lost time injuries
- Significant medical attention injuries (any potential of lost time or modified duties)
- Incidents that cause property damage or interrupt operations with potential loss exceeding 500.00
- Near miss incident that have the potential to result in serious injuries or other repercussions

Superintendents/ safety coordinators are responsible to investigate incidents, complete the required investigation report forms (including WCB and company investigation forms) and be submitted to the office within 24 hours of the incident.

Sub contractors supervisors are responsible to investigate incidents, complete the required investigation report and submit it to the project superintendent within 24 hours. Safety consultants will be contacted by the superintendent or safety coordinator to assist with the investigation of all significant injuries or incidents.

Note: WCB forms and incident reports must be completed every time a Rare Energy Corp. employee is hurt on the job. No matter how small of an incident it is. Delay in completing these forms can cause serious trouble with WCB. All reports in regards to Rare Energy Corp. employees injuries must be submitted to the office within 24 hours of an incident.

Alberta Occupational Health and Safety Reporting

Alberta OH&S code requires that certain designated serious injuries and accident/incidents having the potential of causing serious injury be reported immediately and that the scene be left undisturbed until the appropriate investigation has taken place, they are:

- An injury that results in death
- Any injury where a worker must spend two or more days in the hospital

Occupational Health and Safety reporting 403.297.2222 (Calgary area)

Note: Always contact the safety consultant, construction manager and the general superintendent prior to contacting OH&S in regards to and incident/accident.

Ken Kan (Chief Compliance Officer)

Section Twelve Emergency Preparedness



General

- Each work site must establish an effective emergency plan based on potential site hazards, potential for injuries or other events that may occur.
- Emergency planning will be based on potential site hazards, and the potential for injuries
- All employees will be familiar with their roles in the event of an emergency, including locations of first aid equipment, emergency phone numbers and muster points on site.
- All employees will receive emergency response training during site specific orientations
- Mock drills will be conducted on projects when possible. The mock drill record form will be completed after mock drills by the person(s) conducting the mock drill.

First Aid Service

- Each site will maintain a first aid kit appropriate for the nature of the work and the size of the crew in accordance with Part 11 of the Alberta OH&S code.
- Select employees will be first aid trained in accordance with OH&S codes
- All employees will be familiar with site specific first aid personnel. The site superintendent shall post a list of all employees that currently hold their first aid certification.
- Any employee who is treated with the first aid kit records the treatment in the first aid treatment book. (found in first aid kit)

Fire Fighting

- Fire extinguishers of the correct class and size will be available on each work site
- Fire extinguisher locations will be clearly marker and visible on site
- Superintendents will inspect Rare Energy Corp. fire extinguishers at the beginning of every project
- Employees shall be trained in the correct use of fire extinguishers during company orientations.

Emergency Plans and Communications

- Appropriate emergency communications must be available at each site location
- Emergency phone lists and emergency procedures will be posted on site

Injury response, reporting and investigation checklist

When an injury occurs:



Employer Responsibilities:

1. Provide first aid and/or obtain appropriate medical aid. If necessary, arrange transportation to appropriate medical facility if required or call emergency medical services.

The employer pays for costs associated with transporting an employee to appropriate medical treatment.

- 2. Site supervisor or first aid member accompanies injured employee to treatment. That person will provide the worker with an employee information package which consists of:
 - Memo to injured employee,
 - Letter to physician & release of information form,
 - Medical assessment form,
 - Job description and physical demands analysis (for applicable modified tasks),
- 3. Record in first aid records
- **4.** Investigation will be conducted by Rare Energy Corp. **CSO**
- 5. The following types of claims will be reported to WCB
 - time loss beyond date of accident
 - modified work beyond date of accident
 - time loss in the future
 - permanent clinical impairment is likely
 - Dr's visit and/or any treatment (such as stitches, physiotherapy or chiropractic)
 - medical aid not covered by Alberta Health Care such as dental, eye glasses or prescriptions
- 6. **SAFETY OFFICER** faxes the completed forms to WCB (at 1-800-661-1993) within 72 hours of employer learning of the occurrence of accident.
- 7. If modified work is indicated, the supervisor will provide the worker with the "modified work offer".
- 8. Medical clearance is required before arranging a return to work and site supervisor informs WCB immediately when employee returns to work.
- 9. If no immediate return to work (modified or full duties), the supervisor will keep in contact with the worker and WCB and arrange a return to full duty employment.
- 10. Pay the employee's regular salary for the day the injury occurred.

Worker Responsibilities:

- 1. If necessary, seek first aid or medical treatment immediately
- 2. Report to supervisor immediately and before leaving the worksite.
- 3. Complete WCB Workers' Report of Accident form and return the completed medical assessment form to supervisor immediately following the doctor's appointment.



- 4. Send Workers' Report of Accident form immediately to WCB.
- 5. Follow the treatment plan provided
- 6. Keep health care appointments and receipts for costs directly related to your workplace injuries.
- 7. Stay in touch with supervisor and WCB case manager once per week.
- 8. Work with employer, the WCB and health care providers to develop a suitable return to work plan.

CASE COORDINATION

Case coordination policy/procedures

Rare Energy Corp. Will ensure that all injury claims are effectively managed topromote an early and safety return to work.

Physical demands analysis and job descriptions are required for all high injury-frequency jobs and modified work positions within the company.

Claims management and communications training will be provided for staff.

1. Provide information package

When an injury occurs that requires medical treatment, the employee will immediately be provided with an "information package" by their supervisor, before they leave the work site. The employee will take the "information package" to their physician and then return the completed form promptly to their supervisor.

2. Create a file

A separate WCB file will be created and access controlled (as per Section 141 of the *Workers' Compensation Act*) which will include all documents related to the claim. Keep this file separate from personnel files.

3. Collect all information

Collect all information including a completed medical assessment form, incident/investigation form, etc. Supervisor will review information and assess suitable modified work opportunities and arrange a return to work including an offer of modified work.

4. Maintain contact

Establish and maintain contact with employee, WCB and health care providers. Record all contacts.

5. Determine fitness to return to work

Prior to any return to work, whether to regular job duties or to modify work, obtain medical clearance from the treating physician/medical assessment form.

6. RTW flow chart (see next page)

7. Follow up after return to work

When an employee returns to work, whether on regular or on modified duties, monitor their progress. This ensures that any problems or concerns that may arise can be addressed



immediately. Follow up daily during the first	at week of the return to work. This duration may
be increased depending on the extent of the	injury and projected recovery dated. Keep notes
on any contact made with the employee duri	ng this time.
Signed	Date



RTW FLOW CHART

Employee is fit for work (ffw)

Employee is fit for pre-accident job

Supervisor will attain medical clearance prior to authorizing a return to full duties and inform WCB within 24 hours.

Employee reoriented to job.

Progress will be monitored to ensure a safe return to work.

Employee is fit for work (ffw)

Employee is fit for modified duties

Offer of Modified Work is presented and reviewed with employee. The offer should include:

Specific job duties and physical demands

Same rate of pay

Hours of employment

Length of placement

Name of supervisor and contact

information

Requirements for signature by employee, supervisor and HR or management witness Supervisor will fax this form to WCB Case Manager once completed.

Employee will be oriented to modified duties **Refusal of Offer**: Employee will be asked to

Monitor return to work

Supervisor will monitor employee's progress with return to work. Any concerns will be addressed immediately. If any indication of aggravation of a disability or illness employee will be directed to



MODIFIED WORK

Modified work policy/procedures -

To assist with the effective rehabilitation and safe, early return to work of ill or injured employees, Rare Energy Corp.. Will make every effort to provide suitable modified work to any employee unable to perform regular duties due to illness or injury.

All modified work will require medical clearance.

All modified work will be meaningful, productive, and contribute to our employee's physical and vocational rehabilitation by keeping him/her active and involved in the workplace.

All modified work will be paid at the same rate as our employee's pre-accident job All employees participating in our modified work program will be expected to provide constructive feedback to improve the program.

All modified work will comply with the *Workers' Compensation Act* and related WCB policies.

*See case coordination for specific procedures.

Signed	Da	e
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Respectfully

Anne Moher Active Safety & Training Ltd. 403-585-2891 cell 403-239-7046 fax

EMERGENCY RESPONSE PLAN



Emergency Preparedness and Response Policy

Rare Energy Corp. is committed to providing a safe work environment for all staff and partners. This emergency response plan is intended as a guideline for basic information to assist in the event of an emergency on site. With this plan, the company attempts to anticipate the needed response in the event of an emergency that may endanger the life or health of persons or inflict major damage to the environment orcompany property. While the plan does not include every conceivable situation, it is intended to supply the basic guidelines necessary to deal with most foreseeable emergencies.

The response to any emergency on site shall be directed towards:

- Saving Life
- Care for the injured
- Protection of the Environment
- Limitation of damage to assets.

Clear direction and appropriate communication will assist in a timely resumption of regular operations.

Rare Energy Corp. shall provide the appropriate organizational procedures and training so that immediate co-coordinated action can be taken to manage the situation inline with the above.

Availability and maintenance of emergency equipment shall receive high priority; close connection will be maintained with appropriate government departments, clients, partners, and communities.

Regular exercises will be carried out to confirm effectiveness and any necessary improvements made promptly to ensure our preparedness at all times.

The emergency response procedures, as stated herein, are expected to be known and followed by all staff whose responsibilities and authority cover the operational procedures found in the guide.

The safety information in this policy does not take precedence over applicable government regulations, with which all employees should be familiar.

Section 1 Objectives of this Emergency Plan

- 1) To Preserve Life and Prevent Injuries by having a Functional Emergency Plan which includes procedures to respond to most foreseeable incidents;
- 2) To Prevent Loss of Property;



- 3) To meet the legal Requirements for an Emergency Plan as laid out in the Alberta Occupation Health and Safety Code.
 - a. As stated in Section 115(1) "An Employer must establish an emergency response plan for responding to an emergency that may require rescue or evacuation"
 - b. Additionally Section 116 of the Code lays out the fundamental requirements for the contents of an Emergency Plan

Section 1.1 Operational Objectives

The Attached Emergency Plan will accomplish the goals listed in Section 1 by way of:

- 1) Outlining action plans and strategies to deal with most foreseeable emergencies
- 2) Listing Roles and Responsibilities for personnel during an emergency
- 3) Identifying Resources to deal with most on site emergencies
- 4) Providing a working communication system that will keep all players fully informed during all phases;



Section 2 Authority of this Emergency Plan

This plan is issued under the authority of Legal Requirements as Laid Out in Section 1 Paragraph 3

Section 2.1 Authority to Activate the Plan (or components of the plan)

The primary responsibility to activate this plan rests with the site superintendent or his designated assistant; however in an emergency situation any worker on site has the authority to activate the plan in order to preserve life, or property.

Section 2.2 This Plan is binding on:

All workers, contractors and visitors within the boundaries of this property.

Section 2.3 Plan not binding when:

In the opinion of any worker, the actions listed may pose an imminent and unnecessary danger to any participant. Examples may include and are not limited to:

- 1) Taking part in an activity for which they are not adequately trained (Such as conducting a confined space rescue without proper training).
- 2) Taking part in an activity for which they are not adequately equipped (Such as assisting in the rescue of a co-worker from a designated confined space without adequate PPE).



Section 4 Emergency Preparedness

Section 4.1 First Aid Services Required

Alberta OH&S Code Schedule 2 Table 7

Number of workers at work site per shift	Close work site (up to 20 minutes)	Distant work site (20 – 40 minutes)	Isolated work site (more than 40 minutes)
1	Type P First Aid Kit	Type P First Aid Kit	Type P First Aid Kit
2 – 4	1 Emergency First Aider		
		1 Standard First Aider	1 Standard First Aider
	No. 1 First Aid Kit	No. 2 First Aid Kit	No. 2 First Aid Kit
		3 blankets	3 blankets
5 – 9	1 Emergency First Aider		
	1 Standard First Aider	2 Standard First Aiders	2 Standard First Aiders
	No. 2 First Aid Kit	No. 2 First Aid Kit	No. 2 First Aid Kit
		3 blankets	3 blankets
10 – 19	1 Emergency First Aider 1 Standard First Aider No. 2 First Aid Kit 3 blankets	2 Standard First Aiders No. 3 First Aid Kit	2 Standard First Aiders No. 3 First Aid Kit
		3 blankets, stretcher, splints	3 blankets, stretcher, splints
20 – 49	2 Emergency First Aiders	5 orankets, stretcher, spinits	5 blankets, stretcher, spinits
	1 Standard First Aider	3 Standard First Aiders	3 Standard First Aiders
	No. 2 First Aid Kit	No. 3 First Aid Kit	No. 3 First Aid Kit
	3 blankets		
		3 blankets, stretcher, splints	3 blankets, stretcher, splints
50 – 99	2 Emergency First Aiders 2 Standard First Aiders	2 Emergency First Aiders 3 Standard First Aiders	4 Standard First Aiders 1 Advanced First Aider
	No. 3 First Aid Kit	No. 3 First Aid Kit	No. 3 First Aid Kit
	3 blankets	3 blankets, stretcher, splints	3 blankets, stretcher, splints
100 or more	See the Alberta OH&S Code Schedule 2 Table 7		

All companies conducting work on this site are to provide their own First Aiders and first aid kit as if they were the only company on site. All site supervisory staff will have Standard First Aid. A stretcher, three blankets, and an eye wash station can be found at the first aid station.



Fire Protection Requirements

General-

- All personnel are responsible for housekeeping in their areas. Excess garbage materials will be removed from work areas daily.
- At least one exit from every floor will be maintained in safe condition for use.
- A hot work permit is required for any hot work and all open flame devices on site.
- All emergency equipment (i.e. fire extinguishers, hydrants, first aid kits, etc) will be maintained in a fully accessible location, free from any materials and equipment in the area.
- All roadways will be kept clear for easy access of emergency responders.
- All flammable substances will be kept in a vented and locked flammable storage area, separated from combustibles by at least 3metres, protected from traffic, and away from access routes on site.
- All cylinders must be secured when not in use, and display appropriate signage/ placards.

Fire Extinguishers

- Fire extinguishers shall be at or near any gas or propane fuelled equipment, or hot work operation.
- Throughout construction, site fire extinguishers will be in the breezewayof each building.
- The site office will also contain a fire extinguisher.
- All fire extinguishers will be inspected monthly at a minimum, by a competent person, and recertified annually by a qualified technician.
- All site fire extinguishers will be identified using appropriate signage.
- Companies conducting hot work will be responsible to provide their own fire extinguishers to keep at or near the operation.

Alarm and Emergency Communications

• Klaxon air horns will be used to alert workers in case of emergency requiring evacuation. Klaxon air horns will be located at the site office.

Emergency Response Training Requirements

General- All personnel on site will have mandatory WHMIS training

- All personnel involved with transporting or receiving dangerous goods will have TDG training
- All personnel required to wear respiratory protective equipment will be trained and fit tested



- All supervision designated to initiate this plan or respond to emergencies are to be trained in the Emergency Response Procedures, processes, and equipment that are identified in the plans.
- Refresher training and exercises are to be scheduled to ensure competence of staff in conducting their duties.

Medical – All companies conducting work on this site are to provide their own First Aiders according to the Alberta OH&S Code. All site supervisory staff will have Standard First Aid. Whenever more advanced medical training is required, or if in doubt, call for an ambulance.

Fire – Each worker on site should be competent to use a fire extinguisher and know the limitations of the extinguisher that they are using. If the fire is not easily extinguished, call the fire department for immediate assistance.

Rescue – The only foreseeable rescue that would be required will be high angle rescue of a worker being suspended by their fall arrest equipment. Each crew working with fall arrest equipment must have a fall protection plan. Their co-workers on that crew must be aware of the rescue procedures stated in the plan, and be competent and able to carry them out.

If, for any reason, the rescue has become complicated by unforeseen factors, or any other type of rescue (confined space, trench) the local fire department will be contacted for immediate assistance.

Section 4.5 Identification of, Location of and Operational Procedures for Emergency Equipment

- Each crew shall have their own first aid kit.
- There will also be a site first aid kit located in the construction office.
- An Eyewash station will also be found at the construction office.
- Three blankets will be found at the construction office.

Section 4.6 Location and use of Emergency Facilities

The nearest hospital is the	
Hospital –	For emergency transportation to the hospital
call 911 for an ambulance.	

- The nearest fire departments will be the City of Calgary Call 911 for Emergency, for information you can call the non-emergency number at 311.
- Nearest ambulance will be the City of Calgary, call 911.
- Nearest police will be the City of Calgary, in an emergency call 911, if it is not time sensitive or you are looking for information, call the non-emergency number at 311



Roles and Responsibilities during an Emergency

Section 5.1 Project Manager / Superintendent Responsibilities

- To ensure all the proper notifications are made in a timely manner
- To coordinate all activities on site
- To ensure an accurate head count is conducted to ensure everyone is accounted for
- To be aware of the days activities to be better able to answer any question by government or municipal representatives
- In the event of an accident ensure the site, or portions of the site, have been secured to prevent persons from entering, or the site being disturbed
- Hold next level supervision accountable for their responsibilities.

Supervisors / General Foreman Responsibilities

- To cooperate with site staff and follow the intent of this ERP
- To ensure all workers stop work, all tools and equipment should be shut off if possible and left where they are
- Have all workers gather in an out of the way location specified by the site staff
- Ensure no phone calls are to made by anyone unless authorized by site staff
- Release no information to anyone off site
- Ensure no one leaves site until authorized by the site superintendent
- Make site staff aware of any specialized resources (tools, equipment, staff training) that are present and may be used
- Hold workers accountable for their responsibilities.

Contractors/Partners Responsibilities

- To cooperate with site staff and follow the intent of this ERP
- Stop work
- To shut down all equipment if possible, and leave all tools where they are
- Gather in a common area designated by site staff, or supervisor
- Ensure no phone calls are to made by anyone unless authorized by site staff
- Release no information to anyone off site
- Ensure no one leaves site until authorized by the site superintendent
- Make supervisor aware of any specialized resources (tools, equipment, staff training) that are present and may be used

Suppliers Responsibilities

- To cooperate with site staff and follow the intent of this ERP
- Stop work



- To shut down all equipment if possible, and leave all tools where they are
- Gather in a common area designated by site staff, or supervisor
- Ensure no phone calls are to made by anyone unless authorized by site staff
- Release no information to anyone off site
- Ensure no one leaves site until authorized by the site superintendent
- Make supervisor aware of any specialized resources (tools, equipment, staff training) that are present and may be used

Information Requirements for Fire

When calling for fire assistance the following information is usually requested:

- Name of the caller
- Phone number calling from (incase they become disconnected)
- Location of the fire
- Type of fire
- Fire status
- Related hazards
- Where someone will meet them.

Contacting Alberta WHS or OH&S

The following injuries and accidents are to be reported to WHS as soon as possible. Do not disturb the accident scene.

- An injury or accident that results in death,
- An injury or accident that results in a worker's being admitted to a hospital for more than 2 days,
- An unplanned or uncontrolled explosion, fire or flood that causes a serious injury or that has the potential of causing a serious injury,
- The collapse or upset of a crane, derrick or hoist, or
- The collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

Contacting WCB

Any injury that results in the following must be reported within 72 hours to WCB by the injured worker's employer.

- Work related injuries that cause (or are likely to cause) your worker to be off work beyond the day of the injury,
- Injuries that require modified work beyond the day of the injury,
- Injuries that require medical treatment beyond the first day (e.g. physical therapy, prescription medications, etc.),



- Injuries that result in permanent disability (e.g. hearing loss, amputation, etc.), or a
- Fatality



Fire Emergency Response Procedures

Remember it is always safest to evacuate the area and allow the Fire Department to deal with it. Property can be replaced people cannot.

Fire - ERP

If there are injuries also see Medical Emergency Response – first aid

Step	so see Medical Emergency Respor Action	Hazards
1) Alert other workers in area	Sound alarm	SmokeFlamesDecreased visibility
2) Evacuate	Evacuate area if needed.	SmokeFlamesDecreased visibility
3) Extinguish fire	Extinguish fire if able to with available extinguishers.	SmokeFlamesDecreased visibility
4) Added assistance needed to put out fire	If unable to extinguish fire with available equipment and personnel immediately notify 911, and client representative. Give location, type of fire, fire status, related hazards, and where someone will meet them. Get fire put out.	
5) People to be notified	Notify your supervisor Notify site safety	
5) Documentation.	Fill out an Accident / Incident Investigation report. Get every one who was there to fill out a Witness Statement Form.	
6) Incident Investigation	The site superintendent will investigate, or organize a team to investigate the incident.	
7) Incident follow-up.	Ensure all documentation is completed and all parties have been notified.	

REACT to the Fire

R- Remove people from the affected area

E-Ensure doors are closed to the area (If Applicable)

A- Activate the Alarm System:



- A) Activate Air Horn located at site office
- B) If you hear an Air Horn go off move to your designated Muster Point Immediately (site office)

C- Call the Fire department. the Number is 911

T- Try to extinguish the fire

Supervisors to conduct a head count at the Muster Point.

2 Persons to be designated to meet the Fire department at the entrance.

To put out a small fire

- 1) Advise a responsible person where you are going
- 2) Have a second person come with you (also equipped with an extinguisher)
- 3) Ensure that you have the right extinguisher for the job
- 4) Use the *PASS* Concept:

Pull the Pin
Aim at the base of the Fire
Squeeze the Trigger
Sweep from Side to Side

Always have 2 routes out of the Fire Zone Never turn your back on an extinguished fire, and Ensure the wind is not blowing the fire toward you



Types of Medical Emergency

For the purpose of this plan there will be three classifications of medical emergency:

- First Aid
- Medical Assistance
- Fatality

When in an Medical Assistance situation and there is any question that it could be a Fatality, treat the site as if it is a fatality, WHS will need to be contacted.

Section 7.2.2 Medical Emergency ERP

First Aid – ERP

First Aid incidents include any one-time treatment and subsequent observation of minor scratches, cuts, abrasions, bruises, burns, splinters, etc. these conditions do not require medical care even though a physician or other medical professional may administer treatment.

Step	Action	Hazards
1) Incident occurs.	Remain Calm.	
2) Administer first aid.	In all cases first aid should be administered by a qualified first aider. Administering self-first aid is only to be done until another first aider is summoned.	Initial hazard causing injuryBodily Fluids
3) Superintendent Notification of incident.	The incident must be reported to site superintendent. This is done for every first aid treatment no matter of severity.	
4) Documentation.	Ensure that the first aid incident is documented for site records.	



Medical Aid - ERP

Medical Aid is any medical <u>treatment</u>, other than first aid, that is administered by a medical profession under the standing orders of a doctor.

Step	Action	Hazards
1) Incident occurs.	Remain Calm.	
2) Administer first aid.	The injured person receives immediate first aid treatment by qualified first aider.	Initial hazard causing injuryBodily Fluids
3) Superintendent Notification of incident.	The incident must be reported to site superintendent. This is done for every first aid treatment no matter of severity.	
4) Transport the injured person to medical care.	Call for an ambulance or transport the injured person using the appropriate mode of transportation which ever is appropriate. This decision can only be made by a first aider. If in doubt call 911.	Other trafficRoad conditionsWeather
5) Secure the area	The work area where worker was injured must be secured to protect the area around the accident scene from being disturbed. A person shall not disturb the scene of an accident except insofar as is necessary in (a) attending to persons injured or killed, (b) preventing further injuries, and © Protecting property that is endangered because of the accident.	
6) Resuming work in the area	Work will not resume in this area until authorized by the site superintendent. This will usually be after injured worker is released from hospital, or the site superintendent has notified WHS and been given permission to continue work and disturb the scene by WHS.	
7) Documentation.	Ensure that the medical aid incident is documented for site records.	



Occupational Fatality - ERP

An occupational fatality is any work-related injury or illness that results in death of an employee, regardless of the length of time between injury and death or the length of the illness.

Step	Action	Hazards
1) Incident occurs.	Remain Calm.	
2) Administer first aid.	The injured person receives	 Initial hazard causing
	immediate first aid treatment by	injury
	themselves or by others. Call 911	 Bodily Fluids
3) Superintendent	The incident must be reported to	
Notification of	site superintendent. This is done	
incident.	for every first aid treatment no	
	matter of severity.	
4) Suspend work	All activities on site will stop. DO	
This will allow the site	NOT disturb the scene of the	
foreman and his	accident. No workers will leave	
delegates to	site until authorized by site	
concentrate on dealing	superintendent. Some area may be	
with the incident.	allowed to continue working if	
	authorized by both WHS and site	
	superintendent.	
5) Secure the	The Immediate area will be	
immediate area	marked out of bounds by use of	
	ribbons or other effective means	
6) Office Notification	The site superintendent must	
of Incident.	immediately report the incident the	
	office, supervisor, and safety rep.	
7)WHS and Police	This may be done by the office,	
Notification	supervisor, or safety rep.	
8) Partner Notification	The Partner must be notified of the	
of incident.	incident.	
9) Documentation.	Fill out an Accident / Incident	
	Investigation report. Get every one	
	who was there to fill out a Witness	
	Statement Form.	
10) Incident	The site superintendent will	
Investigation	organize a team to investigate the	
11) 7 11 21	incident.	
11) Incident follow-	Ensure all documentation is	
up.	completed and all parties have	
	been notified.	



Severe Weather

In the event of severe weather, or severe weather warnings, the following steps are to be taken:

- ▶ Upon hearing of a storm warning for the area, the site superintendent will assess whether or not it is warranted to stop work for the day and evacuate the site, or to stop work on parts of the job site i.e. work around cranes, framing, roofing, siding...
- ▶ If the work continues the site and the storm is approaching, the site superintendent will sound the evacuation alarm and direct personnel to a safe muster area, preferably in a finished basement away from power lines, cranes, etc (Conduct a headcount).
- ► Assess the situation and call for help if required
- ► After the storm has passed, reassess the situation, call for help if required, and tend to any injured or ill workers

To clarify information pertaining to the weather warning condition, access the following website:

• http://weatheroffice.ec.gc.ca/warnings/warnings e.html



Workplace Violence

All threats, whether verbal or physical, direct or indirect, will be treated as serious incidents. Report all incidents to the site supervision immediately. If you suspect a situation may become violent, do not approach it alone.

In the event of a situation where one or more person(s) threatens anyone with any type of weapon, the following steps should be followed:

► Call 911 and state the nature of the emergency, your location and the number of people involved

Call the site superintendent and advise them of the emergency, your location and the number of people involved

DO NOT sound the evacuation alarm

Evacuate the area as soon as possible without exposing yourself or others to any danger DO NOT attempt to disarm, confront, follow or locate the suspect

Warn others to keep away from the area

Keep a record of the events as they happen, and report your information to the police when they arrive, follow their instructions



Section Thirteen Statistics and Records

Standard

- 1. Management will retain on file documentation regarding the health and safety program. This will allow the health and safety program to be monitored for effectiveness and compliance with local regulations and certificate of recognition (COR) requirements
- **2.** Management in conjunction with the safety consultant(s) will coordinate and monitor all safety documentation systems and requirements

As a minimum the following documentation will be stored and maintained

- Records of Health and Safety Manual Updated/Records
- Employee Orientations Records
- Hazard Assessment
- Employee Training Records
- Safety Inspections Reports
- Accident /Investigation Reports
- First Aid Records (Private files)
- Equipment Records and Schedules
- Toolbox Safety Meetings Minutes
- COR External and External
- Records of Health and Safety Disciplinary Action
- Safety Statistics
 - **3.** Management will retain on file, documentation regarding the Health and Safety Program. This will allow the Health and Safety Program to be monitored for effectiveness and compliance with local regulations and Certificate of Recognition COR, requirements.
 - **4.** Management, in conjunction with Safety Consultants, will coordinate and monitor all safety documentations will be stored and maintained.

Ken Kan (Chief Compliance Officer)



Section Fourteen Health and Safety

Committee

- 14.1 Policy
- 14.2 Responsibilities

Policy

The intent of the Health and Safety Committee is to enhance the ability to resolve health and safety concerns reasonable and cooperatively

The objectives of the Health and Safety Committee are:

> to help ensure that the legislation responsibilities for health and safety are being met.



- To create and maintain an active interest in health and safety at all levels with-in the company.
- ➤ To identify and evaluate existing and potential workplace hazards and recommended corrective actions are completed.
- > To help formulate, monitor, and improve workplace health and safety policies.
- > To ensure health and safety concerns are brought forward and disbudded, never ignored or forgotten.
- To foster a co-operative attitude between management and workers when it comes to ensuring the health and safety of all employees.
- To motivate and maintain continuous safety awareness.
- To inform the workers of specific safety problems, new rules, and regulations, and provide a general safety education.
- ➤ Provide an informative channel by which the individual worker can make recommendations or voice concerns,

The Health and Safety committee is responsible for recommending to management how health and safety problems might be resolved,

Responsibilities

The following activities by committee members will be in how the objectives are achieved:

- ➤ Meet regularly
- Deal with employee complaints and suggestions related to Occupational Health and Safety
- ➤ Obtain information on potential or existing hazards.
- > Assist with accidents/incidents investigations
- > Assist with investigations of work refusal
- Participate in the development and enforcement of health and safety program
- Advise on the selection of Personal Protection Equipment.
- Assist in the development of health and safety rules and safe job procedures
- ➤ Become knowledgeable in the Occupational Health and Safety, committee, responsibilities, and committee activities.

Section Fifteen - WHMIS Requirements

WHMIS (Workplace Hazardous Materials Information System)

The Workplace Hazardous Information System (WHMIS) is a Canada wide information system, which reinforces a worker's right to know about the health hazards of materials used in the workplace. The system also provides information on how workers can protect themselves from its properties. The hazardous materials are referred to as "controlled products".



Controlled products are divided into six hazard classes, some of which are subdivided into divisions. The hazard classes and their hazard symbols are shown in the following figure.

	Classes	Definition	Examples
0	A Compressed gases	Products held under pressure	Oxygen Propane
(4)	B Flammable and combustible materials B1 Flammable gases B2 Flammable liquids B3 Combustible liquids B4 Flammable solids B5 Flammable aerosols B6 Reactive flammable materials	Products that will burn or catch on fire easily	Propane Acetone Kerosene Magnesium Sodium
(1)	C Oxidizing materials	Products that can cause or promote combustion of another material (whether they are themselves combustible) or products that are organic peroxides	Hydrogen peroxide Nitric acid
	D1 Materials causing immediate and serious toxic effects	Products that can rapidly cause harmful health effects, including death	Carbon monoxide Phenol



1	D2 Materials causing other toxic effects	Products whose health effects generally appear over time following one or several exposures	Benzene Diisocyanates Lead
	D3 Biohazardous infectious materials	Living organisms or their toxins that can cause disease in people or animals	AIDS virus Hepatitis B virus Rabies virus
	E Corrosive materials	Products that can corrode metal surfaces or cause burns to skin	Caustic soda Hydrochloric acid Bleach
	F Dangerously reactive materials	Products that can be health or safety hazards under certain conditions (pressure, temperature, impact, violent reaction with water or air)	Fluorine Hydrogen cyanide B-Chloroprene

Appendix Drug and Alcohol Policy

ALCOHOL and CONTROLLED SUBSTANCE POLICY

Introduction

Rare Energy Corp. believes that a healthy and productive work force, safe-working conditions free from the effects of alcohol and drugs, and maintenance of the quality of productsproduced and services rendered by the company are important not only to the company but also the employees and the public. The abuse of alcohol and drugs creates a variety of workplace hazards, including but not limited to decreased productivity, decline in quality of services performed, and products provided, and increased risk of injury.

Definitions



For the purpose of this policy the following definitions apply:

Alcohol means ethyl or ethanol

Drugs means any substance recognized as a drug in the Canadian Pharmacopoeia, the National Formulary, the Homeopathic Pharmacopoeia, or other drug compendia. This includes without limitation, narcotics, hallucinogenic, depressants, stimulants or other controlled substances.

Employee means any person in the services of the Company for compensation of any kind.

Prospective Employee means any person who has made application for employment.

Collection of Sample (blood or urine)

The Company may require the collection and testing of samples for the following purposes:

Investigation of possible employee impairment.

Investigation of accidents/incidents in the workplace or incidents of workplace theft.

Maintenance of safety for employees or the general public.

Maintenance of productivity, quality of products or services, security of property or information.

The collection and testing of samples shall not be limited to circumstance where there are indications of individual, job related impairment of an employee or prospective employee.

To test reliably, for the presence of drugs or alcohol, the Company may require samples from employees and prospective employees, and will require presentation of reliable identification to the person collecting the sample(s).

Any drug or alcohol testing shall be during or immediately after regular work periods of current employees.

The Company shall pay all costs of testing including the cost of transportation if testing is conducted at a location other than the workplace.

Collection of samples will be performed by local licensed medical facility at the physical location of said facility.

Sample testing shall conform to scientifically accepted analytical methods and procedures. Testing shall include verification or confirmation of any positive test results by gas chromatography, gas chromatographic-mass spectroscopy or other comparable reliable analytical method before the Company will use the result of any test as a basis for action.



Notice

The Company's written policy for testing shall be distributed to employees and be made available for review by prospective employees.

Company Action

Upon receipt of a verified or confirmed positive drug or alcohol test result, which indicates a violation of this policy, or upon the refusal of an employee or prospective employee to provide a sample, the Company may use that test result or refusal as the basis for disciplinary or rehabilitative action, which may include any or all the following:

A requirement that the employee enroll in a Company approved rehabilitation, treatment or counseling program, which may include additional alcohol or drug testing.

Suspension of the employee with or without pay for a set time period.

Termination of employment

Refusal to hire a prospective employee.

Confidentiality

All information, interviews, reports, statements, memoranda or test results received by this Company through this drug and alcohol testing program are confidential communications and will not be used or received in evidence, obtained in discovery, or disclosed in any public or private proceeding related to an action taken by the Company under Section 5, or in defense of any action brought against the Company.

The information received as a result of testing will remain with the Company.

The Company is entitled to use results as a basis for action under Section 6.

Reinstatement

If any employee is terminated as a result of a positive drug test result, she/he may be considered for rehire on a job available basis after three weeks upon evidence of a current drug test taken which indicates a negative in all controlled substances.

DRUG DETECTION THRESHOLD

(NG / mi) as confirmed by Gas chromatography / Mass Spectrum (GS / MS)

Drug or Drug Group

Detection Threshold



	Nanograms per ML
Cannabinoids (Marijuana, Hashish)	100
Cocaine (Cocaine, Crack)	300
Opiates (Heroin, Morphine, Codeine)	300
Amphetamines (Speed)	300
Bezodiazepines (Tranquilizers – Valium, Librium, Zanax)	300
Barbituates (Downers)	300
Methadone (Heroin Substitute)	300
Methaqualone (Quaaludes, Pain Killers)	300
Propoxyphene (Pain Killers, Sedatives)	300
Phencyclidine (PCP, Angel Dust)	

Robert Lee (Chief Compliance Officer)